

GOVERNMENT COLLEGE ROPAR

(Affiliated To Punjabi University, Patiala)



Criterion 1 – Curricular Aspects

1.3.2: Documentary proofs for students undertaking project work/field work of last completed academic year.

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SYLLABUS B. A./B.Sc.. PART-III (SEMESTER -VI) (GEOGRAPHY)

GEOGRAPHY

PAPER-B: WORLD REGIONAL GEOGRAPHY- II

Time Allowed: 3 hours
Maximum Marks: 60
Written Paper: 45
Internal Assessment: 15

Total Teaching Periods: 60
Min. Pass Marks: 35%

INSTRUCTIONS FOR THE PAPER-SETTER

The question paper will consist of three sections: A, B and C. Section A and B will have four questions each from the respective sections of the syllabus and will carry 7.5 marks each. Section C will consist of 5 short-answer type questions covering the entire syllabus uniformly and will carry 15 marks in all. Each short-answer type question carries 3 marks.

INSTRUCTIONS FOR THE CANDIDATES

- (i) Candidates are required to attempt two questions from each section of A and B of the question paper and the entire section C is compulsory.
- (ii) Candidates are allowed to use outline stencil maps of the world/continents/countries. They are also allowed to use simple calculators.
- (iii) Credit will be given for suitable maps and diagrams.

Study of the following regions:

- (iv) Asia with special reference to India
- (v) Africa, and
- (vi) Oceania

The above given regions will be studied with respect to the natural, demographic and economic aspects as specified in the syllabus.

SECTION-A

Natural Resources:

Relief, Drainage, Climate, Vegetation and soils.

Demographic Resources:

Population distribution, Growth, Age Structure and Urbanization

Economic Resources:

Minerals: Metallic (Iron Ore, Manganese, Gold and Bauxite) and non-metallic minerals (Uranium and Mica); Power Resources: Coal, Petroleum and electricity.

SECTION-B

Economic Resources:

Agriculture: Major Crops: Rice, Wheat, Maize, Cotton, Sugarcane and Livestock farming.

Industries: Iron and Steel, Cotton Textile, Automobile and Chemical Industries.

Trade, Transport and Filling of the map

- (i) Trade and Major Transport Routes
- (ii) Filling of the map covering the place studied of the above given attributes.

BOOKS RECOMMENDED

1. Blij, Harm J. de and Peter, O. Miller: *Geography: Regions and Concepts*, John Wiley, New York, 1993.
2. English, Paul Ward and James, A. Miller: *World Regional Geography: A Question of Place*, John Wiley, New York, 1989.
3. Jackson, Richard H. and Lloyd, E. Hudman: *World Regional Geography: Issues for Today*, John Wiley, New York, 1991.
4. Don, R. Hoy (ed.) : *Essentials of Geography and Development*, MacMillan, New York, 1980.
5. Kromm, D. E. : *World Regional Geography*, Saunders Publishing, New York, 1981.
6. Mankoo, Darshan Singh: *A Regional Geography of the World*, Kalyani Publishers, Ludhiana.
7. Johnson, B.L.C. : *India: Resources and Development*, Arnold Heinemann, London, 1980.
8. Johnson, B.L.C : *South Asia*, Heinemann, London, 1981.
9. Khullar, D. R. : *India: A Comprehensive Geography*, Kalyani Publishers, New Delhi, 2000.
10. Singh, Gopal : *A Geography of India*, Atma Ram and Sons, Delhi, 1995.
11. Spate, O. H. K. and Learmonth, A. T. A. : *India and Pakistan, Land, People and Economy*, Methuen, London, latest edition.
12. Johnson, Douglas L. : Haarmann, Viola : Johnson, Merrill L.: Clawson, David L : *World Regional Geography*, PHI Private Limited, New Delhi, 2012.
13. C.B. Mamoria : *Economic & Commercial Geography of India*, Shiv Lal Aggarwal & Company Agra, 1979.
14. Majid Husain : *World Geography*, Rawat Publications, New Delhi, 2012

B. A./B.Sc. PART-III (SEMESTER -VI)

PRACTICAL GEOGRAPHY: FIELD METHODS IN GEOGRAPHY

Max. Marks: 40

Pass Marks: 35%

Session-I (Morning)

Total Marks: 18

(Theory paper)

Time: 3 Hours

Four exercises should be given, out of these, candidate is required to attempt any three. Each exercise will carry six marks. The paper will be set by the examiner at the centre on the spot.

Session-II, Evening (Field Survey & Practical Record)

Total Marks: 22

Time: 3 Hours

Total Lectures: 27

Distribution of Marks

Field Report

15 Marks

Viva-voce

07 Marks

SECTION-A

- Fieldwork: (i) Nature Scope, Objective and Significance of Field Studies. (3 Lectures)
- (Theory) (ii) Role of fieldwork in geography. (3 Lectures)
- (iii) Scale of study and fieldwork methodology. (3 Lectures)
- (iv) Methods of field study of: a farm, a village, and a town. (3 Lectures)

SECTION-B

- (v) Type of Data in Geography: Primary and Secondary. (3 Lectures)
- (vi) Methods of collecting primary data: questionnaire, observation and measurement. (3 Lectures)

Fieldwork (Practical): A field report of 10 to 15 written pages will be prepared based on primary data on problems such as (a) local market survey, (b) service area of school/hospital; (c) traffic flow, and (d) socio-economic characteristics of students/village/mohalla/sector.

(9 Lectures)

BOOKS RECOMMENDED

SEMESTER VI**Theory Paper: Food Science & Child Development –II**

Maximum Marks: 60
Theory: 44
Internal Assessment: 16

Time allotted : 3 Hours
Periods per week : 6
Pass Marks : 35% in theory
and practical separately

INSTRUCTIONS FOR THE PAPER-SETTER

The question paper will consist of three sections A, B and C. Sections A and B will have four questions from the respective sections of the syllabus and will carry 6½ marks each. Section C will consist of 9 short answer type questions of 2 marks each which will cover the entire syllabus uniformly.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt two questions each from Section A and B of the question paper and the entire section C.

SECTION-A

- Balanced diet: Definition, points to be considered while planning balanced diets.
- (a) Meal planning: Definition, importance and factors affecting meal planning.
(b) Planning of meals for different age groups i.e. pre-school, adult (male & female), pregnancy & lactation.
- (a) Normal diet and its modifications.(b) Definition of soft, bland and liquid diets with examples.
- Dietary requirement during typhoid fever, digestive disorders (constipation, diarrhea and dysentery), diabetes, high blood pressure.

SECTION-B

- Prenatal Development- Definition, importance of parental period for the mother and the child, Meaning of fertilization, Stages of prenatal development - ovum, embryo and foetus. Factors affecting prenatal development.
- Physical changes and discomforts during the pregnancy, Physical and psychological care during pregnancy.
- (i) Feeding of the infant: (a) Breast feeding (b) Bottle feeding(c)Weaning – Different kinds of important weaning foods for infants.
(ii) Behavioral problems in children- thumb sucking, stealing, nail biting (their causes & remedies).
- Digestive disturbances-diarrhea, constipation, vomiting and colic.
Viral infection - Viral fever, flu, (symptoms and preventive measures).

Books recommended:

- Davidson, S. Passmore, R. Brock, J.F. and Trusweld, A.S. 1975 "Human Nutrition and Dietaries". English Language Book Society and Churchill Livingstone.
- FAO, 1974: " Handbook of Human Nutritional Requirements" FAO series.
- Gopalan, C, Balasubramaniam, S.C. 1980 " Nutritive Value of Indian Foods", NIN, Indian Council of Medical Research, Hyderabad.
- ICMR 1980:" Recommended Dietary Allowances for Indians", ICMR, New Delhi.
- ICMR 1990: " Recommended Dietary Intake for Indians", ICMR
- Patvardhan V.N., " Nutrition in India".
- Wilson, Eva. D,1979 Principles of Nutrition
- Gupta, S. , Garg, A.Aggarwal, A, Kaur,J.2016 "Textbook of Foods & Nutrition & Child Development". Kalyani Publishers

SEMESTER VI**Practical Paper: Food Science & Child Development –II****Maximum Marks : 40****Pass Marks: 35%****Time allotted : 3 Hours****Periods per week: 6**

1. Preparation of diets for the following:-
 - (a) Pre-school child.
 - (b) Adolescent
 - (c) Adults (men and women) moderate worker
2. Cooking and serving of soft and weaning foods.
3. Preparation of low calorie & nutritious dishes.
4. Interviewing mothers to conduct a survey on feeding, weaning and child rearing practices.

PAPER XII: PLANT UTILIZATION

Max. Marks: 55 marks

Total Teaching hours: 45

Pass Marks: 35% in Theory and Practical Separately

Time Allowed: 3 Hours

Theory Paper: 40 marks

Internal Assessment: 15 marks

Objective of the paper is to impart knowledge to students about the plant resources useful to mankind.

INSTRUCTIONS FOR THE PAPER SETTER

The question paper will consist of three sections A, B and C. Section A and B will have four questions from the respective section of syllabus and will carry 6 marks each. Section C will consist of 8 short-answer type questions (8-10 lines) of 2 marks each which will cover the entire syllabus uniformly and will carry 16 marks in all.

INSTRUCTIONS FOR CANDIDATES

Candidates are required to attempt two questions from each section A and B and the entire section C, which is compulsory.

SECTION-A

1. The importance and nature of plant products; fibres: surface fibres (cotton), soft fibres (Jute), hard fibres (Coir). Forest products: Wood, properties, seasoning and importance, important timber plants of India.
2. Brief history of origin of food plants; cultivation practice and recommended varieties of wheat, rice, maize and sugarcane with particular reference to Punjab.
3. Cultivation practices and use of soyabean, sunflower, mustard, groundnut and coconut.
4. Vegetables and Fruits: Botanical name, family, season and area of cultivation of potato, tomato, brinjal, carrot, ladyfinger, pea, mango, apple, banana, guava, kinnow and grapes.

SECTION-B

5. Spices: General account pertaining to botanical name, family and part used in case of clove, cardamom, black pepper, turmeric, cumin and ginger.
6. Medicinal Plants: General account pertaining to botanical name, family, part used and active principle in case of belladonna, neem, tulsi, stevia, rauwolfia, ashwagandha and glycyrrhiza.
7. Beverages and Narcotics: Cultivation practices, botanical name, family and active ingredients of tea and coffee. Cannabis, tobacco and opium.
8. Rubber: Major sources, cultivation, processing and uses of Para rubber.

RECOMMENDED READINGS

1. Kochhar, S.L. 1998. *Economic Botany in Tropics*. 2nd Edition, Mac Millan India Ltd., New Delhi.
2. Sambamurthy, A.V.S.S. and Subramanyam, N.S. 1989. *A Textbook of Economic Botany*, Wiley Eastern Ltd., New Delhi.
3. Sharma, O.P. 1996. *Hill's Economic Botany* (Late Dr. A.F. Hill, adapted by O.P. Sharma) Tata McGraw Hill Co. Ltd., New Delhi.
4. Simpson, B.B. and Conner, M. 1986. *Economic Botany – Plants in Our World*, McGraw Hill, New York.

SUGGESTED LABORATORY EXERCISES PERTAINING TO THEORY PAPERS: PLANT ECOLOGY AND PLANT UTILIZATION:

Teachers may select plant/material available in their locality/institution.

1. To determine minimum number of quadrats required for study of a grassland.
2. To study the frequency of herbaceous species in grassland and to compare the frequency distribution with Raunkiaer's Standard Frequency Diagram.
3. To estimate Importance Value Index (IVI) for grassland species on the basis of relative frequency, relative density and relative biomass in protected and grazed grassland.
4. To measure the above ground plant biomass in a grassland.
5. To determine Kemp's constant for dicot and monocot leaves and to estimate the leaf area index of a grassland community.
6. To determine diversity indices (Richness, Simpson, Shannon Wiener) in grazed and protected grassland.
7. To estimate bulk density and porosity of grassland and woodland soil.
8. To determine moisture content and water holding capacity of grassland and woodland soil.
9. To study the vegetation structure through profile diagram.
10. To estimate transparency, pH and temperature of different water bodies.
11. To measure dissolved oxygen content in polluted and unpolluted water samples.
12. To estimate salinity of different water samples.
13. To determine the per cent leaf area injury of different leaf samples collected around polluted sites.
14. To demonstrate dust holding capacity of the leaves of different plant species.
15. Food Plants: Study of the morphology, structure and simple micro chemical tests of the food storing tissues in rice, wheat, maize, potato and sugarcane. Microscopic examination of starch in these plants (excepting sugarcane).
16. Fibres: Study of cotton flower, sectioning of the cotton ovules/developing seeds to trace the origin and development of cotton fibres. Microscopic study of cotton and test for cellulose. Sectioning and staining of jute stem showing the location and development of fibres. Microscopic structure. Tests for ligno-cellulose.
17. Vegetable Oils: study of hand sections of groundnut, mustard and coconut and staining of oil droplets with Sudan III and Sudan Black.
18. Field Visits: To study sources of firewood (10 plants), timber-yielding trees (10 trees) and bamboos. A list to be prepared mentioning special features.
19. Spices: Examine Black pepper, cloves, cinnamon (hand sections) and open fruits of cardamom and describe them briefly.
20. Preparation of an illustrated inventory of 10 medicinal plants and use their in indigenous systems of medicine of allopathy: Write their botanical and common names, parts used and diseases/disorders for which they are prescribed.
21. Beverages: Section of boiled coffee beans and tea leaves to study the characteristic structural features.

(ZOOB1201P)**(Pertaining to paper ZOOB1201T & ZOOB1202T)**

Max. Marks: 50

Time Allowed: 3 hours

Pass Marks: 35%

I. Classification up to orders, excepting Pisces and Aves where classification up to subclasses only is required, habits, habitats, external characters and economic importance (if any) of the following animals:

1. Urochordata : *Herdmania, Doliolum, Salpa* and *Oikopleura*.
2. Cephalochordata: *Amphioxus*.
3. Cyclostomata: *Petromyzon, Myxine*
4. Chondrichthyes : *Zygaena* (Hammer headed shark), *Pristis* (saw fish), *Narcine* (Electric ray), *Trygon, Rhinobatus* and *Chimaera* (Rabbit fish).
5. Actinopterygii : *Polypterus, Acipenser, Lepidosteus, Muraena, Mystus, Catla, Hippocampus, Syngnathus, Exocoetus, Anabas, Tetradon, Echeneis* and *Solea*.
6. Dipneusti (Dipnoi) : *Protopterus* (African lung fish).
7. Amphibia : *Uraeotyphlus, Necturus, Amphiuma, Amblystoma* and its Axolotl Larva, *Salamandra, Hyla* and *Rhacophorus*.
8. Reptilia : *Hemidactylus, Calotes, Draco, Varanus, Phrynosoma, Chamaeleon, Typhlops, Python, Eryx, Naja, Hydrus, Viper, Crocodilus, Gavialis, Chelone* (Turtle) and *Testudo* (Tortoise).
9. Aves : *Ardea, Anas, Milvus, Pavo, Tyto, Alcedo, Eudynamis* and *Casuarius*.
10. Mammalia : *Ornithorhynchus, Echidna, Macropus, Loris, Macaca, Manis, Hystrix, Funambulus, Herpestes* and *Pteropus*.

II. Study of following prepared slides : T.S. *Amphioxus* through various regions. Spicules, pharynx of *Herdmania* and pharynx of *Amphioxus*, Scales of fishes

III. Study of Types of beaks and claws of birds

IV. Use of key for Identification of poisonous and non-poisonous snakes

V. Preparation of Charts for Origin and Ancestry of Chordates and its various classes

VI. Study of an aquatic ecosystem: Measurement of temperature, turbidity, and pH.

VII. To study species composition, dominant species and population ratio using coloured beads

VIII. Plotting of survivorship curves from the hypothetical data.

IX. Study of morphological adaptations.

XI. Report on a visit to National Park/Biodiversity Park/Wild life sanctuary / Zoological garden.

Punjab University, Patiala, All UG Courses - IInd Year (3rd Semester) Environmental and Road Safety Awareness Session: 2022-23, 2023-24 & 2024-25
All UG Courses – IInd Year (3 Semester) Environmental and Road Safety Awareness
Session: 2022-23, 2023-24 & 2024-25

Total Marks: 100
 Theory: 70 marks
 Internal Assessment: 15
 (5 for Attendance & 10 for MST)
 Mandatory field visit to PG
 Science City & Report: 15 Marks

Max Time: 3 hrs.
 Lectures per week 5
 Credits: 04

INSTRUCTIONS FOR THE PAPER SETTERS (Regular Students)

The question paper will consist of three sections A, B and C. Each of sections A and B will have four questions from the respective sections of the syllabus. Each question shall carry 10 marks. Section C will consist of 10 short answer type questions of 3 marks each.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt any two questions from each section A and B. Section C is compulsory.

PRIVATE/DISTANCE EDUCATION STUDENTS

Max Marks: 100

Max Time: 3hrs.
 Lectures per week 5

INSTRUCTIONS FOR THE PAPER SETTERS

The question paper will consist of three sections A, B and C. Each of sections A and B will have four questions from the respective sections of the syllabus. Each question shall carry 10 marks. Section C will consist of 10 short answer type questions of 3 marks each.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt any two questions from each section A and B. Section C is compulsory.

SECTION-A

INTRODUCTION TO ENVIRONMENTAL STUDIES:

The multidisciplinary nature of environmental studies. Definition, scope and importance Concept of Biosphere - Lithosphere, Hydrosphere, Atmosphere.

ECOSYSTEM & BIODIVERSITY CONSERVATION

Ecosystem and its components, Types of Ecosystems Biodiversity - Definition and Value, Threats to biodiversity and its conservation Level of biological diversity, genetic, species and ecosystem diversity; bio-geographic zones of India; biodiversity patterns and global biodiversity hot spots. India as Mega-biodiversity nation; Endangered and endemic species of India. Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and informational value.

NATURAL RESOURCES–RENEWABLE AND NON RENEWABLE RESOURCES

Land resources and land use change; land degradation, soil erosion and desertification.

Deforestation: causes and impacts due to mining, dam building on environment, Forests, Biodiversity and tribal populations.

Water: Use and over-exploitation of surface and ground water, Floods, droughts, conflicts over water (international & inter-state)

Energy resources: renewable and nonrenewable energy sources, use of alternate energy sources, growing energy needs, case studies.

Environmental Pollution

Environmental Pollution : types, causes, effects and controls; Air, Water, Soil and noise pollution. Nuclear hazards and human health risks Solid waste management, Source Segregations : Control measures of urban and Industrial waste. Pollution case studies.

SECTION-B

ENVIRONMENTAL PROTECTION LAWS IN INDIA

Environmental protection act for; Air (Prevention and control of pollution), Water (Prevention and Control of pollution), Wild life, Forest Conservation, Issues involved in the enforcement of environmental legislation. Role of an individual in prevention of pollution.

Environmental policies & Practices; Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture.

Human Communities and the Environment

Human population growth: Impacts on environment, human health and welfare, Sanitation & Hygiene. Resettlement and rehabilitation of project affected persons; case studies. Disaster management: floods, earthquake, cyclones and landslides. Environment movements: Chipko, Silent valley, Bishnois of Rajasthan. Environmental ethics: Role of Indian and other religions and cultures in environmental conservation for a Clean-green pollution free state.

Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi)

ROAD SAFETY AWARENESS

Concept and significance of Road safety, Traffic signs, Traffic rules, Traffic Offences and penalties, How to obtain license, Role of first aid in Road Safety.

Stubble Burning

Meaning of Stubble burning.

Impact on health & environment.

Management and alternative uses of crop stubble.

Environmental Legislations and Policies for Restriction of Agriculture

Residue Burning in Punjab.

Field Work

Visit to an area to document environmental assets: river/Forest/Flora/Fauna, etc.

Visit to Local polluted site –urban/Rural/Industrial/Agricultural.

Study of common Plants, Insects, Birds and basic principles of identification.

Study of simple ecosystems-pond, river, Delhi Ridge, etc.

OUTLINE FOR THE SYLLABUS OF A MODULE ON DRUG ABUSE: PROBLEM, MANAGEMENT AND PREVENTION

Session: 2016-17, 2017-18 & 2018-19

Continued for Sessions 2019-2020, 2020-2021 & 2021-2022
Continued for session 2022-23, 23-24 & 24-25.
(FOR ALL UNDERGRADUATE COURSES)

Note: This is a compulsory qualifying paper, which the students have to study and qualify during three years of their degree course.

REGULAR STUDENTS

Max Marks: 70
Internal Assessment: 30
Total Marks 100

Max Time: 3hrs.
Lectures per week 5

INSTRUCTIONS FOR THE PAPER SETTERS

The question paper will consist of three sections A, B and C. Each of sections A and B will have four questions from the respective sections of the syllabus. Each question shall carry 7 marks. Section C will consist of 14 short answer type of 2 marks each.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt any three questions from section A and any three questions from section B. Section C is compulsory.

PRIVATE/DISTANCE EDUCATION STUDENTS

Max Marks: 100

Max Time: 3hrs.
Lectures per week 5

INSTRUCTIONS FOR THE PAPER SETTERS

The question paper will consist of three sections A, B and C. Each of sections A and B will have three questions from the respective sections of the syllabus. Each question shall carry 15 marks. Section C will consist of 20 short answer type of 2 marks each.

[Handwritten signatures and initials]

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt any two questions from section A and any two questions from section B. Section C is compulsory.

SECTION A

UNIT: I – Problem of Drug Abuse: Concept and Overview; Types of Drug Often Abused

(a) Concept and Overview

What are drugs and what constitutes Drug Abuse?

Prevalence of menace of Drug Abuse

How drug Abuse is different from Drug Dependence and Drug Addiction?

Physical and psychological dependence- concepts of drug tolerance

(b) Introduction to drugs of abuse: Short Term, Long term effects & withdrawal symptoms

Stimulants: Amphetamines, Cocaine, Nicotine

Depressants: Alcohol, Barbiturates- Nembutal, Seconal, Phenobarbital Benzodiazepines

–Diazepam, Alprazolam, Flunitrazepam

Narcotics: Opium, morphine, heroin

Hallucinogens: Cannabis & derivatives (marijuana, hashish, hash oil)

Steroids

Inhalants

UNIT: II –Nature of the Problem

Vulnerable Age Groups

Signs and symptoms of Drug Abuse

(a)- Physical indicators

(b)- Academic indicators

(c)- Behavioral and Psychological indicators

SECTION B

UNIT: III – Causes and Consequences of Drug Abuse

a) Causes

Physiological

Psychological

Sociological

b) Consequences of Drug Abuse

For individuals

For families

For society & Nation

Unit: IV- Management & Prevention of Drug Abuse

Management of Drug Abuse

Prevention of Drug Abuse

Role of Family, School, Media, Legislation & Deaddiction Centers

Suggested readings

1. Kapoor.T. (1985) Drug Epidemic among Indian Youth, New Delhi: Mittal Pub
2. Modi, Ishwar and Modi, Shalini (1997) Drugs: Addiction and Prevention, Jaipur: Rawat Publication.
3. Ahuja, Ram, (2003), Social Problems in India, Rawat Publications: Jaipur
4. 2003 National Household Survey of Alcohol and Drug Abuse. New Delhi, Clinical Epidemiological Unit, All India Institute of Medical Sciences, 2004.
5. World Drug Report 2011, United Nations Office of Drug and Crime.
6. World Drug Report 2010, United Nations Office of Drug and Crime.
7. Extent, Pattern and Trend of Drug Use in India, Ministry of Social Justice and Empowerment, Government of India, 2004.
8. The Narcotic Drugs and Psychotropic Substances Act, 1985, (New Delhi: Universal, 2012)

Pedagogy of the Course Work:

The pedagogy of the course work will consist of the following:

70% lectures (including expert lectures).

30% assignments, discussion and seminars and class tests.

Note: A visit to drug de-addiction centre could also be undertaken.

Max. Marks : 100 Lectures to be delivered for Theory : 75

Theory : 60 Marks Practical : 20

Practical : 20 Marks

Internal Assessment : 20 Marks

The break up of 20 Marks for Internal Assessment is as under :

- i. Attendance 04 Marks
- ii. **Written Assignment/Project** **08 Marks**
Work etc.
- iii. Two Mid Semester Tests / 08 Marks
Internal Examinations.
(Average of both)

Pass Marks : 35% in Theory & Practical Separately

Time allowed : 3 hours for Theory & 3 hours for Practical

For Distance Education Students : Max. Marks :100

Max. Marks: 100

Theory : 80 Marks

Practical : 20 Marks

INSTRUCTIONS FOR THE PAPER SETTER

For Regular Students ,the question paper will consist of three sections: A,B and C. Section A and B will have four questions from the respective sections of the syllabus. Each question will carry 9 marks . Section C will consist of 08 short-answer type questions which will cover the entire syllabus uniformly and will carry 24 marks in all, each short answer type question carrying 3 marks. The candidates are required to give answer of each short type question in 20-25 words i.e. 3-4 lines.

For Distance Education Students ,the question paper will consist of three sections: A,B and C. Section A and B will have four questions from the respective sections of the syllabus. Each question will carry 12 marks . Section C will consist of 08 short-answer type questions which will cover the entire syllabus uniformly and will carry 32 marks in all, each short answer type question carrying 4 marks. The candidates are required to give answer of each short type question in 20-25 words i.e. 3-4 lines.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt two question each from sections A and B, and the entire section C. The Candidates are required to give answer of each short type question in 20-25 words i.e. 3-4 Lines

SECTION-A

1. Nature and Scope of Applied Ethics.
2. Deontological and Teleological approaches to moral action.
3. Basic Concepts of Environment: Eco-System, Ecology and Bio-sphere.

4. Environmental Threats : Water Pollution, Air Pollution, Noise Pollution.

SECTION-B

5. Principles of Bio-Ethics.
6. Bio-ethical Concepts : Euthanasia, Life & Death, Human Experimentation.
7. Agriculture Ethics: Excessive use of Groundwater, Fertilizers and Pesticides.
Industrial Ethics : problem of Liquid and Solid waste management.
8. Ethical Issues in Advertising.
9. Social Ethics in Sikhism.

SECTION-C

10. 08 short answer type questions.

PRACTICAL

Note: There shall be practical of 20 marks consisting of Project report 10 marks and viva-voce 10 marks. Every student is required to submit a Project Report of about 15 pages concerning any one of the above-cited ethical concerns.

BOOKS SUGGESTED

1. Surjit Kaur Chahal: *Environment and the Moral life, Towards a New Paradigm*. Ashish Publishing House, New Delhi.
2. Beauchamp, T.L. & Childress, J.E. (Jr). : *Principles of Bio-medical Ethics*. 2nd Ed., Oxford University Press, Oxford.
3. Attfield, R.: *Environment Philosophy; Principles and Prospects*/Aldershot, Avebury, 1994.



OFFICE OF THE
PRINCIPAL GOVERNMENT COLLEGE RUPNAGAR

ਦਫ਼ਤਰ ਪਿੰਜੀਪਲ ਸਰਕਾਰੀ ਕਾਲਜ ਰੁਪਨਗਰ

Tel. : 01881-222263 | E.mail : principal.gc.ropar@gmail.com

No. 1547

Date 23/06/23

BA III Geography Practical (Field Work/Assignment) 2022-2023

Sr	Roll No	Student Name	Name of the Field Report
1	4015	HARSHWINDER SAINI	Market Survey of Zail Singh Nagar, Ropar
2	4021	AMARDEEP SINGH	Market Survey of Zail Singh Nagar, Ropar
3	4031	HARJEET KAUR	Market Survey of Zail Singh Nagar, Ropar
4	4037	EKAMPREET SINGH	Market Survey of Zail Singh Nagar, Ropar
5	4045	KUSHI KUMARI	Market Survey of Zail Singh Nagar, Ropar
6	4069	PAWANPREET KAUR	Market Survey of Zail Singh Nagar, Ropar
7	4070	GURINDER SINGH	Market Survey of Zail Singh Nagar, Ropar
8	4078	SMILEPREET SINGH SAINI	Market Survey of Zail Singh Nagar, Ropar
9	4080	AMANDEEP KAUR	Market Survey of Zail Singh Nagar, Ropar
10	4084	RAMANDEEP SINGH	Market Survey of Zail Singh Nagar, Ropar
11	4090	TEJINDER SINGH	Market Survey of Zail Singh Nagar, Ropar
12	4093	KIRAN KAUR	Market Survey of Zail Singh Nagar, Ropar
13	4094	AMANJIT KAUR	Market Survey of Zail Singh Nagar, Ropar
14	4097	JASPREET SINGH	Market Survey of Zail Singh Nagar, Ropar
15	4100	ISHAN	Market Survey of Zail Singh Nagar, Ropar
16	4104	MANSI KUMARI SHUKLA	Market Survey of Zail Singh Nagar, Ropar
17	4108	KOMALPREET SINGH	Market Survey of Zail Singh Nagar, Ropar
18	4110	KRISHAN KUMAR	Market Survey of Zail Singh Nagar, Ropar
19	4112	NIKHIL KUMAR	Market Survey of Zail Singh Nagar, Ropar
20	4113	SUKHJINDER SINGH	Market Survey of Zail Singh Nagar, Ropar
21	4116	SIMRANPREET KAUR	Market Survey of Zail Singh Nagar, Ropar
22	4120	SIMRAN KAUR	Market Survey of Zail Singh Nagar, Ropar
23	4122	RUPALI KUMARI	Market Survey of Zail Singh Nagar, Ropar
24	4123	JASPREET SINGH	Market Survey of Zail Singh Nagar, Ropar
25	4124	GOURI	Market Survey of Zail Singh Nagar, Ropar
26	4129	ANSHIKA	Market Survey of Zail Singh Nagar, Ropar
27	4130	AMANDEEP KAUR	Market Survey of Zail Singh Nagar, Ropar
28	4135	MANJINDER KAUR	Market Survey of Zail Singh Nagar, Ropar
29	4137	NAMANDEEP KAUR	Market Survey of Zail Singh Nagar, Ropar
30	4141	BABNEET KAUR	Market Survey of Zail Singh Nagar, Ropar
31	4152	MAHAKDEEP KAUR	Market Survey of Zail Singh Nagar, Ropar
32	4174	MANDEEP KAUR	Market Survey of Zail Singh Nagar, Ropar
33	4176	BALWINDER SINGH	Market Survey of Zail Singh Nagar, Ropar
34	4178	AMANDEEP SINGH	Market Survey of Zail Singh Nagar, Ropar



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No. 1547

Date 23/06/2023

35	4188	BANDNA	Market Survey of Zail Singh Nagar, Ropar
36	4204	NAVRAJ SINGH	Market Survey of Zail Singh Nagar, Ropar
37	4205	RAMNEET KAUR	Market Survey of Zail Singh Nagar, Ropar
38	4207	NAVJOT SINGH	Market Survey of Zail Singh Nagar, Ropar
39	4208	RAJINDER SINGH	Market Survey of Zail Singh Nagar, Ropar
40	4213	KIRPAL SINGH	Market Survey of Zail Singh Nagar, Ropar
41	4216	SATVIR SINGH	Market Survey of Zail Singh Nagar, Ropar
42	4224	SUKHWINDER SINGH	Market Survey of Zail Singh Nagar, Ropar
43	4229	SIMRANJEET KAUR	Market Survey of Zail Singh Nagar, Ropar
44	4230	SIMRANJEET KAUR	Market Survey of Zail Singh Nagar, Ropar
45	4242	MEENU KUMARI	Market Survey of Zail Singh Nagar, Ropar
46	4243	GURSHARNA SINGH	Market Survey of Zail Singh Nagar, Ropar
47	4246	JATINDER KAUR	Market Survey of Zail Singh Nagar, Ropar
48	4256	BALPREET SINGH	Market Survey of Zail Singh Nagar, Ropar
49	4257	NAVNEET KAUR	Market Survey of Zail Singh Nagar, Ropar
50	4261	AKINDERJEET KAUR	Market Survey of Zail Singh Nagar, Ropar
51	4265	SATVIR SINGH	Market Survey of Zail Singh Nagar, Ropar
52	4269	ARSHPREET SINGH	Market Survey of Zail Singh Nagar, Ropar
53	4270	SIMRANPREET SINGH	Market Survey of Zail Singh Nagar, Ropar
54	4271	CHANPREET SINGH	Market Survey of Zail Singh Nagar, Ropar
55	4272	MANDEEP KAUR	Market Survey of Zail Singh Nagar, Ropar
56	4273	AMANJOT KAUR	Market Survey of Zail Singh Nagar, Ropar
57	4280	NEHA DEVI	Market Survey of Zail Singh Nagar, Ropar
58	4281	FATEH SINGH	Market Survey of Zail Singh Nagar, Ropar
59	4282	SUMANDEEP KAUR	Market Survey of Zail Singh Nagar, Ropar
60	4283	RAMANDEEP KAUR	Market Survey of Zail Singh Nagar, Ropar
61	4286	JUGRAJ SINGH	Market Survey of Zail Singh Nagar, Ropar
62	4290	HARPREET SINGH	Market Survey of Zail Singh Nagar, Ropar
63	4296	HARWINDER KAUR	Market Survey of Zail Singh Nagar, Ropar
64	4297	MANJOT KAUR	Market Survey of Zail Singh Nagar, Ropar
65	4300	VISHAL KUMAR	Market Survey of Zail Singh Nagar, Ropar
66	4319	SUKHWINDER SINGH	Market Survey of Zail Singh Nagar, Ropar
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70	4343	KAMALJEET KAUR	Market Survey of Zail Singh Nagar, Ropar
71	4346	HARMAN KAUR	Market Survey of Zail Singh Nagar, Ropar



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No. 1547

Date 25/06/22

72	4353	MANDEEP KAUR	Market Survey of Zail Singh Nagar, Ropar
73	4372	SIMRANJEET KAUR	Market Survey of Zail Singh Nagar, Ropar
74	4375	PARMVIR SINGH	Market Survey of Zail Singh Nagar, Ropar
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77	4382	PREETI KAUR	Market Survey of Zail Singh Nagar, Ropar
78	4385	GAGANDEEP KAUR	Market Survey of Zail Singh Nagar, Ropar
79	4391	HARLEEN KAUR	Market Survey of Zail Singh Nagar, Ropar
80	4394	JASPREET SINGH	Market Survey of Zail Singh Nagar, Ropar
81	4395	HARMANPREET SINGH	Market Survey of Zail Singh Nagar, Ropar
82	4400	ANU	Market Survey of Zail Singh Nagar, Ropar
83	4405	AMNINDER SINGH	Market Survey of Zail Singh Nagar, Ropar
84	4410	LAKHVIR SINGH	Market Survey of Zail Singh Nagar, Ropar
85	4412	GURPREET SINGH	Market Survey of Zail Singh Nagar, Ropar
86	4413	JASMEEN KHAN	Market Survey of Zail Singh Nagar, Ropar
87	4415	ISHA RANI	Market Survey of Zail Singh Nagar, Ropar
88	4416	AKASHDEEP SINGH	Market Survey of Zail Singh Nagar, Ropar
89	4419	JYOTI KUMARI	Market Survey of Zail Singh Nagar, Ropar
90	4426	KOMALPREET KAUR	Market Survey of Zail Singh Nagar, Ropar
91	4439	RINKI KUMARI	Market Survey of Zail Singh Nagar, Ropar
92	4440	SHIVANGI GUPTA	Market Survey of Zail Singh Nagar, Ropar
93	4443	HARMANPREET KAUR	Market Survey of Zail Singh Nagar, Ropar
94	4449	DOLLY	Market Survey of Zail Singh Nagar, Ropar
95	4451	RAJINDER KAUR	Market Survey of Zail Singh Nagar, Ropar
96	4458	AMANDEEP KAUR	Market Survey of Zail Singh Nagar, Ropar
97	4459	MANISH KUMAR	Market Survey of Zail Singh Nagar, Ropar
98	4463	ADITYA BAINS	Market Survey of Zail Singh Nagar, Ropar
99	4467	JASHANPREET SINGH	Market Survey of Zail Singh Nagar, Ropar
100	4478	KARNAIL SINGH	Market Survey of Zail Singh Nagar, Ropar
101	4479	VIJAY KUMAR	Market Survey of Zail Singh Nagar, Ropar
102	4480	TARUN KUMAR	Market Survey of Zail Singh Nagar, Ropar
103	4489	RAJINDER KUMAR	Market Survey of Zail Singh Nagar, Ropar
104	4492	GURJANT SINGH	Market Survey of Zail Singh Nagar, Ropar
105	4496	PAWAN DEEP KAUR	Market Survey of Zail Singh Nagar, Ropar
106	4497	ROHITJEET SINGH	Market Survey of Zail Singh Nagar, Ropar
107	4504	YUVRAJ SINGH	Market Survey of Zail Singh Nagar, Ropar
108	4507	SIMRANJEET SINGH	Market Survey of Zail Singh Nagar, Ropar



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Date 23/06/2023

109	4517	SANAMPREET	Market Survey of Zail Singh Nagar, Ropar
110	4520	NEHA DEVI	Market Survey of Zail Singh Nagar, Ropar
111	4522	AMANDEEP SINGH	Market Survey of Zail Singh Nagar, Ropar
112	4534	AMIN	Market Survey of Zail Singh Nagar, Ropar

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MARKET SURVEY OF GIANI ZAIL SINGH NAGAR COLONY, RUPNAGAR, PUNJAB



A Project Report
Submitted to
Department of Geography,
Government college Ropar
For the Fulfillment of Practical Paper of
Field Methods in Geography

SUBMITTED BY: HARSHWINDER SAINI

UNIV. ROLL NO. 530490

CLASS ROLL NO: 4015

SESSION: 2022-23

SUBMITTED TO:

Prof. Dimple Chiee

Dimple
2/may/2023



**MARKET SURVEY OF GIANI ZAIL SINGH NAGAR
RUPNAGAR, PUNJAB
SURVEY REPORT**

SUBMITTED BY

Name HARSH WINDER SAINI

College Roll No. 4015

Univ. Roll No. 530490

This is certified that this work titled **Market Survey of Giani Zail Singh Nagar, Rupnagar, Punjab** is a bonafide record of work done by HARSH WINDER SAINI University Roll No. 530490 of Department of Geography, Government College Ropar under the supervision and guidance of Prof. Shaminder Kaur, Prof. Randeep Singh and Prof. Dimple during the year 2022-23.

Teacher's Signature

(Signature)

(Signature)
Student Signature



**DEPARTMENT OF GEOGRAPHY
GOVERNMENT COLLEGE ROPAR**

SESSION 2022-23

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Name - HARSHWINDER SAINI

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CHAPTER - 1 INTRODUCTION

Rupnagar, formerly known as ROPAR, is a city and a municipal council in Rupnagar district in the Indian state of Punjab. Rupnagar is a newly created fifth divisional Headquarters of Punjab comprising Rupnagar, Mohali and its adjoining districts. It is also one of the bigger sites belonging to Indus valley civilisation. Rupnagar is nearly 43 km (27 mi) to the northwest of Chandigarh (the nearest airport and capital of Punjab). It is bordered by Himachal Pradesh to the north and Shahid Bhagat Singh Nagar district to its west.

The Ancient town of Rupnagar is said to have been named by a Raja called Rakeshwar, who ruled during the 11th century and named it after his son Rupsen.

Rupnagar is located at 30.95°N 76.53°E . It has average elevation of 260 meters (850 ft). The town lies on the bank of Sutlej and the Shivalik hill range spreads along the opposite bank of the river. The climate of Rupnagar is character

-ised by general dryness (except in the South west monsoon season); a hot summer and a cold winter.

The city has one of the three important wetlands of the Punjab state known as Rupnagar wetland or wetland. It was declared a Ramsar site in 2002. This is a man made freshwater wetland covering 1,365 hectares. It is also known as Rupnagar lake.

Giani Zail Singh Nagar is a locality in Rupnagar city in Punjab state, India.

Giani Zail Singh Nagar pincode 140001 and postal head office is Ropar. It is considered as one of the planned locality of Rupnagar district including well built houses, well constructed roads, schools, hospitals, badminton court and as well as planned market area with huge parking lot.

This market of Giani rail Singh Nagar has shop cum Flats, shop cum offices and booths for supplying goods and services to the people surrounding. A market is a place of sale and purchase of goods in both urban and rural areas. The number and size of markets have increased considerably during last few decades which have led to increase in economic activities.

1

GROUP PICTURE WITH TEACHERS AND TEAM MEMBERS



GEOGRAPHY AND FIELD STUDY

Fieldwork is an approach through which geographical knowledge and skills can be acquired practically in the field. The field is the major source of primary geographical information (data). Therefore fieldwork involves observation, interpreting what is observed and recording the relationship on the human and physical environment.

Fieldwork - In Geography is conceived as field of study, concerned with the physical and human landscape in both urban and rural setting and whose teaching ~~must be~~ based on three fold study approach namely:

- Observation
- Recording and
- Interpretation

Fieldwork involves a number of activities. It involves both technical and organization of fieldwork. The prefield work preparation

Organization of fieldwork

As the organization of fieldwork is very important to the success and failure will largely depend on how well prefield preparation were made.

Technical Decisions

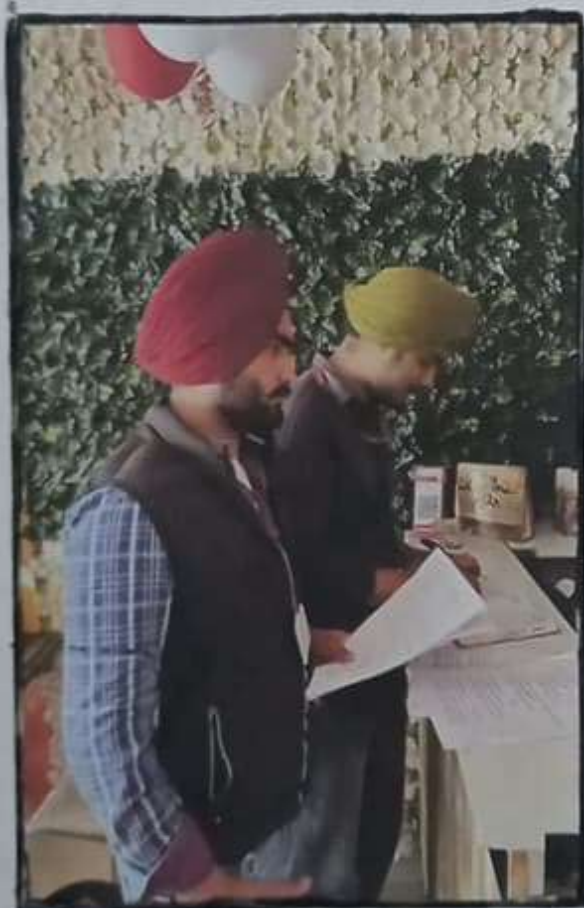
- Identify the topic to work on
- A pilot study of the fieldwork area
- The equipment to use
- Permission to carry out fieldwork.

Organizational Decision

- Route plan
- Estimate of time
- Mark particular areas of interest
- Essential equipment.

2

One To One Questioning



3.

Surveying Team



SIGNIFICANCE OF FIELD WORK IN GEOGRAPHY

1. It is of great pedagogical importance as it lets students experience the geography of a particular region which theoretical texts can't do it.
2. Field study enables the investigator to comprehend the situation and processes in totality and at a place of their occurrence.
3. It helps you understand the theoretical concepts better.
4. It gives you a chance to enjoy a wide variety of environment and landscapes.
5. Develops an understanding and sensitivity about the culture and people of field area. This may change your biased views about that community.
6. And most importantly, it is enjoyable and gives you a great memorable experience.

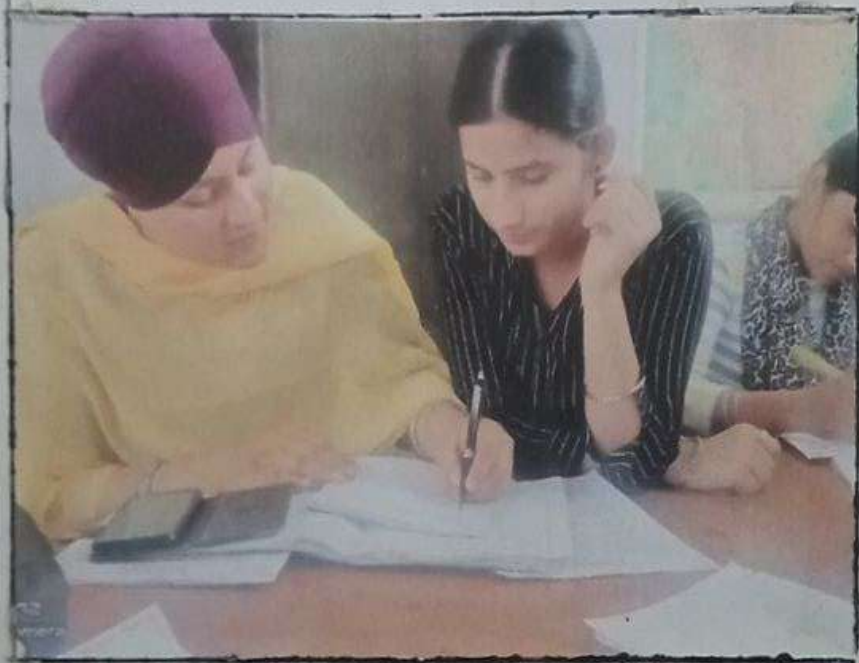
OBJECTIVES OF MARKET SURVEY

- (a) To study the commodities brought in and sold out as well as the places which are included in such transactions.
- (b) To study the number and types of shops and their arrangement or distribution in the market.
- (c) To study the status of people working in the shops.
- (d) To study the catchment area of market, describing the customers it is attracting from nearby or far places.
- (e) To know about the educational background of the shopkeepers.
- (f) To classify the shops on the basis of their size and income.

4.
A picture with Surveying
Both team



5.
COMPLITING DATA IN(GEO)
LAB



METHODOLOGY

This report is based on primary data collected by the student of geography. All the students of geography B.A final year were divided into 4 major groups. Each group had 25 students lead by a group leader. There were 4 ^{such} groups. Then the group leaders assigned two students to survey one SCS/SCF one booth of the Market, Student collected data by asking questions from the shop owners and customers.

A well framed questionnaire containing questions about shopkeepers, customers, goods was received by each student. The answers given were recorded on the paper and then compiled by the group leaders in the geography lab which included tabulation of data and preparation of Graphs.

Group leaders	Teams Roll No
Vijay Kumar 4179	4015 to 4135
Subhinder Singh 4224	4137 to 4281
Simranjeet Kaur 4229	4282 to 4413
Simranjeet Kaur 4230	4415 to 4534

6. SCF/SCO OF GIANI ZAIL
SINGH NAGAR



BOOTH OF GIANI ZAIL
SINGH NAGAR



CHAPTER-2 LOCATION OF STUDY AREA

LOCATIONAL MAP DISTRICT RUPNAGAR



Legend
PUNJAB DISTRICTS
RUPNAGAR



PROBLEMS AND SUGGESTIONS

The main problems faced by people of Zail Singh Nagar is that the roads of area in bad condition during rainy season. It become very difficult to go on road because patholes fill with water which caused a lot of accidents, where as the area who also have garbage problem due to lack of dustbins people throw dust on roads which caused health problems. Further more street lights are not working properly at night. The suggestions to solve these problems building good roads to avoid accident more over, dispose it and proper and streets government have to put dustbins to solve garbage problem and install well functional street light to prevent crime at night.

CHAPTER-3

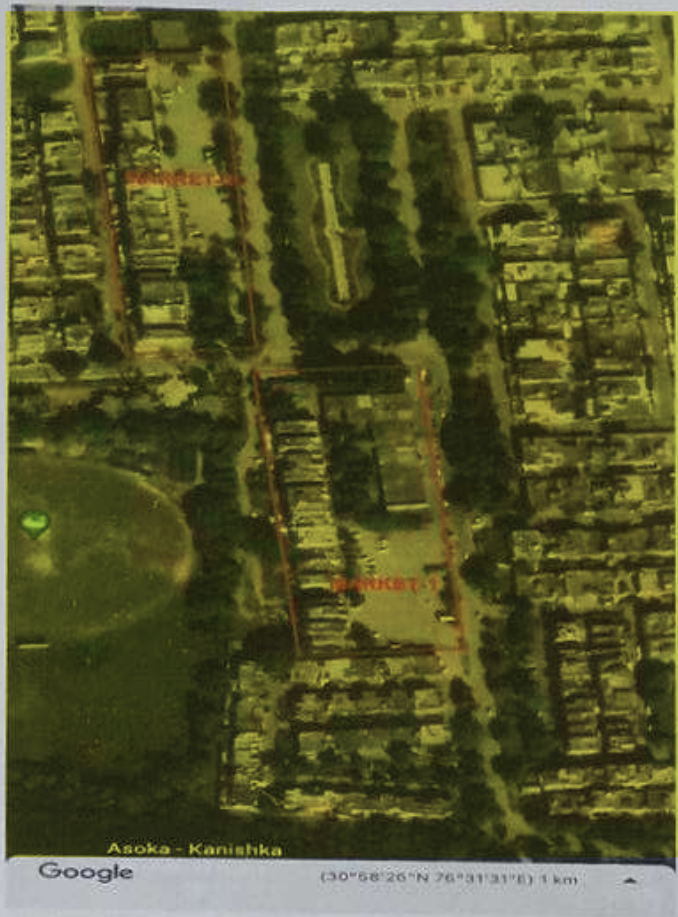
RESULTS OF THE MARKET SURVEY

All the data collected has been compiled in the Geography labs and after tabulation of all the figures, following graphs has been prepared.

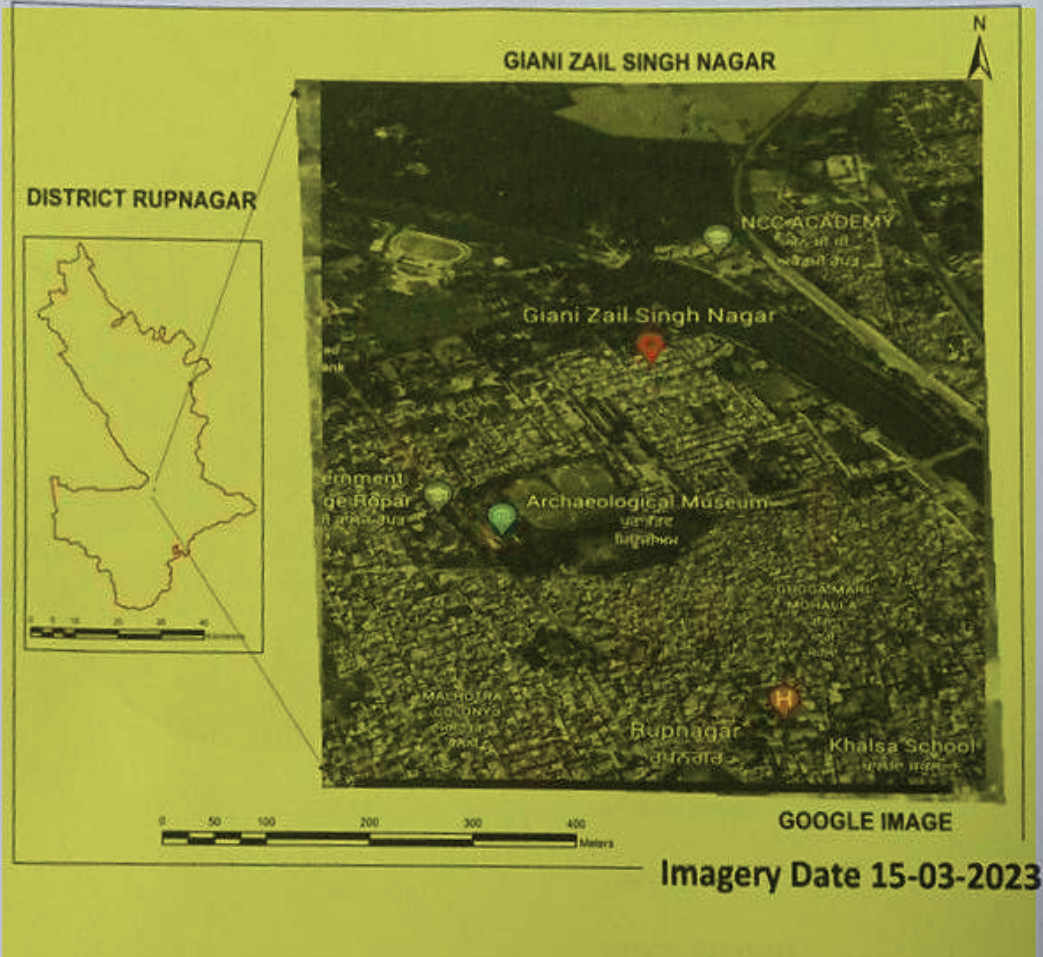
DISTRIBUTION OF SHOPS

S.NO	TYPE OF SHOP	TYPES
1	GAS SERVICE	1
2	PRIVATE COMPANY	1
3	TUITIONS/COACHING CENTRE	16
4	SWEETS/FAST FOOD/JUICE/RESTAURANT	24
5	NEWSPAPER OFFICE	2
6	CYBER CAFE/ PHOTOSTAT/COURIER SERVICE	4
7	GOVT. OFFICE	3
8	GROCERY STORE/CONFECTIONARY	7
9	BEAUTY PARLOR/SALON	3
10	MEDICAL STORE/ DENTAL CLINIC	1
11	TOUR/TRAVELS/DRIVING SCHOOL	5
12	ATM/BANK/INSURANCE COMPANY	3
13	GARMENTS READYMADE	5
14	PHOTO STUDIO	2
15	DRY CLEANERS	2
16	STATIONARY SHOPS	4
17	AUTOMOBILE REPAIR	2
18	DANCE ACADEMY	2
19	AMBUJA CEMENT STORE	2
		89

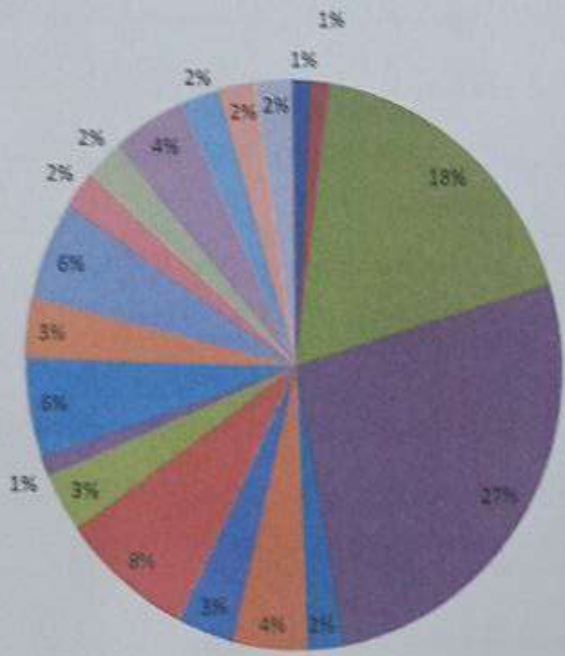
SATELLITE IMAGE OF GIANI ZAIL SINGH NAGAR MARKET



LOCATION MAP OF GIANI ZAIL SINGH NAGAR



DISTRIBUTION OF SHOPS



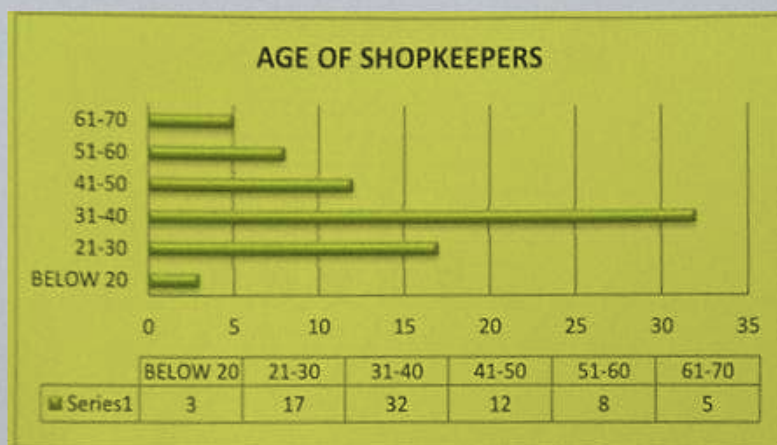
- GAS SERVICE
- PRIVATE COMPANY
- TUITIONS/COACHING CENTRE
- SWEETS/FAST FOOD/JUICE/RESTAURANT
- NEWSPAPER OFFICE
- CYBER CAFE/PHOTOSTAT/COURIER SERVICE
- GOVT. OFFICE
- GROCERY STORE/CONFECTIONARY
- BEAUTY PARLOR/SALON
- MEDICAL STORE/ DENTAL CLINIC
- TOUR/TRAVELS/DRIVING SCHOOL
- ATM/BANK/INSURANCE COMPANY
- GARMENTS READYMADE
- PHOTO STUDIO
- DRY CLEANERS
- STATIONARY SHOPS
- AUTOMOBILE REPAIR

DISTRIBUTION OF SHOPS

In this chart we are discussing about distribution of shops like Gas service shop - 1%, private company - 1%, tuition and coaching centre - 16%, Sweets/Fast food/Juice/Restaurant - 24%, Newspaper office - 2%, cycle, cafe/photostat/courier service - 4%, Govt office - 3%, Grocery store and confectionary - 7%, Beauty Parlour/Salon - 3%, Medical store/Dental clinic - 1%, Tour/Travel/Driving school - 5%, ATM/Bank/Insurance company - 3%, Garments Readymade - 5%, Photo studio - 2%, Dry cleaners - 2%, Stationary shops - 4%, Automobile Repair - 2%, Dance Academy - 2%, Ambuja cement store - 2%. Total shop percentage is 89%. Most of the shops in rail singh Nagar is Sweets/Fast food/Juice/Restaurant is about 24% total % of the shops.

AGE OF SHOPKEEPERS

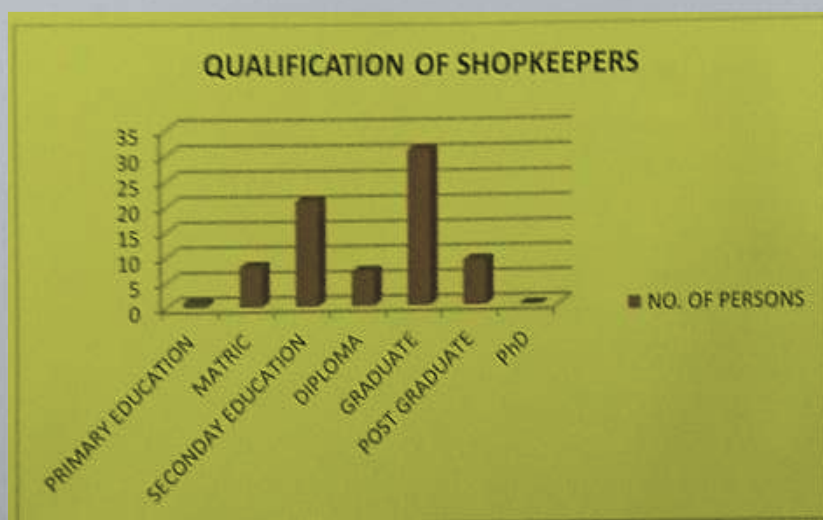
S.NO.	AGE GROUP	NUMBER OF PERSONS
1	BELOW 20	3
2	21-30	17
3	31-40	32
4	41-50	12
5	51-60	8
6	61-70	5
		77



In this table and graph are showing the Age of shopkeepers. The Highest Number (Age) of shopkeepers is 31- to 40 and the lowest number (Age) of shopkeepers is Age below 20. The total number of shopkeeper is 77 and out of 32 shopkeepers come from the age group of 31- 40.

QUALIFICATION OF SHOPKEEPERS

S.NO.	QUALIFICATIONS	NO. OF PERSONS
1	PRIMARY EDUCATION	1
2	MATRIC	8
3	SECONDARY EDUCATION	21
4	DIPLOMA	7
5	GRADUATE	31
6	POST GRADUATE	9
7	PHD	0
	TOTAL	77



In this table and graph are shown the qualification of shopkeepers. In the most of the shopkeepers qualified by the secondary education 21 and 31% of the shopkeepers are graduate. At the end (PHD) no one qualified by PHD. The total number of person is 77.

RESIDENCE OF SHOPKEEPERS

S.NO.	RESIDENCE	TOTAL
1	ROPAR VILLAGE	11
2	ROPAR CITY	65
3	CHANDIGARH	1
	TOTAL	77



In this given graph states that 65% of Residence shopkeepers are from Ropar city where as Residence shopkeepers in village of Ropar are 11% and rest 1% of people are residence of Chandigarh.

PLACE OF BUYING GOODS

S.NO	GOODS BROUGHT	TOTAL
1	LUDHIANA	1
2	JALANDHAR	4
3	ROPAR	52
4	CHANDIGARH	12
5	DELHI	4
6	MORINDA	2
7	MOHALI	1
8	KURALI	1
	TOTAL	77



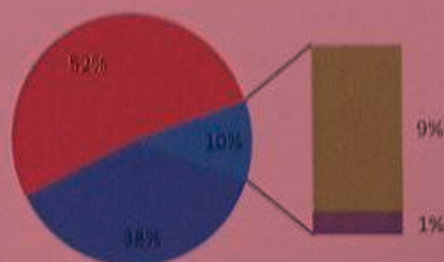
In this table shows that Ropar and Chandigarh are places where maximum goods are purchase which is 52% and 12% respectively while least purchase of goods are bought in Mohali, Kurali and Ludhiana which is just 1% each out of total 77%.

MODE OF CONVEYANCE USED FOR BRINGING GOODS

S.NO	MODE OF CONVEYANCE USED	TOTAL
1	CAR	29
2	BIKE	40
3	THREE WHEELER	7
4	BUS	1
	TOTAL	77

MODE OF CONVEYANCE USED FOR BRINGING GOODS

■ CAR ■ BIKE ■ THREE WHEELER ■ BUS



The given table show that the most conveyance mode of transportation goods are car and bike which transport 29% and 40% goods respectively. Furthermore more 1.7% and 1% of goods are convey by three wheelers and bus independently

DAILY CUSTOMER COUNT

S.NO.	CUSTOMER VISITING	TOTAL
1	BELOW 10	16
2	11-20	19
3	21-30	9
4	31-40	4
5	41-50	7
6	51-60	6
7	61-70	3
8	71-80	2
9	81-90	0
10	ABOVE 90	11
	TOTAL	77

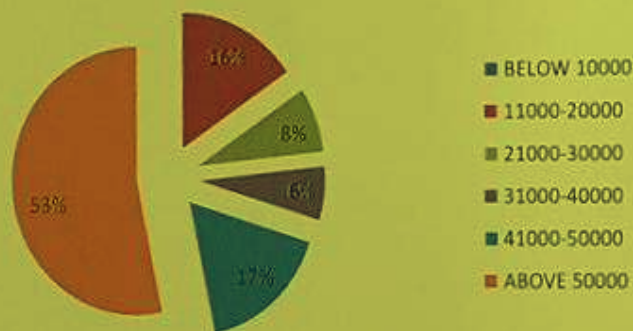


The given table illustrates that teenagers of age 11-20 visit more customers than any age of group which is 19% after that 16% of children below age of 10. The age group of 81-90 is about 0%. This age group is least visiting customers.

MONTHLY INCOME OF SHOPKEEPERS

S.NO.	MONTHLY INCOME	TOTAL
1	BELOW 10000	
2	11000-20000	12
3	21000-30000	6
4	31000-40000	5
5	41000-50000	13
6	ABOVE 50000	41
	TOTAL	77

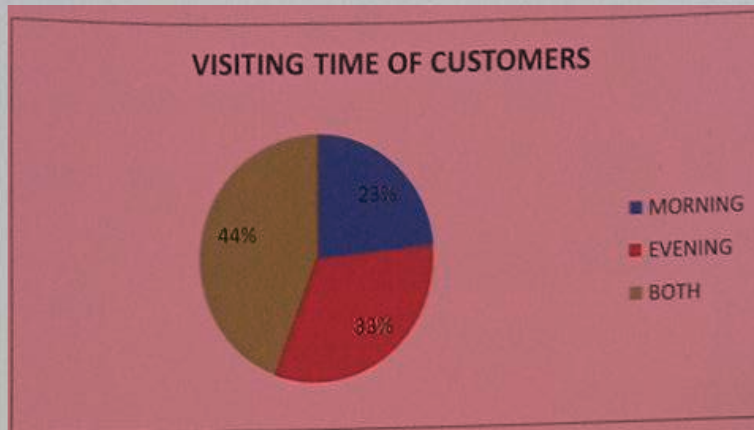
MONTHLY INCOME OF SHOPKEEPERS



In this table shows that 53% of people earn above 50,000, while 41000-50,000 income is generated by 13% of shopkeepers monthly which is almost equal amount of people earn 11000-20,000, while 21000-40,000 income earn by people about 6% to 5%.

VISITING TIME OF CUSTOMERS

S.NO.	VISITING TIME	TOTAL
1	MORNING	18
2	EVENING	25
3	BOTH	34
	TOTAL	77



The given table shows that 23% people visit shops in morning while, customers visit evening time is 33% visit shops both morning and evening times are 44%.

SHOP-2 AJIT PRESS OFFICE

HARSH WINDER 57

B-A III SAINTI

MARKET SURVEY
(GIANI ZAIL SINGH NAGAR)
QUESTIONNAIRE

4015

- Q.1 NAME OF SHOP/TYPE OF SHOP - Ajit Press office
- Q.2 SHOP NUMBER - 3/104 Giani Zail Singh Nagar
- Q.3 NAME OF SHOPKEEPER - Satnam Singh Satti
- Q.4 AGE OF SHOPKEEPER - 54
- Q.5 OWNERSHIP OF SHOP-YES/NO ✓
- RENT-MONTHLY/ANNUAL- RS. 20,000/-
- Q.6 RESIDENCE- Ranjit Avenue
- Q.7 MODE OF CONVEYANCE USED-CAR/SCOOTER/CYCLE/ON FOOT ✓
- Q.8 NUMBER OF FAMILY MEMBERS- 5
- Q.9 QUALIFICATION-MATRIC/+2/GRADUATE/PG ✓

SHOP

- Q.1 YEAR OF STARTING SHOP/OFFICE - 2016
- Q.2 FROM WHERE GOODS ARE BROUGHT- Paper
- Q.3 MODE OF CONVEYANCE USED TO BRING GOODS-
- Q.4 HOW MANY HOURS SHOP REMAIN OPENED?

OR

- TIME OF OPENING SHOP- 10:30 AM CLOSING TIME- 10:00 PM
- Q.5 FACILITY OF HOME DELIVERY OR NOT
- Q.6 HOW DO YOU INCREASE SALES OF YOUR SHOP? By No
- Q.7 WHAT FACILITIES ARE PROVIDED TO YOU BY M.C?
- Q.8 IS THIS LOCATION SUITABLE FOR YOUR BUSSINESS?

CUSTOMERS

- Q.1 NUMBER OF CUSTOMERS DAILY VISITING- ~~4~~ 4
 Q.2 FROM WHERE CUSTOMERS HAIL IN-
 Q.3 CUSTOMERS ARE LOCALS OR COME FROM FAR -
 Q.4 MORE CUSTOMERS VISIT IN THE MORNING OR EVENING- morning
 Q.5 CUSTOMER'S PROBLEMS

OR

ARE CUSTOMERS SATISFIED?

WORKERS

- Q.1 HOW MANY WORKERS ARE THERE? 4 workers
 Q.2 AGE OF WORKERS- 48, 45, 32, 31
 Q.3 FROM WHERE THEY COME?
 Q.4 MODE OF CONVEYANCE USED BY WORKERS- TWO WHEELER/THREE WHEELER/FOUR WHEELER ✓
 Q.5 DAILY WAGES/MONTHLY INCOME- Rs 20,000 ✓
 Q.6 HOW MUCH DO YOU PAY?
 Q.7 WORKING DAYS AND WORKING HOURS- Monday to Sunday
INCOME 8 hrs

Q.1 DAILY SALE - Rs.

Q.2 APPROXIMATE MONTHLY INCOME- 1,50,000

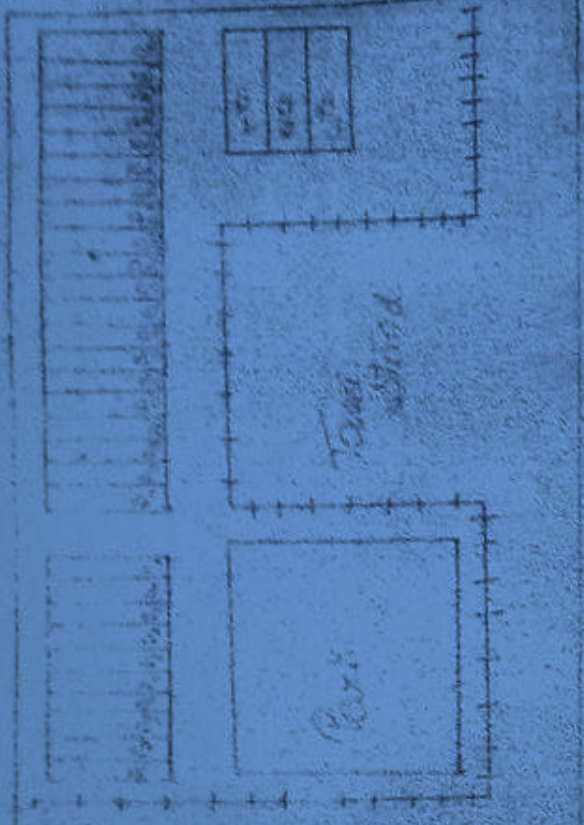
PROBLEM

Q.1 WHAT TYPE OF PROBLEM YOU FACE IN THIS MARKET?

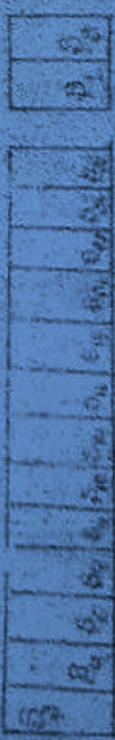
NO problems

Q.2 WHAT REFORMS WOULD YOU SUGGEST TO BE MADE IN THIS MARKET?

NO problems



1st Office
magnified
kitchen



Park

1	2	3	4	5	6	7	8	9	10

1	2	3	4	5	6	7	8	9	10

Car Party

Bus Stand



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Tel. : 01881-222263 | E.mail : principal.gc.ropar@gmail.com

No. 1547

Date 23/06/2023

List of BA 3rd Year Home Science Students Undertaking Field work/Survey (2022-2023)

Sr. No.	Roll No.	Student Name	Title of Field Work
1	4009	NIDHI PATHANIA	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
2	4010	AKSHADA PANDE	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
3	4012	SAKINA	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
4	4030	KIRANDEEP KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
5	4038	SUKHJEET KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
6	4066	AISHRITIKA RAI	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
7	4072	YASHKARAN SINGH	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
8	4077	HARSIMRAN KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
9	4086	SUMANPREET KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
10	4093	KIRAN KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
11	4094	AMANJIT KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
12	4101	JASHANPREET KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
13	4104	MANSI KUMARI SHUKLA	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
14	4111	SATVEER KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
15	4114	JEEVANJOT KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
16	4115	JASHANPREET KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
17	4117	RAJNI CHAUDHARY	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
18	4120	SIMRAN KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District



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No. 1547

Date 23/06/2023.

19	4122	RUPALI KUMARI	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
20	4124	GOURI	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
21	4128	PARDEEP KUMAR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
22	4130	AMANDEEP KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
23	4132	JOTI	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
24	4133	KIRANDEEP	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
25	4146	PREETI	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
26	4151	SONIA RANI	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
27	4153	GURPREET KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
28	4160	SANDEEP KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
29	4163	POONAM KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
30	4177	MEENAKSHI	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
31	4188	BANDNA	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
32	4190	PRABHJOT KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
33	4195	ARSHDEEP KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
34	4210	SUKHWINDER KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
35	4212	AMAN VERMA	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
36	4222	JASPREET KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
37	4226	NISHA	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District



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No. 1547

Date 23/06/2023

38	4236	NAVJOT KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
39	4242	MEENU KUMARI	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
40	4253	JUHI KUMARI	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
41	4274	LACHHAMI	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
42	4276	PAWANPREET SINGH	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
43	4280	NEHA DEVI	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
44	4284	GURLEEN KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
45	4295	HARNEET KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
46	4311	RAJPREET KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
47	4324	AKANSHA	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
48	4325	PRIYA RANI	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
49	4330	SALONI RAWAT	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
50	4339	SATWINDER KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
51	4347	LOVELEEN KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
52	4409	KIRANJEET KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
53	4421	MEHAK	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
54	4451	RAJINDER KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
55	4472	CHETNA	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
56	4485	RITU	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District



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No. 1547

Date 23/06/2023.

57	4490	NEERAJ	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District
58	4508	ANMOLDEEP KAUR	Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District

Head

Department of Home Science

Govt. College, Ropar

Jatinder Kaur
Principal

Govt. College, Ropar

Principal

Govt. College, ROPAR

Survey on Feeding, Weaning and Child Rearing Practices in Young Mothers of Ropar District

Table with columns: S.no, Name, Roll no, Responses (1-5), Q. no. (1-48), Cor, wr, cno, %, Remarks. Contains 54 rows of survey data.

Survey Analysis

	Correct Answer
	Wrong Answer
	No Answer

Total number of participants=108

Range	Outcome	Total Outcomes	%
(0-30)%	Less Knowledge	8	7.4
(30-50)%	Moderate Knowledge	70	64.8
Above 50%	Sufficient Knowlegde	30	27.8

SURVEY ON FEEDING, WEANING AND CHILD REARING PRACTICES IN YOUNG MOTHERS OF DISTRICT ROPAR

SURVEY REPORT

- In the session 2022-23, as a part of curriculum in practical paper of semester -VI. A survey was conducted in District Ropar by Home Science Department of Government College, Ropar.
- This survey aimed to access the knowledge of young mothers about feeding, weaning and child rearing practices.
- A self prepared and close-ended questionnaire was used to collect the data. Total 108 young mothers from area of District Ropar participated in this survey.
- Respondents were selected through probability sampling – simple random sampling technique. Participants gave answer to 48 different questions and shared their experiences of post natal period.
- It was found that majority of women (64.8%) had moderate knowledge about feeding ,weaning and child rearing practices whereas minority of women(7.4%) had less knowledge and 27.8% of respondents had sufficient knowledge about feeding, weaning and child rearing practices.



Head

Department of Home Science



Principal

Government College Ropar

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No. 1547

Date 23/06/2023

LIST OF STUDENTS UNDERTAKING FIELD WORK IN B.SC. 3RD YEAR (BOTANY) (2022-2023)

Sr. No.	Roll No.	Name	Title of Field Work
1	7101	NEHA KUMARI	TIMBER AND FIREWOOD TREES
2	7102	SHRADHA VERMA	TIMBER AND FIREWOOD TREES
3	7103	DHARVEE CHOPRA	TIMBER AND FIREWOOD TREES
4	7104	SUKHDEEP KAUR	TIMBER AND FIREWOOD TREES
5	7105	ANISHU JAMA	TIMBER AND FIREWOOD TREES
6	7106	AKANGSHA ANAND	TIMBER AND FIREWOOD TREES
7	7107	KHUSHI	TIMBER AND FIREWOOD TREES
8	7108	AJAY KUMAR	TIMBER AND FIREWOOD TREES
9	7109	SIMARPREET KAUR	TIMBER AND FIREWOOD TREES
10	7110	HARMANPREET KAUR	TIMBER AND FIREWOOD TREES
11	7111	GURPREET KAUR	TIMBER AND FIREWOOD TREES
12	7112	ARSHDEEP SINGH	TIMBER AND FIREWOOD TREES
13	7113	HARPREET KAUR	TIMBER AND FIREWOOD TREES
14	7114	KHUSHDEEP KAUR	TIMBER AND FIREWOOD TREES
15	7115	SIMRANJEET KAUR	TIMBER AND FIREWOOD TREES
16	7116	NEHA	TIMBER AND FIREWOOD TREES
17	7117	ARSHPREET KAUR	TIMBER AND FIREWOOD TREES
18	7118	SATWINDER KAUR	TIMBER AND FIREWOOD TREES
19	7119	ANMOLDEEP KAUR	TIMBER AND FIREWOOD TREES
20	7120	NAZIA	TIMBER AND FIREWOOD TREES
21	7121	RAVJOT KAUR	TIMBER AND FIREWOOD TREES



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No. 1547

Date 23/06/23

22	7122	HARSHPREET KAUR	TIMBER AND FIREWOOD TREES
23	7123	MEHAKDEEP KAUR	TIMBER AND FIREWOOD TREES
24	7124	JASPREET SINGH	TIMBER AND FIREWOOD TREES
25	7125	KANISHKA	TIMBER AND FIREWOOD TREES
26	7126	ANOOPJOT KAUR	TIMBER AND FIREWOOD TREES
27	7127	SANA PARVEEN	TIMBER AND FIREWOOD TREES
28	7128	KIRTI RANI	TIMBER AND FIREWOOD TREES
29	7129	LOVEPREET	TIMBER AND FIREWOOD TREES
30	7130	AKASHDEEP SINGH	TIMBER AND FIREWOOD TREES
31	7131	TANIA RANA	TIMBER AND FIREWOOD TREES
32	7132	DAMANPREET KAUR	TIMBER AND FIREWOOD TREES
33	7133	SIMRANJEET KAUR	TIMBER AND FIREWOOD TREES
34	7134	BHANU PRIYA	TIMBER AND FIREWOOD TREES
35	7135	MANPREET KAUR	TIMBER AND FIREWOOD TREES
36	7136	BALJEET KAUR	TIMBER AND FIREWOOD TREES
37	7137	JYOTI	TIMBER AND FIREWOOD TREES
38	7138	AKRITI TIWARI	TIMBER AND FIREWOOD TREES

Shikha

Head
Department of Botany
Govt. College, Ropar

Jatinder Singh
Principal

Govt. College, Ropar
Principal
Govt. College, ROPAR

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

Submitted by

Name Neha

Roll No. 7101(403448)

This is certified that this work entitled "**TIMBER-WOOD AND FIRE-WOOD PLANTS**" is a bonafide record of work done by Neha Roll No. 7101 of Department of Botany, Govt. College, Ropar under the supervision of Shikha Mam during the session 2022-2023.

Seen
Shikha
29/04/23

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

Submitted by

Name Shradha Verma

Roll No. 403420

This is certified that this work entitled "**TIMBER-WOOD AND FIRE-WOOD PLANTS**" is a bonafide record of work done by Shradha Verma Roll No. 403420 of Department of Botany, Govt. College, Ropar under the supervision of Mrs. Shikha Chaudhary & Ms Pooja Verma during the session 2022-2023.

Shikha
02/05/23

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

Submitted by

Name Dhanvee chhara

Roll No. 7103 (403500)

This is certified that this work entitled “**TIMBER-WOOD AND FIRE-WOOD PLANTS**” is a bonafide record of work done by

Dhanvee chhara Roll No. 7103⁽⁴⁰³⁵⁰⁰⁾ of Department of Botany, Govt. College, Ropar under the supervision of Shikha chaudhary / Pooja verma mam

during the session 2022-2023.

A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS

Submitted to

Government College, Ropar

Submitted by

Name Sukhdeep Kaur

Roll No. 403409 (7104)

This is certified that this work entitled "TIMBER-WOOD AND FIRE-WOOD PLANTS" is a bonafide record of work done by Sukhdeep Kaur Roll No. 403409 of Department of Botany, Govt College, Ropar under the supervision of Shikha Chaudhary Arojja Verma during the session 2022-2023.

Shikha
02/05/23

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

Submitted by

Name Anishu Jarna

Roll No. 403541 (7108)

This is certified that this work entitled "**TIMBER-WOOD AND FIRE-WOOD PLANTS**" is a bonafide record of work done by Anishu Jarna Roll No. 403541 of Department of Botany, Govt. College, Ropar under the supervision of Shikha Chaudhary & Pooja Verma during the session 2022-2023.

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

Submitted by

Name Neha

Roll No. 7101(403448)

This is certified that this work entitled "**TIMBER-WOOD AND FIRE-WOOD PLANTS**" is a bonafide record of work done by Neha Roll No. 7101 of Department of Botany, Govt. College, Ropar under the supervision of Shikha Mam during the session 2022-2023.

Seen
Shikha
29/04/23

A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS

Submitted to

Government College, Ropar

Submitted by

Name Dhanvee Chopra

Roll No. 7103 (403500)

This is certified that this work entitled "**TIMBER-WOOD AND FIRE-WOOD PLANTS**" is a bonafide record of work done by Dhanvee chopra Roll No. 7103⁽⁴⁰³⁵⁰⁰⁾ of Department of Botany, Govt. College, Ropar under the supervision of Shikha chaudhary / Pooja verma mam during the session 2022-2023.

Shikha
02/05/23

A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS

Submitted to

Government College, Ropar

Submitted by

Name Sukhdeep Kaur
Roll No. 403409 (7104)

This is certified that this work entitled "TIMBER-WOOD AND FIRE-WOOD PLANTS" is a bonafide record of work done by Sukhdeep Kaur Roll No. 403409 of Department of Botany, Govt College, Ropar under the supervision of Shikha Chaudhary Arojha Verma Mam during the session 2022-2023.

Shikha
02/05/23

A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS

Submitted to

Government College, Ropar

Submitted by

Name Akangsha Anand
Roll No. 403516 (7106)

This is certified that this work entitled "**TIMBER-WOOD AND FIRE-WOOD PLANTS**" is a bonafide record of work done by Akangsha Anand Roll No. 403516 of Department of Botany, Govt. College, Ropar under the supervision of Shikha Choudhary / Pooja Verma during the session 2022-2023.

Shikha
02/05/23

A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS

Submitted to

Government College, Ropar

Submitted by

Name Khushi

Roll No. 7107

This is certified that this work entitled "TIMBER-WOOD AND FIRE-WOOD PLANTS" is a bonafide record of work done by Khushi Roll No. 7107 of Department of Botany, Govt. College, Ropar under the supervision of Shikha Chaudhary & Pooja Verma during the session 2022-2023.

Shushi
02/05/23

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

Submitted by

Name Ajay Kumar

Roll No. 7108

This is certified that this work entitled "**TIMBER-WOOD AND FIRE-WOOD PLANTS**" is a bonafide record of work done by Ajay Kumar Roll No. 7108 of Department of Botany, Govt. College, Ropar under the supervision of Prof - Shikha, Prof - Pooja during the session 2022-2023.

Shikha
02/05/23

A Field Report
On

Timberwood and Firewood Plants

Submitted to
Department of Botany
Government College, Ropar

Submitted by
Name Simarpreet Kaur
Roll No. 403419 (7109)

This is certified that this work entitled Timberwood and Firewood Plants
is a bona fide record of work done by Simarpreet Kaur Roll
No. 403419

of Department of Botany, Govt. College, Ropar under the supervision of Mrs. Shikha
Chaudhary and Ms. Pooja Verma during the session 2022-2023

Secy
Shikha
29/04/23

A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS

Submitted to

Government College, Ropar

Submitted by

Name Harmanpreet Kaur

Roll No. 7110 (403484)

This is certified that this work entitled "TIMBER-WOOD AND FIRE-WOOD PLANTS" is a bonafide record of work done by Harmanpreet Kaur Roll No. 7110 of Department of Botany, Govt. College, Ropar under the supervision of Shikha Mam during the session 2022-2023.

Shikha
02/05/23

A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS

Submitted to

Government College, Ropar

Submitted by

Name Gurpreet Kaur

Roll No. 7111 (403490)

This is certified that this work entitled "TIMBER-WOOD AND FIRE-WOOD PLANTS" is a bonafide record of work done by Gurpreet Kaur Roll No. 403490 of Department of Botany, Govt. College, Ropar under the supervision of Prof. SHIKHA and Prof. POOTA during the session 2022-2023.

Shikha
02/05/23

A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS

Submitted to

Government College, Ropar

Submitted by

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This is certified that this work entitled "**TIMBER-WOOD AND FIRE-WOOD PLANTS**" is a bonafide record of work done by ARSHDEEP SINGH Roll No. 403539 of Department of Botany, Govt. College, Ropar under the supervision of MRS. SHIKHA CHAUDHARY & MS. POOJA VERMA during the session 2022-2023.

Shikha
02/05/23

A
REPORT
ON
TIMBER YIELDING PLANTS

Submitted to

Government College, Ropar

Submitted by

Name HARPREET KAUR

Roll No. 403482 (7113)

This is certified that this work entitled Timber yielding plant is a bonafide record of work done by Harpreet kaur Roll No. 403482 of Department of Botany Department Govt. College, Ropar under the supervision of Mrs. Shikha Chaudhary and M.s. Pooja Verma during the session 2022-2023.

Seen
Shikha
29/04/23

A
REPORT
ON
FIRE Wood plants

Submitted to

Government College, Ropar

Submitted by

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This is certified that this work entitled Fire wood plants is a bonafide record of work done by HARPREET KAUR Roll No. 403482 of Department of Botany Department Govt. College, Ropar under the supervision of Mrs. Shikha Chaudhary and Ms. Pojaveema during the session 2022-2023.

Seen
Shikha
09/04/23

A
REPORT
ON
Major Firewood and Timber Yielding Plants

Submitted to

Government College, Ropar

Submitted by

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This is certified that this work entitled (NAME OF TOPIC) is a bonafide record of work done by _____ (Name of student) Khushdeep Kaur Roll No. 7114 of Department of Botany, Govt. College, Ropar under the supervision of Shikha Chaudhary, Pooja Verma during the session 2022-2023.

Seen & Checked

Shikha
29/04/23

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

Submitted by

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This is certified that this work entitled "**TIMBER-WOOD AND FIRE-WOOD PLANTS**" is a bonafide record of work done by Simranjeet Kaur Roll No. 7115 of Department of Botany, Govt. College, Ropar under the supervision of Shikha Chaudhary, Pooja Verma during the session 2022-2023.

Shikha
02/05/23

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

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Shikhaman
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**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

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Shikha
02/05/23

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD
PLANTS**

Submitted to

Government College, Ropar

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**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

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This is certified that this work entitled "TIMBER-WOOD AND FIRE-WOOD PLANTS" is a bonafide record of work done by Nazia Roll No. 403452 of Department of Botany, Govt. College, Ropar under the supervision of Prof. Pooja Verma and Shikha Mann. during the session 2022-2023.

Shikha
02/05/23

a
Report
On
TIMBER-WOOD AND FIRE-WOOD PLANTS

Submitted to

Government College, Ropar

Submitted by

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Shikha
02/05/23

A Field Report
On

Timber yielding plants and sources of firewood

Submitted to
Department of Botany
Government College, Ropar

Submitted by

Name Harshpreet Kaur
Roll No. 403488 (7122)

This is certified that this work entitled timber yielding & firewood plants
is a bona fide record of work done by Harshpreet Kaur Roll
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Chaudhary and Ms. Pooja Verma during the session 2022-2023

Seen
Shikha
29/04/23

A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS

Submitted to

Government College, Ropar

Submitted by

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Shikha
02/05/23

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

Submitted by

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This is certified that this work entitled "**TIMBER-WOOD AND FIRE-WOOD PLANTS**" is a bonafide record of work done by Jaspreet Singh Roll No. 403533 of Department of Botany, Govt. College, Ropar under the supervision of prof. SHIKHA and Prof. POOJA during the session 2022-2023.

Shikha
02/05/23

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

Submitted by

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This is certified that this work entitled "**TIMBER-WOOD AND FIRE-WOOD PLANTS**" is a bonafide record of work done by Kanishka Roll No. 403469 of Department of Botany, Govt. College, Ropar under the supervision of Shikha and Pooja ma'am during the session 2022-2023.

Shikha
02/05/23

A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS

Submitted to

Government College, Ropar

Submitted by

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This is certified that this work entitled "TIMBER-WOOD AND FIRE-WOOD PLANTS" is a bonafide record of work done by Anoopjot Kaur Roll No. 7126 of Department of Botany, Govt. College, Ropar under the supervision of Ms. Shikha and Ms. Pooja during the session 2022-2023.

Shikha
02/05/23

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

Submitted by

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Shikha
02/05/23

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

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Shikha
02/05/23

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

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Shikha
02/05/23

A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS

Submitted to

Government College, Ropar

Submitted by

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Shikha
09/05/23

A
REPORT
ON
Timber Yielding Plants

Submitted to

Government College, Ropar

Submitted by

Name Tania Rana

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This is certified that this work entitled Timber yielding plants is a bonafide record of work done by Tania Rana Roll No. 403403 of Department of Botany, Govt. College, Ropar under the supervision of Mrs. Shikha Chaudhary Ms. Pooja Verma. during the session 2022-2023.

Dr. Subh
02/05/23

A
REPORT
ON
FIRE WOOD Plants

Submitted to

Government College, Ropar

Submitted by

Name Tania Rana

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This is certified that this work entitled FIRE wood plants is a bonafide record of work done by

Tania Rana Roll No. 403403 of Department of Botany

Govt. College, Ropar under the supervision of Mrs. Shikha Chaudhary
during the session 2022-2023. Ms. Pooja Verma.

Shikha
02/05/23

A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS

Submitted to

Department of Botany
Government College, Ropar

Submitted by

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Shikha
02/05/23

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

Submitted by

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during the session 2022-2023.

Scm
Shikha
29/04/23

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

Submitted by

Name Bhanu Priya
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This is certified that this work entitled "**TIMBER-WOOD AND FIRE-WOOD PLANTS**" is a bonafide record of work done by Bhanu Priya Roll No. 7134 of Department of Botany, Govt. College, Ropar under the supervision of Shikha Chaudhary & Pooja Verma during the session 2022-2023.

Shikha
02/05/23



Government College, Ropar



A
FIELD REPORT ON
ON
TIMBER WOOD TREES

Submitted to

Prof. Shikha Chaudhary, Botany Department

Submitted by

Name – Manpreet Kaur

Roll No. - 7135

This is certified that this work entitled **Timber Wood Trees** is a bonafide record of work done by **Manpreet Kaur**, Roll No. **7135**, Department of **Botany**, Govt. College, Ropar under the supervision of **Prof. Shikha Chaudhary** during the session 2022-2023.

Shikha
08/05/2023

A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS

Submitted to

Government College, Ropar

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This is certified that this work entitled "TIMBER-WOOD AND FIRE-WOOD PLANTS" is a bonafide record of work done by Baljeet Kaur Roll No. 7136 of Department of Botany, Govt. College, Ropar under the supervision of Mrs. Shikha Mann & Ms. Pooja Verma during the session 2022-2023.

Shikha
02/05/23

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

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This is certified that this work entitled "**TIMBER-WOOD AND FIRE-WOOD PLANTS**" is a bonafide record of work done by Jyoti Roll No. 7137 of Department of Botany, Govt. College, Ropar under the supervision of Shikha Chaudhary, Pooja Verma during the session 2022-2023.

Shikha
02/05/23

A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS

Submitted to

Government College, Ropar

Submitted by

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Shikha
02/05/23



Government College, Ropar



A
FIELD REPORT ON
ON
TIMBER WOOD TREES

Submitted to

Prof. Shikha Chaudhary, Botany Department

Submitted by

Name – Manpreet Kaur

Roll No. - 7135

This is certified that this work entitled **Timber Wood Trees** is a bonafide record of work done by **Manpreet Kaur**, Roll No. **7135**, Department of **Botany**, Govt. College, Ropar under the supervision of **Prof. Shikha Chaudhary** during the session 2022-2023.

FIELD REPORT ON TIMBER-WOOD TREES

Introduction:

The purpose of this field report is to provide comprehensive information about the timber properties and uses of different tree species found in the local area of Ropar. The study aims to understand the significance of these trees in the context of timber and firewood usage, considering their characteristics and potential applications.

Timber wood:

- Timber wood, also known as lumber, is the product obtained from trees through logging and saw milling processes. It is widely used in construction, furniture-making, and various other applications. Timber wood possesses unique properties, including hardness, durability, texture, and grain pattern, which make it suitable for different purposes.
- Timber wood finds extensive use in construction for building houses, bridges, and support structures. It is also a preferred material for crafting furniture, doors, windows, and flooring. Certain species with water-resistant properties, like Teak and Mahogany, are used in boat building.
- Sustainable forestry practices are crucial to preserve timber wood resources for the future. Responsible harvesting, reforestation, and forest management ensure the long-term availability of this valuable natural resource while minimizing the impact on the environment.

Objectives:

1. To assess and document the availability and distribution of timber and firewood resources in the local area of Ropar.
2. To study the properties and characteristics of different tree species.
3. To analyze the uses and applications of timber wood obtained from various tree species, especially in construction, furniture-making, and other relevant industries.
4. To examine the traditional and modern methods of harvesting, processing, and preserving timber and firewood resources in the Ropar region.
5. To evaluate the impact of timber wood and firewood extraction on the local ecosystem, including biodiversity, soil health, and water resources.
6. To identify the challenges and opportunities in sustainable management practices for timber wood and firewood resources, promoting conservation and responsible utilization.

7. To provide recommendations and suggestions for the effective utilization and conservation of timber wood and firewood resources, considering environmental, social, and economic aspects.

Methodology:

1. Field Visits: Several field visits were conducted in and around the Ropar area to identify and collect samples of different tree species. Samples were studied in a random manner.

2. Data Collection: Data on the properties, uses, and distribution of each tree species were gathered.

The following tree species were studied for their timber properties and uses:

1. Shisham
2. Teak
3. Acacia
4. Sal
5. Eucalyptus
6. Populus
7. Siris
8. Mulberry
9. Silver Oak
10. *Toona ciliata*

Observations:

1) Shisham

Botanical Name: *Dalbergia sissoo*

Family: Fabaceae

Properties of Wood:

- Shisham, also known as Indian Rosewood, is a medium to large deciduous tree with a straight trunk and a height of up to 25-30 meters.
- The heartwood of Shisham ranges in color from golden brown to dark brown, often with darker streaks, while the sapwood is lighter in color.
- It has a moderately fine texture and a straight to interlocked grain pattern, making it attractive for woodworking.

Uses:

1. Furniture:

Shisham wood is highly prized for making high-quality furniture, including tables, chairs, cabinets, and beds. Its beautiful grain and durability make it an excellent choice for fine woodworking.

2. Flooring and Paneling:

Shisham is used for flooring and wall paneling due to its attractive appearance and resistance to wear and tear.

3. Musical Instruments:

The rich and resonant qualities of Shisham wood make it a popular choice for crafting musical instruments like guitars, sitars, and other stringed instruments.

5. Boat Building:

Shisham wood's resistance to decay and its ability to withstand moisture make it suitable for boat building and marine applications.

6. Agricultural Implements:

Shisham is used for making agricultural tools and equipment like plows, handles, and toolboxes due to its strength and durability.

7. Veneer and Plywood: Shisham wood is also used to produce veneer and plywood, providing an attractive surface for various applications



2. Teak

Botanical Name: *Tectona grandis*

Family: Verbenaceae

Properties of Wood:

- **Durability:** Teak is highly durable, and its wood is resistant to decay, rot, and termites, making it an ideal choice for outdoor applications and construction in humid environments.
- **Density:** Teak is a dense hardwood with a high weight-to-volume ratio, which contributes to its strength and durability.
- **Work ability:** The wood is relatively easy to work with, allowing for excellent finishing and smooth surfaces.
- **Stability:** Teak exhibits minimal shrinkage and warping, making it a stable wood choice for various applications.

Uses:

1. Furniture:

It is highly valued for furniture making due to its durability, attractive appearance, and resistance to weathering. It is used for outdoor furniture like garden benches, tables, and chairs, as well as indoor furniture like cabinets, tables, and bed frames.

2. Boat Building:

Teak has been traditionally used in boat and shipbuilding for its water resistance and strength. It is commonly used for decks, railings, and interior paneling in luxury yachts and boats.

3. Flooring:

Teak wood is popular for flooring due to its resistance to wear and tear, making it suitable for high-traffic areas.

4. Doors and Windows:

Teak is used for manufacturing doors and windows, providing long-lasting and aesthetically pleasing features for homes and buildings.

5. Outdoor Structures:

Teak is utilized in the construction of pergolas, gazebos, and outdoor pavilions due to its ability to withstand the elements.

6. Architectural Woodwork:

Teak is used for various architectural woodwork, such as handrails, moldings, and decorative elements.

7. Panelling and Veneer:

Teak veneer is used to enhance the appearance of interior surfaces, such as cabinets and wall panels.

8. Carvings and Sculptures:

The workability of teak makes it suitable for intricate carvings and sculptures used in art and décor.



3) BABOOL

Botanical Name: *Acacia nilotica*

Family: Fabaceae

Properties:

Acacia nilotica, commonly known as Babul or Indian Gum Arabic Tree, produces a durable and dense timber with favorable properties for various applications. The wood is known for its strength, hardness, and resistance to decay, making it suitable for various woodworking purposes.

Uses:

1. Furniture:

Babul timber is used in furniture making due to its durability and attractive appearance.

2. Construction:

The wood is employed for constructing doors, windows, and beams in buildings.

3. Fencing:

The strong and robust properties of Babul wood make it a popular choice for making fences and posts.

4. Agricultural Implements:

Babul timber is used for crafting agricultural tools, such as plows and handles, due to its strength and resilience.

5. Boat Building:

In some regions, the wood is used in boat and canoe construction, owing to its water-resistant qualities.

6. Tannin Production:

Babul bark contains tannins, which are used in leather tanning and dyeing processes.

Overall, *Acacia nilotica* is a versatile tree with valuable timber properties, making it economically and culturally significant in various regions where it grows.



4. Sal

Botanical Name: *Shorea robusta*

Family: Dipterocarpaceae

Timberwood Properties:

Sal is a tropical hardwood tree known for its strong, durable, and termite-resistant wood. The wood has a straight grain and a coarse texture, making it suitable for various woodworking applications. It has a moderate density and is relatively easy to work with hand or machine tools. Sal timber is known for its stability and ability to retain its shape even under changing environmental conditions.

Uses:

1. Construction:

Sal timber is widely used in construction for making beams, columns, flooring, and other structural elements due to its strength and durability.

2. Furniture:

The attractive appearance and durability of Sal wood make it popular for crafting furniture items like tables, chairs, cabinets, and beds.

3. Doors and Windows:

Sal wood is commonly used for making doors, window frames, and shutters due to its resistance to decay and insects.

4. Railway Sleepers:

Sal timber is highly valued for manufacturing railway sleepers as it can withstand the pressure and wear of heavy train traffic.

5. Boat Building:

Due to its water-resistant properties, Sal wood is also used in boat and shipbuilding.

6. Veneer and Plywood:

Sal wood is used for producing veneer and plywood, providing an affordable alternative for various applications.

7. Charcoal and Fuel:

Sal wood is a source of charcoal and firewood, which are used for cooking and heating purposes.

8. Resin Production:

Sal trees produce a type of resin known as 'sal gum' used in varnishes, adhesives, and incense sticks.

Sal timber has significant economic and cultural importance in various regions where it is found. Sustainable management practices are essential to ensure the continued availability of this valuable resource while protecting the natural ecosystems it supports.



5.Eucalyptus

Botanical Name:Eucalyptus species belong to the genus Eucalyptus, and there are numerous species within this genus.

Family: Myrtaceae.

Timberwood Properties:

1. Density:

Eucalyptus wood is relatively dense, which contributes to its durability and strength.

2. Color:

The heartwood color can range from light pink to reddish-brown, while the sapwood is usually paler.

3. Grain Pattern:

The wood typically displays an interlocked or wavy grain pattern.

4. Texture:

Eucalyptus wood has a moderately coarse texture.

5. Durability:

It is resistant to decay and insect attacks, making it suitable for outdoor applications.

Uses of Eucalyptus Timberwood:

1. Construction:

Eucalyptus timber is used in various construction applications, including beams, posts, and poles due to its strength and durability.

2. Furniture:

The wood's attractive appearance makes it suitable for crafting indoor and outdoor furniture.

3. Flooring:

Eucalyptus wood is used for flooring, providing a sturdy and visually appealing surface.

4. Paper Production:

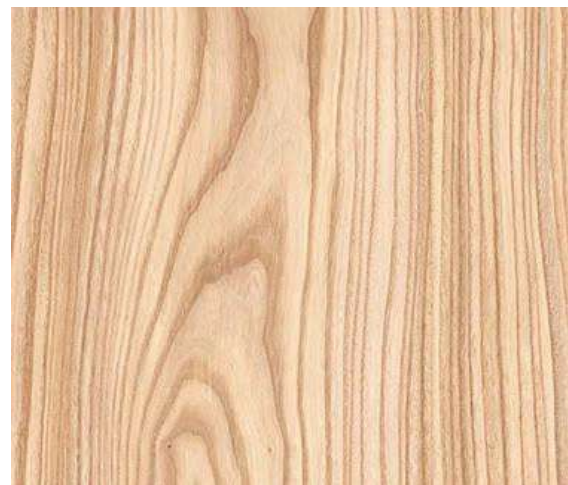
Some eucalyptus species are used in the paper and pulp industry due to their high cellulose content.

5. Landscaping:

Eucalyptus timber is used for landscaping purposes, such as creating fences, decks, and garden structures.

6. Firewood: In some regions, eucalyptus wood is used as firewood due to its high energy content and efficient burning properties.

7. Essential Oils: Eucalyptus leaves contain essential oils with medicinal properties, used in aromatherapy and traditional medicine.



6. POPLAR

Botanical Name: Populus

Family:Salicaceae

Timberwood Properties:

The genus Populus includes several species commonly known as Poplar trees. Poplar wood possesses specific characteristics that make it suitable for various applications:

1. Density:

Poplar wood has a moderate density, making it lighter than many other hardwoods, which contributes to its ease of handling and processing.

2. Color:

The heartwood of Poplar trees varies in color from light yellow to light brown, while the sapwood is usually white to pale yellow.

3. Texture:

Poplar wood typically has a fine and even texture.

4. Workability:

Poplar wood is easy to work with hand and machine tools. It has good nailing and gluing properties.

5. Durability:

While Poplar wood is not highly durable when exposed to the elements, it can be treated to enhance its resistance to decay and insect attack.

Uses:

Poplar wood has a wide range of applications due to its favorable properties:

1. Furniture:

Poplar wood is commonly used in the manufacture of furniture, including cabinets, tables, and chairs, thanks to its ease of working and ability to take paint and finishes well.

2. Interior Trim:

The light color and smooth texture of Poplar wood make it a popular choice for interior trim, moldings, and millwork.

3. Plywood and Veneer:

Poplar wood is used to produce plywood and veneer for various applications.

4. Paper Production:

Poplar trees are also cultivated for the production of paper pulp, as their wood fibers are suitable for papermaking.

5. Crates and Pallets:

Poplar wood is used to construct crates and pallets due to its light weight and cost-effectiveness.

6. Carvings and Crafts:

Poplar wood's workability and fine texture make it a preferred choice for carvings and various craft projects.

7. Musical Instruments:

Some musical instruments, such as guitars and pianos, use Poplar wood for certain components due to its tonal qualities.



7. SIRIS

Botanical Name: Albizia saman

Family: Fabaceae

Timberwood Properties:

Siris, also known as Rain Tree, is a large tropical tree with distinctive fern-like leaves and a wide-spreading canopy. The wood of Albizia saman possesses certain properties that make it suitable for various applications:

1. Density:

The timber of Siris is moderately dense, making it sturdy and durable.

2. Texture:

The wood has a coarse texture and is relatively easy to work with using woodworking tools.

3. Color:

The heartwood of Siris varies in color from light to dark brown, sometimes with reddish hues, while the sapwood is paler.

4. Grain Pattern:

The grain is typically straight, though it can be interlocked or wavy in some instances.

Uses of Siris Timberwood:

Siris timberwood is valued for its versatility and used in several applications:

1. Furniture:

The durable and attractive appearance of Siris wood makes it suitable for crafting high-quality furniture, including tables, chairs, cabinets, and other indoor furniture items.

2. Construction:

Due to its moderate density and strength, Siris wood is used in various construction applications, such as beams, flooring, and structural components.

3. Joinery:

The ease of working with Siris wood makes it a favored choice for joinery work, including doors, windows, and decorative moldings.

4. Panelling:

The wood's beautiful grain pattern and color variation make it ideal for decorative wall paneling.

5. Boat Building:

In some regions, Siris timber is used for small boat construction and making paddles due to its resistance to water.

6. Carvings and Crafts:

The wood's ease of carving makes it suitable for intricate wood carvings and handicrafts.



8. MULBERRY

Botanical Name: *Morus alba*

Family: Moraceae

Timberwood Properties:

Mulberry wood is known for its fine texture, moderate hardness, and excellent workability. The heartwood of the tree is typically golden-brown in color, while the sapwood is lighter. The wood has a straight grain, making it relatively easy to work with and suitable for various woodworking applications.

Uses

1. Furniture:

Mulberry wood is used for making furniture, including chairs, tables, and cabinets. Its fine texture and attractive appearance make it a popular choice for interior design.

2. Handicrafts:

The wood's workability and smooth surface make it ideal for crafting various handicraft items like bowls, boxes, and decorative pieces.

3. Musical Instruments:

Mulberry wood is sometimes used in the construction of musical instruments like flutes and other woodwinds.

4. Carpentry:

The timber is employed in carpentry projects for frames, moldings, and other decorative elements.

5. Papermaking In some regions, the inner bark of the Mulberry tree is used to produce a type of handmade paper known as "mulberry paper" or "rice paper."

6. Firewood and Charcoal:

Mulberry wood is also utilized as firewood and for charcoal production due to its good burning properties.



9 SILVER OAK

Botanical Name: *Grevillea robusta*

Family: Proteaceae

Timberwood Properties:

1. Appearance:

Silver Oak timber has a pale to light reddish-brown color, sometimes with a silver-gray hue, hence the name "Silver Oak."

2. Grain:

It typically has an interlocked or wavy grain, which adds to its visual appeal.

3. Density:

The wood has a medium to high density, making it durable and suitable for various applications.

4. Strength:

Silver Oak is known for its good strength and stiffness properties, contributing to its usability in construction and furniture making.

5. Workability:

The wood is relatively easy to work with hand tools and machines, making it popular among craftsmen.

Uses of Silver Oak Timber:

1. Furniture:

Silver Oak timber is frequently used in furniture making, particularly for high-quality indoor and outdoor furniture due to its attractive appearance and durability.

2. Cabinetry:

The wood is used to craft cabinets, wardrobes, and other wooden storage units.

3. Interior Decor: Silver Oak is employed in flooring, paneling, and decorative veneers, adding an elegant touch to interior spaces.

4. Joinery:

It is commonly used in joinery work for doors, window frames, and moldings.

5. Construction:

Silver Oak is utilized in construction for beams, posts, and other structural elements due to its strength and resistance to decay.



10. TOON

Botanical Name: *Toona ciliata*

Family: Meliaceae

Timberwood Properties:

Toona ciliata, commonly known as Indian Mahogany or Australian Red Cedar, is a deciduous hardwood tree known for its excellent timber properties. The wood of Toona ciliata is highly valued for its durability, strength, and attractive appearance. It exhibits a straight grain with a smooth texture, making it suitable for various woodworking applications.

Uses of Toona ciliata Timberwood:

1. Furniture:

Toona ciliata is extensively used in the production of high-quality furniture, including tables, chairs, cabinets, and other indoor and outdoor pieces.

2. Doors and Windows:

Its stable and resistant nature makes it a popular choice for crafting doors, windows, and frames.

3. Panelling:

The wood of Toona ciliata is often used for interior wall panelling due to its aesthetic appeal and fine finish.

4. Cabinetry:

The timberwood is utilized in cabinetry work, providing a durable and elegant finish to kitchen cabinets and other storage units.

5. Musical Instruments:

The straight grain and resonance properties make Toona ciliata a favored choice for crafting musical instruments such as guitars, pianos, and other stringed instruments.

6. Boat Building:

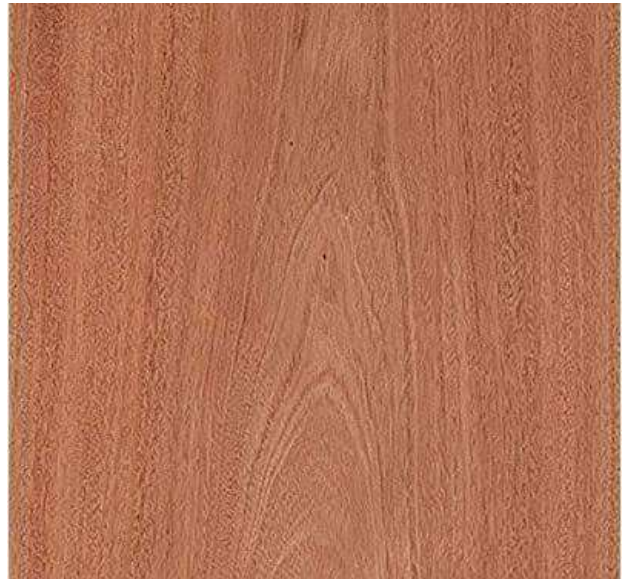
Its resistance to decay and insect attack make it suitable for boat building, particularly for decks and interior fittings.

7. Carvings and Turning:

The wood is often used for intricate carvings and woodturning projects due to its workability.

8. Joinery:

Toona ciliata is used for various joinery applications, including moldings, trims, and other architectural elements.



Based on the field study conducted on various tree species found in the local area of Ropar, the following outcomes were observed:

1. Timber Properties: The timber properties of different tree species varied significantly. Teak, Sal, and Toona Ciliata were found to have excellent quality timber, known for their durability and resistance to decay. These species are highly valued for construction, furniture, and other high-quality wood products

3. Ecological Significance: Certain tree species, such as Silver Oak and Mulberry, were found to have additional ecological benefits, including supporting biodiversity, providing habitats for wildlife, and improving soil health.

4. Community Awareness: The field study emphasized the need for community awareness and education regarding the proper management of timber wood resources. Local communities should be encouraged to adopt sustainable practices to ensure the long-term viability of these valuable tree species.

Outcomes:

The field study on timber wood trees of the local area of Ropar provided valuable insights into the significance of different tree species in terms of timber . It highlighted the importance of responsible logging practices and the need to balance human needs with ecological conservation. By promoting sustainable practices and community awareness, we can ensure the preservation of these valuable resources for future generations.



Government College, Ropar



**A
FIELD REPORT ON
ON
FIREWOOD TREES**

Submitted to

Prof. Shikha Chaudhary, Botany Department

Submitted by

Name – Manpreet Kaur

Roll No. - 7135

This is certified that this work entitled **Firewood Trees** is a bonafide record of work done by **Manpreet Kaur**, Roll No. **7135** Department of Botany, Govt. College, Ropar under the supervision of **Prof. Shikha Chaudhary** during the session 2022-2023.

Field Visit Report on Firewood Trees in Ropar

Location: Ropar

Introduction:

The purpose of this field visit report is to document and analyze the diverse range of firewood trees found in the region of Ropar, Punjab.

During the field visit, several areas across Ropar were explored to observe and study various firewood tree species, their ecological significance, and their importance in fulfilling the fuel and construction needs of local communities. The report aims to shed light on the different firewood tree species, their botanical details, distribution patterns, and the ecological impact of their harvesting.

Objectives:

- Identify and document the different firewood tree species present in Ropar.
- . Understand the ecological role and significance of firewood trees in the region.
- . Analyze the traditional uses of firewood and their importance in meeting local energy demands.
- . Assess the sustainability of firewood harvesting practices and their impact on the environment.
- Propose recommendations for the conservation and sustainable management of firewood trees in Ropar

Methodology:

The field visit involved visits to various areas, and agricultural landscapes in local to gather information about the different firewood tree species and their traditional uses. Data collection methods included direct observation, reference to existing literature and botanical resources

Observations

The firewood plants in Ropar are establishments engaged in the production and processing of firewood for various purposes.

Firewood trees are an essential natural resource used worldwide for domestic cooking, heating, and various traditional practices. These trees are selected for their ability to produce quality firewood and are often fast-growing species, making them readily available for harvesting.

Characteristics of Firewood Trees:

Rapid Growth:

Firewood trees are known for their fast growth rates, enabling frequent harvesting and a sustainable supply of firewood.

Energy Density:

They possess a high energy density, making them efficient fuel sources for cooking and heating.

Ease of Processing:

Firewood trees are typically easy to cut, split, and stack, making them convenient for use in households and small-scale industries.

Wide Distribution:

These trees can be found in various regions, adapting to different climates and soil types.

Calorific value :

The calorific value of firewood refers to the amount of heat energy produced when a specific quantity of firewood is burned. Well-seasoned firewood with low moisture content has a higher calorific value than green or wet wood since less energy is wasted evaporating water during combustion. Knowing the calorific value of firewood is essential for determining the efficiency and heating capacity of different types of wood when used as fuel for heating or cooking purposes.

The field visit revealed a diverse array of firewood tree species in Ropar each with unique characteristics and properties. Some of the prominent species identified.

1. Jamun

Botanical Name -*Syzygium cumini*

Family - Myrtaceae

- Description

- Also known as Indian Blackberry, Jamun is a medium-sized evergreen tree with a dense crown and dark purple, edible fruits.
- Its wood is dense and durable, making it suitable for firewood, as well as for making furniture, agricultural implements, and tool handles.
- Jamun wood's high density ensures a slow and steady burn, making it an efficient source of heat.



2. Devil Tree

Botanical Name - *Alstonia scholaris*

Family - Apocynaceae

- Commonly known as the Devil Tree or Indian Fir, *Alstonia* is a fast-growing, deciduous tree with straight and tall trunk.
- Its wood is lightweight and easy to work with, making it a preferred choice for making boxes, matchsticks, and of course, firewood.
- *Alstonia* wood's low density allows it to ignite quickly and produce a steady flame.



3. Milletia

Botanical Name - *Pongamia pinnata*

Family - Fabaceae

Description

- Also known as Indian Beech or Pongamia, Milletia is a medium to large-sized evergreen tree with a wide distribution in tropical regions.
- The wood of Milletia is dense, heavy, and possesses good strength, making it suitable for firewood and construction purposes.
- Milletia wood burns slowly and emits significant heat, making it a valuable firewood option.



4. Semal tree

Botanical Name - *Ceiba pentandra*

Family. - Malvaceae

Description

- Commonly called the kapok tree, *Bombex Ceiba* is a large deciduous tree with a tall, straight trunk and a wide crown.
- The wood of Semal is lightweight and buoyant, which makes it useful for making canoes, floats, and, of course, firewood.
- While the wood ignites easily, it burns relatively quickly and produces moderate heat.



5. Eucalyptus

Botanical Name - Eucalyptus spp

Family. - Myrtaceae

Description

- Eucalyptus trees are native to Australia but have been widely planted in various regions for their fast growth and versatile uses.
- The wood of Eucalyptus is dense and has a high calorific value, making it an excellent choice for firewood, charcoal production, and timber.
- Eucalyptus wood burns hot and emits a pleasant aroma, which adds to its popularity as a firewood source.



6. Melia

Botanical Name - *Melia azedarach*

Family. - Meliaceae

Description

- Melia trees, also known as Melia Azedarach or Indian Lilac, are deciduous and moderately-sized with an attractive crown.
- The wood of Melia is hard, heavy, and durable, making it suitable for firewood, furniture, and construction.
- Melia wood's slow-burning properties and ability to produce good heat make it valuable for fuel purposes.



7. Kassod

Botanical Name - *Senna siamea*

Family. - Fabaceae

Description

- Kassod also called Siamese Cassia, is a medium-sized deciduous tree with a spreading canopy.
- The wood of Casia is hard, heavy, and has a high calorific value, making it a popular choice for firewood and charcoal production.
- Casia wood burns hot and evenly, making it an efficient source of heat.



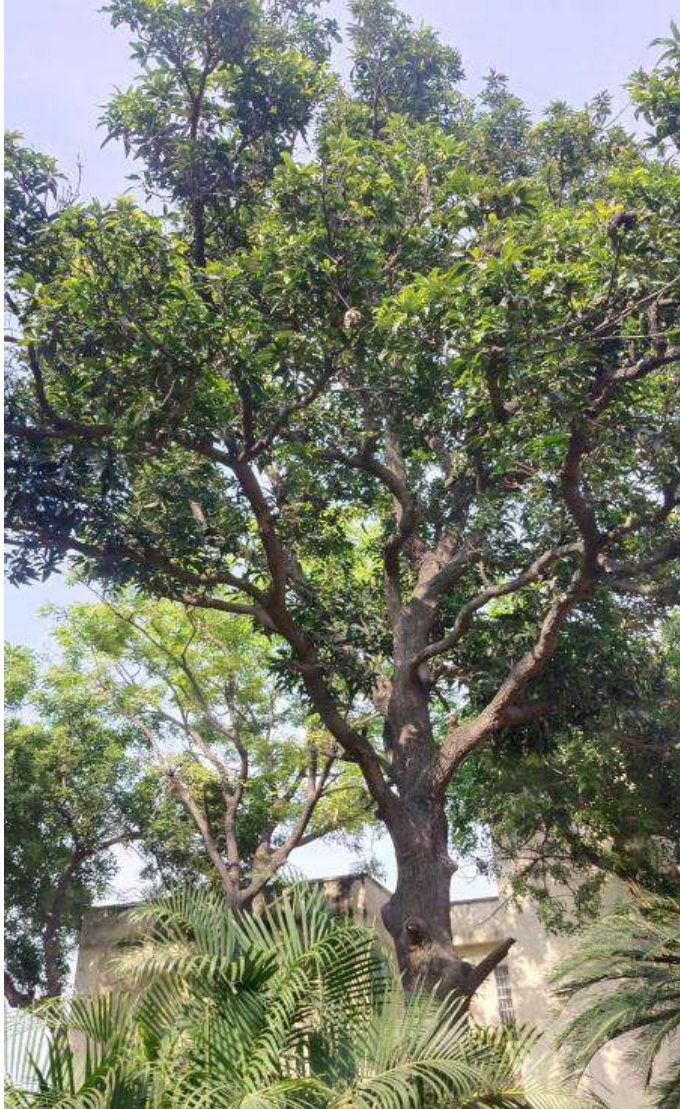
8. Mango :

Botanical Name - *Mangifera indica*

Family. - Anacardiaceae

Description

- Mango trees are well-known for their delicious fruits but are also valued for their wood.
- The wood of Mango is dense, durable, and resistant to termites, making it suitable for firewood, furniture, and construction.
- Mango wood's slow and steady burn, along with its pleasant aroma, makes it an excellent firewood option.



9. Kigelia

Botanical Name - *Kigelia africana*

Family. - Bignoniaceae

Description

- Also called Sausage Tree, Kigelia is a large, deciduous tree with distinctive sausage-shaped fruits.
- The wood of Kigelia is dense and durable, making it suitable for firewood, as well as for making tool handles and traditional carvings.
- Kigelia wood burns steadily and emits significant heat.



10. Cassia Fistula:

Botanical Name - *Cassia fistula*

Family - Fabaceae

Description

- Also known as the Golden Shower Tree, *Cassia fistula* is a medium-sized deciduous tree with beautiful golden-yellow flowers.
- The wood of *Cassia fistula* is strong, durable, and suitable for firewood, as well as for making agricultural implements and traditional furniture.
- *Cassia fistula* wood burns steadily and produces a moderate amount of heat.



Outcomes

1. **Diverse Options:** The availability of multiple firewood tree species in Ropar offers the local communities a wide range of choices to meet their specific fuel needs. Different trees have distinct burning characteristics, providing options for various uses and preferences.
2. **Sustainable Resource Management:** With the proper management and conservation of these firewood trees, the local communities can ensure a continuous supply of firewood for future generations. Sustainable harvesting practices will prevent overexploitation and preserve the ecological balance.
3. **Fuel Efficiency:** Trees like Jamun, Eucalyptus, Millettia, and Mango are known for their slow and steady burn, making them efficient sources of heat. This characteristic helps in minimizing firewood consumption and reducing the frequency of gathering fuel.

4. Economic Benefits: The utilization of firewood trees for various purposes, such as furniture, agricultural implements, and charcoal production, can generate economic opportunities for the local communities through value addition and trade.

5. Conservation Awareness: Understanding the importance of these firewood trees may promote awareness and conservation efforts to protect them from deforestation and habitat degradation.

Overall, the knowledge about these firewood trees enables informed decision-making and sustainable use of resources, benefiting both the local communities and the environment in Ropar.

A Field Report
On

Timberwood and Firewood Plants

Submitted to
Department of Botany
Government College, Ropar

Submitted by
Name Simarpreet Kaur
Roll No. 403419 (7109)

This is certified that this work entitled Timberwood and Firewood Plants
_____ is a bona fide record of work done by Simarpreet Kaur Roll
No. 403419

of Department of Botany, Govt. College, Ropar under the supervision of Mrs. Shikha
Chaudhary and Ms. Pooja Verma during the session 2022-2023

Shikha
29/04/23

OBJECTIVES

- > Identify Timber yielding plants and finewood plants in Behnampur Zimidari village of Ropar district.
- > To know their botanical description.
- > To get insights about the properties of timber yielding plants and classify them on the basis of strength, durability
- > To learn about their sustainable use and economic utilization.

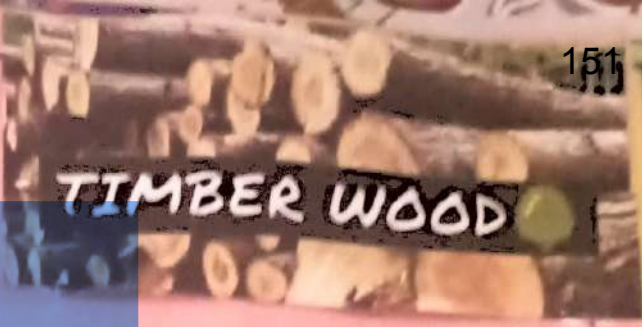
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TIMBER-WOOD PLANTS

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| 2. <u>Red Cedar</u> | 7. <u>Deodar</u> |
| 3. <u>Anjuna</u> | 8. <u>Chin Pine</u> |
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| 5. <u>Teak</u> | 10. <u>Jackfruit Tree</u> |

FIREWOOD PLANTS

- | | |
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| 1. <u>Poplar</u> | 6. <u>Bamboo</u> |
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 TIMBER WOOD

KHAIR

Botanical name - Acacia catechu

Family - Fabaceae

PROPERTIES :

- Sapwood is yellowish - white and Heartwood is deep reddish brown .
- Timber is very hard , strong , steady and tough .
- Heartwood is very durable .
- Timber can be turned well and can be finished to an extremely smooth surface and takes polish well .
- Timber is heavy with density 880 - 1000 kg / cubic m .
- Wood is resistant to white ants .

USES :

- Timber is used for house posts , agricultural implements and wheels .
- Left over material can be used for manufacture of hardboards .
- It is also used in tent - pegs , sword handles , keels and knees of boats .

KHAIR



RED CEDAR

Botanical name - Toona ciliata

Family - Meliaceae

PROPERTIES :-

- Sapwood is pinkish white or pale yellow brown and the heartwood is dark brown.
- Texture is close and uneven & wood is lustrous.
- A strong, fragrant, long-lasting spicy odour is present.
- The heartwood is resistant to decay.
- Timber finishes cleanly and takes paints well.
- Timber produced has moderate weight, strength and hardness.
- The wood is durable, hard, tough, lightweight and resistant to termites.

USES :-

- Wood is used for boat building, cabinet making, match boxes, decorative plywood, food containers, furniture, music instruments etc.
- Selected logs are sliced for decorative veneer.
- Wood is used in building materials, millwork, mouldings & exterior uses.



TUN

ARJUNA

Botanical name - Terminalia arjuna

Family - Combretaceae

PROPERTIES :

- Sapwood is reddish - white and the heartwood is brown to dark brown variegated with darker coloured streaks.
- Wood is diffuse - porous.
- It is heavy , strong , coarse with interlocked grains.
- It can be brought to a fine finish and takes lasting finish of polish.

USES :

- The timber is mainly used for agricultural implements , water troughs , boat building , cart making and pit props.
- It is also used for constructional purposes like door and window frames.
- It is used for block boards and plywood.



SAL TREE

Botanical name - Shorea robusta

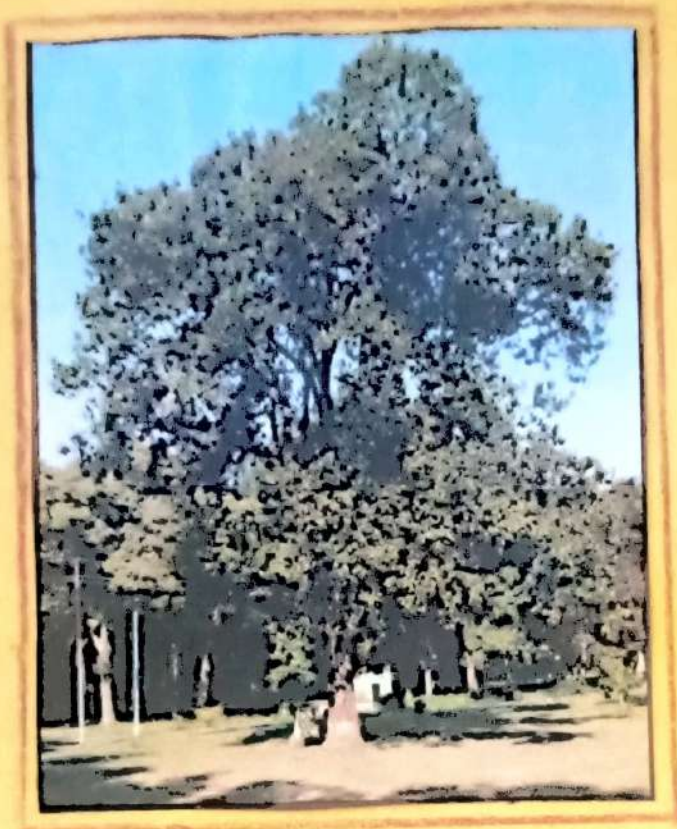
Family - Dipterocarpaceae

PROPERTIES :

- It is hard, coarse-grained wood that is light in colour when freshly cut, but becomes dark brown with exposure.
- The wood is resinous and durable.
- It has natural anti-fungal and anti-pest characteristics.
- It is known for strength, durability, elasticity which quality it retains without being sensibly affected for an immense length of time.
- It glues, stains and finishes well.

USES :

- It is best for construction wood. It is used for beams, poles, planking & nailing of bridges, doors, windows, for the bodies of cart, railway sleepers.
- It is also used for furniture, ship building and musical instruments.



Sal Tree



TEAK

Botanical name - Tectona grandis

Family - Lamiaceae

PROPERTIES :

- Teak is a hard, medium-density wood, strong and durable.
- The heartwood is golden yellow to golden brown and is greasy to touch and smells like old leather.
- It is resistant to decay and termites even when unprotected by preservatives and is renowned for its stability.
- Teak wood is easy to work with and it takes very good polish.
- Teak is acid and fire resistant.
- The oils in teak make it weather-resistant.

USES :

- Teak ranks among the best timbers of the world.
- It is the chief source for railway carriage and wagon wood of India.
- Its wood is used in construction of houses, building bridges, making cabinets, boats, for carving, plywood manufacture, for flooring, making toys etc.

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Teak

SHISHAM

Botanical name - Dalbergia sissoo

Family - Fabaceae

Properties :

- Its sapwood is white to brownish and the heartwood is golden brown to dark brown.
- It is durable, heavy wood with an average weight of 800 kg/m^3
- It has an inherent resistance to deterioration and dry-wood termites.
- It exhibits a brilliant shine when polished and offers a smooth finish.
- Due to the hard texture of Sheesham, it does not warp or slip, making it the ideal choice for wooden cabinets.

Uses :

- Dalbergia provides wood for high class furniture.
- It is valued as construction and general-purpose timber and is used for railway sleepers, musical instruments hammer handles.
- It is good for charcoal making.
- It is used for decorative veneers as well.



SHISHAM

DEODAR CEDAR

Botanical name - Cedrus deodara

Family - Pinaceae

Properties:

- Cedrus wood is light, soft, resinous and durable.
- Its sapwood is white in colour and the heartwood is light yellow, turning brown on exposure to air.
- The timber is durable and resistant to insects.
- Wood is fine and uniform in texture.
- True cedars are evergreen and have aromatic, often red wood that is resistant to decay and insects.

Uses:

- The wood is mainly used in making railway coaches, beams, posts, doors, window frame and construction of bridge.
- It is also used in making pencils, closet linings, carving, fence posts and packing.



DEODAR CEDAR

CHIR PINE

Botanical name - Pinus roxburghii

Family - Pinaceae

PROPERTIES :

- Bark is dark red-brown, thick, scaly and deeply fissured.
- The sap wood is yellowish whereas heartwood is pycnoxylic, resinous and reddish brown in color.
- The wood is non-porous.

USES :

- The wood is used in packing boxes, match boxes, household goods, construction works and cheap furnitures.

CHIR PINE



WHITE TEAK

(Gamhan)

Botanical name - Gmelina arborea

Family - Lamiaceae

PROPERTIES :

- The timber is pale coloured, ranging from creamy white to deeper yellow brown.
- Texture is moderately coarse.
- Surface of wood is lustrous.
- Timber is light to medium weight with basic density ranging from $345 - 620 \text{ kg m}^3$.
- It is pest resistant.
- It is easy to work, planes to smooth finish and polishes well.
- Wood is too soft for satisfactory turning.

USES :

- It is mainly used for building purposes, boat-building, packaging, woodcarving, making musical instruments, particle board and decorative veneers.
- Gmelina produces good quality pulp for the production of writing paper and carton board.

WHITE TEAK



JACKFRUIT TREE

Botanical name - Artocarpus heterophyllus

Family - Moraceae

PROPERTIES :

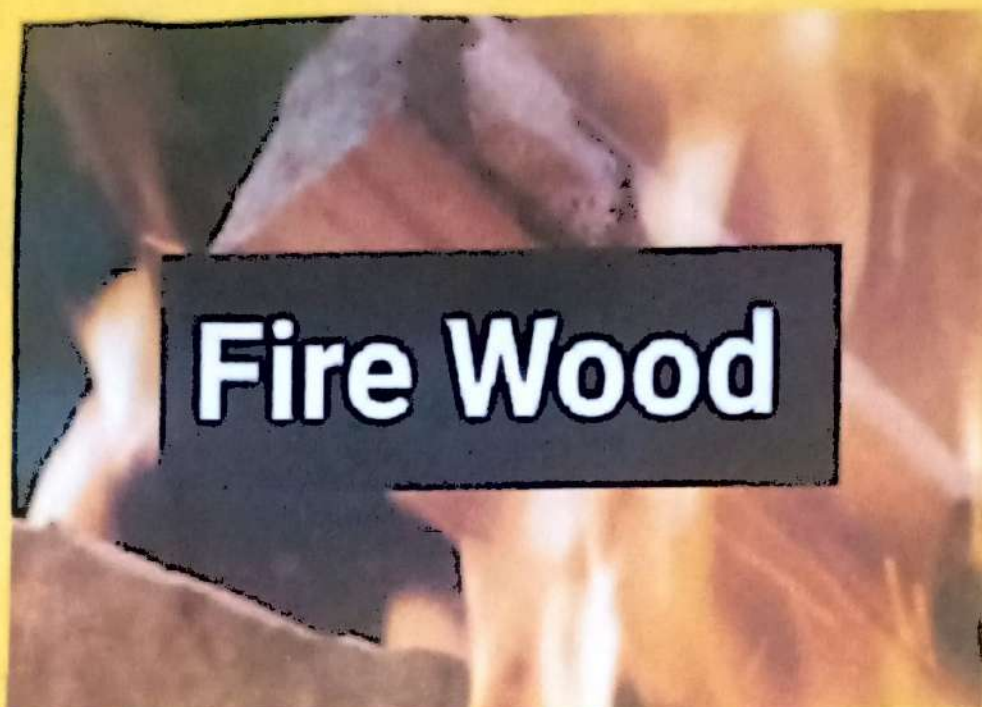
- Jackfruit wood have bright yellow color and possess high level of hardness.
- It is cheap and highly durable.
- It is termite resistant and superior to teak for building furniture.
- It is not attacked by white ants.
- It is durable under water and in damp conditions.
- It is resistant to fungal and bacterial decay.

USES :

- It is used for piles, platforms of wooden bridges, door and window panels etc.
- Its wood is used for the construction of musical instruments.
- It is strong to be used as building materials such as roof beams & building poles.



JACKFRUIT TREE



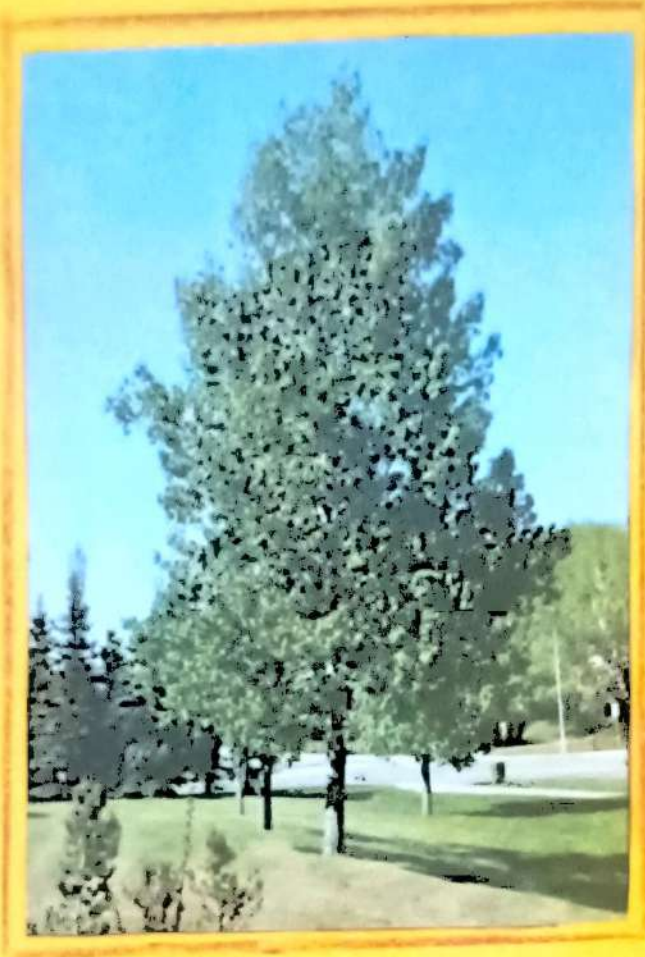
POPLAR

Botanical name : Populus deltoides

Family : Salicaceae

PROPERTIES :-

- The sapwood is creamy white and heartwood varies from pale - yellowish - brown to olive green.
- The wood has medium to fine texture and is straight grained.
- It is medium density wood with low bending, shock resistance and compression values.
- It dries easily with minimal movement in performance.
- Poplar makes good kindling that lights easily and creates a quick, hot fire.
- Poplar grows very quickly and have a high heat output, making them ideal for firewood production.
- Poplar firewood splits really easy.



POPLAR

MULBERRY

Botanical name - Monus alba

Family - Monaceae

PROPERTIES -

- Average dried weight - 690 kg/m^3
- Heartwood is golden brown, darkening to reddish brown with age. Sapwood is pale yellowish white.
- Mulberry is considered excellent firewood that is hard to fault.
- Its heat output is high with excellent cooling properties.
- The wood is easy to split and produces a pleasant fragrance.
- It produces long-burning coals that gives off impressive heat.
- Mulberry firewood emits 25.8 million BTU per cord, which is impressive heat.
- Excessively sparks and pops and is safe to use in fire pits or enclosed wood stove.



MULBERRY

GUM ARABIC TREE (Babool)

Botanical name - Acacia nilotica

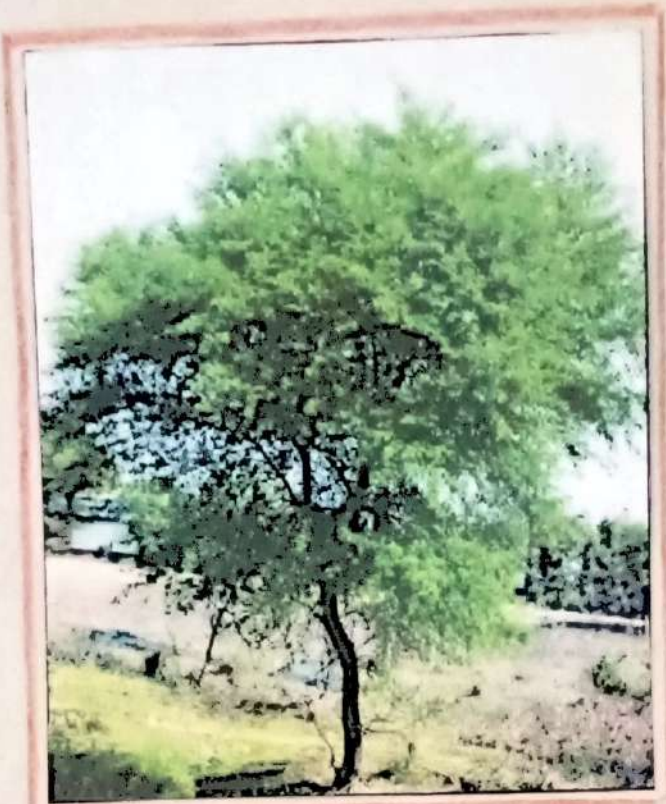
Family - Fabaceae

PROPERTIES :

- The sapwood of babul tree is white turning pale yellow on exposure. The heart wood is pinkish brown.
- The wood is very heavy, strong, very tough and extremely hard wood.
- The wood is dull and rough without any odour.
- As a fuelwood, it is an excellent material and is also made into charcoal. It burns well.
- Its charcoal is considered to be superior to charcoal from other species.
- The bark is obtained as by-product when trees are felled for fuel.
- Their wood logs burn clean and don't release any ash or residue into air.
- Babool wood is long burning, high quality and pollution free.

GUM ARABIC TREE

Babul



HORSETAIL SHEOAK

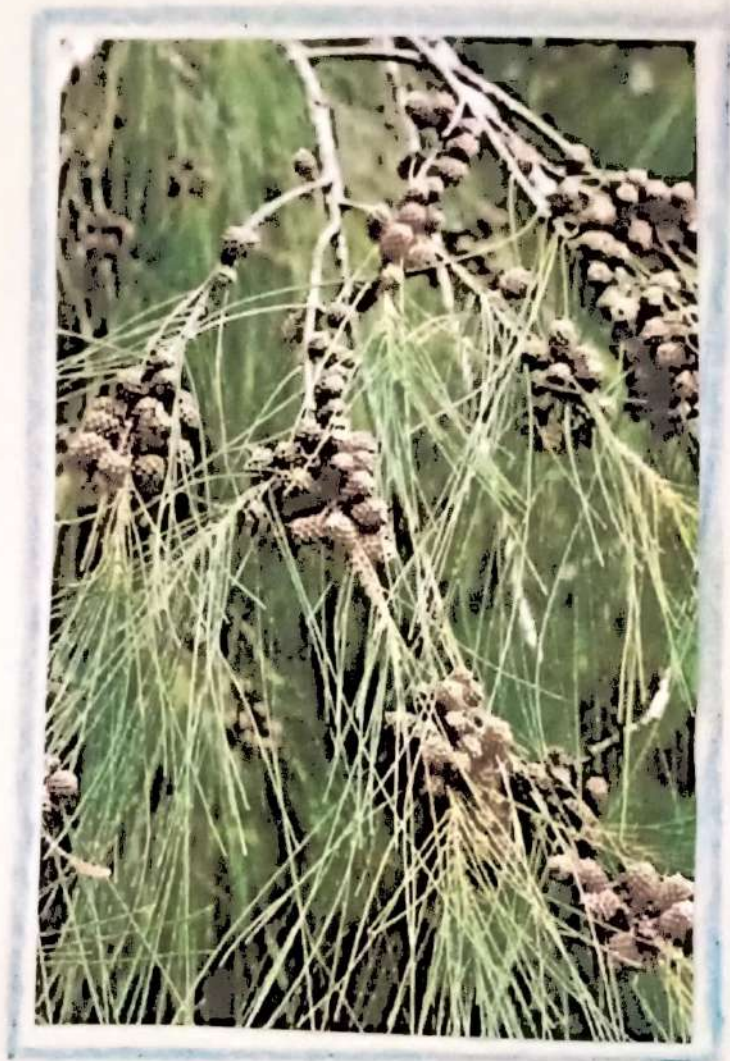
Botanical name - Casuarina equisetifolia

Family - Casuarinaceae

Properties :

- The wood of *C. equisetifolia* is dark brown, very hard (density - 1000 kg/m^3) and resistant to decomposition in soil or saltwater.
- It has high calorific value (5000 kcal/kg).
- Its wood is an excellent source of fuel and charcoal.
- The wood ignites readily even when green and ashes retain heat for long periods.
- It has been called 'the best firewood in world' and also produces high quality charcoal.
- It has been used for both domestic and industrial fuel such as for railroad locomotives.
- In Asia, leaf litter is often removed to be used as fuel.

HORSETAIL SHEOAK (Casuarina)



PALM

Botanical name - Roystonea regia

Family - Areaceae

PROPERTIES :

- Palm wood contains reddish brown fibres embedded in light brown colored body.
- Wood density - 820 kg/m^3
- Palm stems are cylindrical to slightly tapered.
- Palm wood has high moisture content. After drying treatment, it has ideal characteristics for charcoal energy and insulation.
- The palm tree charcoal briquettes have quality heating properties and produce less smoke than wood burning.
- Coconut shell charcoal is major source of domestic fuel in the Philippines.
- Coconut oil can be used as substitute for diesel oils for electric generating plants and motor vehicles.

PALM



BAMBOO

Botanical name - Bambusa vulgaris

Family - Poaceae

Properties :

- Bamboo is the fastest growing plant in the world.
- It is light weight , flexible , tough , high tensile and cheap material.
- Bamboo is known for its high calorific value i.e. it releases lot of heat energy when burned.
- Heat output - 4000 - 4500 kcal/kg
- Burning bamboo can generate more heat for longer time than some hardwoods.
- It produces less smoke while burning.
- Using bamboo as firewood can also help manage invasive bamboo species.
- Bamboo is eco-friendly and sustainable firewood.

BAMBOO



SAFEDA

Botanical name - Eucalyptus globulus

Family - Myrtaceae

PROPERTIES :

- The tree's bark is gray and brown and has pale, smoother & attractive trunk.
- Eucalyptus for firewood is beneficial from environmental perspective.
- Eucalyptus when it grows, is a tree with high levels of Carbon capture.
- It absorbs high amount of CO_2 from atmosphere reducing effect of global warming.
- It is an excellent source of fuelwood worldwide, as it can quickly regenerate after cutting.
- When its wood burns, it leaves little ash and produces good charcoal.

SAFEDA



SIRIS

Botanical name - Albizia lebbeck

Family - Fabaceae

Properties :

- Heartwood is medium to dark reddish brown, with bands of lighter and darker coloured wood.
- Sapwood is pale yellow.
- Grain is usually interlocked.
- Dry wood is resistant to termites.
- It is an excellent fuelwood species with a calorific value of 5200 kcal/g.



SIRIS

LEAD TREE

Botanical name - Leucaena leucocephala

Family - Fabaceae

Properties :

- It has medium to heavy hardwood (800 kgm^{-3}) with a pale yellow sapwood and light reddish-brown heartwood.
- It is fast growing tree and also known as miracle tree.
- Leucaena wood is widely used as firewood, producing little ash and smoke.
- High calorific value = 19 MJ/kg
- Leucaena seed oil has a calorific value of 39 MJ/kg which can replace the fossil fuel consumption.
- Tree makes excellent charcoal with a heating value of 29 MJ/kg and good recovery values.



Lead Tree

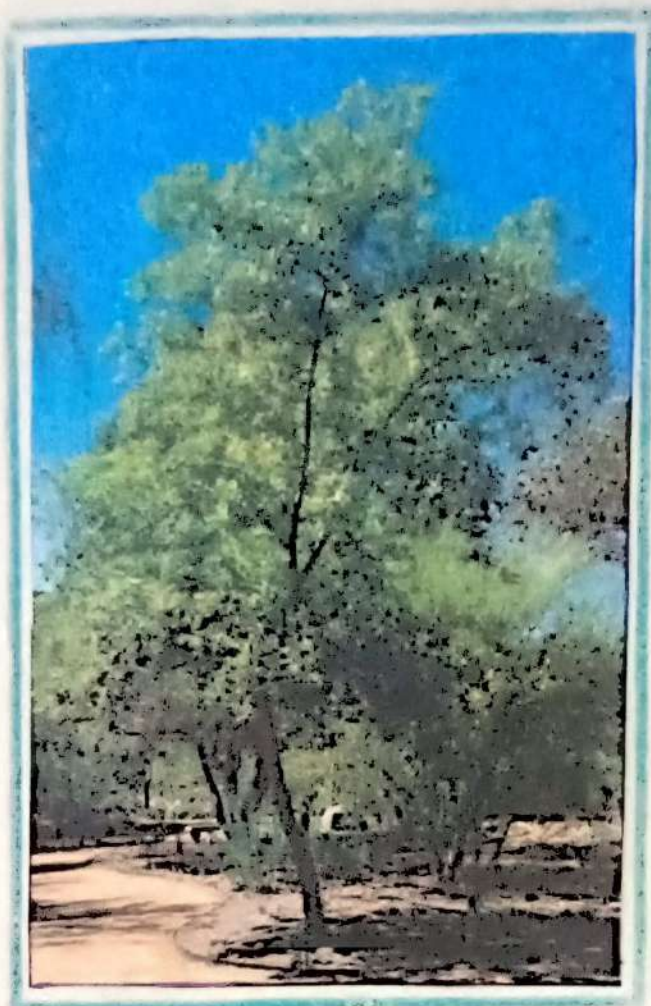
INDIAN JUJUBE

Botanical name - Ziziphus mauritiana

Family - Rhamnaceae

Properties :

- Indian jujube wood is reddish, fine-textured, hard and durable.
- It is covered with dark grey bark, i.e. irregularly fissured.
- It produces excellent firewood and good charcoal.
- Sapwood has 4900 kcal/kg calorific value.
- Its drooping branches are easily accessible for harvesting.



Ber

OUTCOMES

- I have identified 10 Timber yielding plants and ten Firewood plants.
- I learnt about the properties of timber yielding plants like their durability, toughness, colour, texture, resistance to decay, fungus etc.
- Learnt about the uses of timber wood.
- Learnt about the properties of firewood like their wood structure, moisture content, colour, texture, density, ash and calorific value.
- I have also learnt about sustainable qualities of wood like renewability, durability, natural resistance to decay, non-pollutant and less production of carbon dioxide.
- Also learnt about the various methods of utilization of plant wastes.

**A
REPORT
ON
TIMBER-WOOD AND FIRE-WOOD PLANTS**

Submitted to

Government College, Ropar

Submitted by

Name Shradha Verma

Roll No. 403420

This is certified that this work entitled "TIMBER-WOOD AND FIRE-WOOD PLANTS" is a bonafide record of work done by Shradha Verma Roll No. 403420 of Department of Botany, Govt. College, Ropar under the supervision of Mrs. Shikha Chaudhary & Ms Pooja Verma during the session 2022-2023.

Shikha
02/05/23

Topic

Date

Objectives

1. To identify the timber yielding plants and firewood plants in Manewal village of Ropar district.
2. To know their botanical description.
3. To get insights about the properties of timber yielding plants and classify them on the basis of durability, toughness, colour, texture, resistance to decay, working of wood with glues, etc.
4. To get insights about the properties of firewood plants and classify them on the basis of their moisture content, ash content, calorific value, durability, ease to split with axe, fragrance, strength etc.
5. To learn about their sustainable use and economic utilisation.

Topic

Date

Content

List of timber-yielding plants -

1. Shisham
2. Sal
3. Teak
4. Deodar
5. Chir
6. Arjuna
7. Mahogany
8. Khair
9. Siris
10. Mulberry

List of firewood yielding plants -

1. Bamboo
2. Eucalyptus
3. Populus
4. Ber
5. Dek
6. Babul
7. Prosopis
8. Amla
9. Broussonetia
10. Guava

Topic

Date

Timber yielding plants

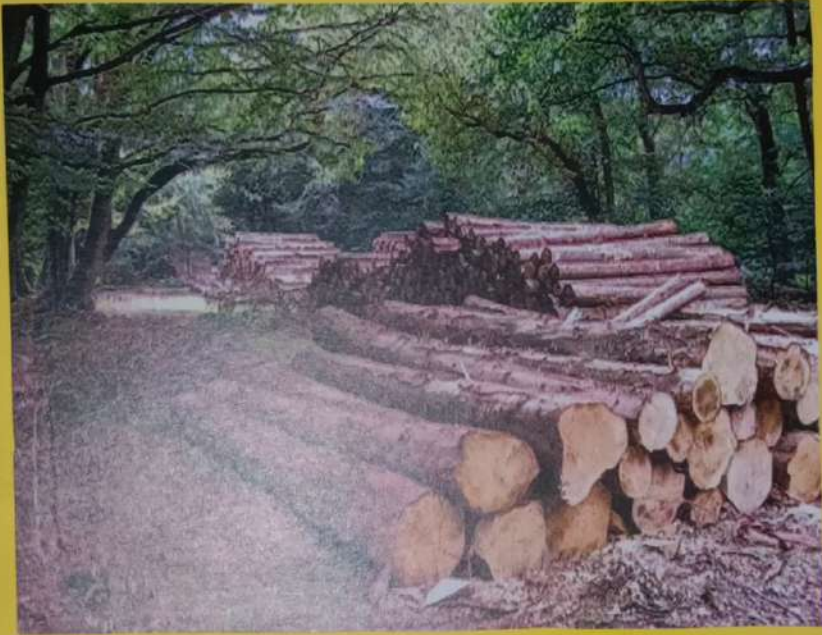
Introduction:

Besides food, medicine, and fibre, plants are used to yield timber. Timber is the wood obtained to build houses, furniture, handicrafts, toys, musical instruments, carving etc.

The wood required for these purposes is obtained from certain plants. Features of wood that are used as timber: 1. Durability 2. Strength 3. Stylish finishing 4. Hardness 5. Resistance to the changes in temperature 6. Low moisture content 7. Texture according to usage.

Timber are classified into two w/c to their structure:

1. **Hardwoods:** Hardwoods are obtained mostly from dicots and angiosperms that are flowering plants. Hardwoods are hard and heavy with a rough texture. Example- wood obtained from teak, mahogany, jackfruit etc.
2. **Softwoods:** Softwoods are obtained from gymnosperms which are non-flowering trees. Few angiosperms also produce softwood. Softwood is light and soft that has a fine texture. Example- wood obtained from pine, cedar, juniper, redwood, spruce, etc.



Topic

Date.....

Shisham (Indian Rosewood)

Botanical Name: Dalbergia sissoo

Family : Fabaceae

Properties of wood :

- (i) Shisham wood is exceptionally resistant to termites.
- (ii) Due to hard texture of Sheesham, it does not warp or slip, making it the ideal choice for wooden cabinets.
- (iii) Sheesham wood's colour contrasts from deep to golden reddish-brown.
- (iv) The wood comprises natural wood patterns, noticeable as dark stripes.
- (v) Sheesham wood has interlocked grains, making it exceedingly durable and tough.
- (vi) Sheesham wood works perfectly with sorts of glues, machinery and finishing.

Uses:

- (i) Sheesham wood is used to make windows and doors.
- (ii) Sheesham wood has several applications in aircraft and marine plywood, as charcoal for heating and cooking food, creating musical instruments, sporting goods, decorative turnery, and engraving and carving.



Topic

Date.....

Sal

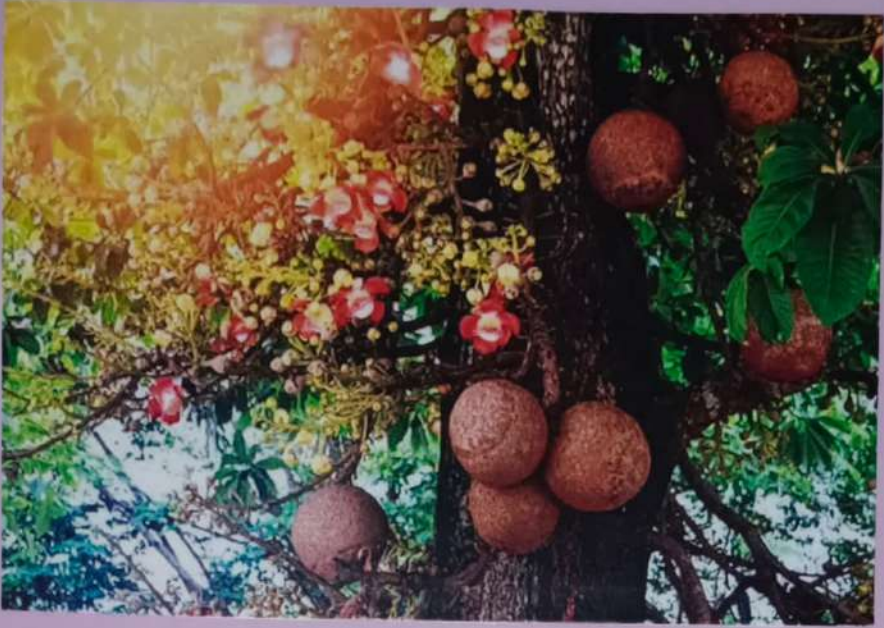
Botanical Name: Shorea robusta
Family : Dipterocarpaceae

Properties of wood:

- (i) Sal woods are one of the strongest woods on the market with a firm, coarse grain.
- (ii) It is a naturally light-coloured wood, but repeated exposure to sunlight causes it to turn dark.
- (iii) Sal wood has high resinous content and durability.
- (iv) It has high tensile strength.
- (v) Sal does not become infected by fungus or any other bug since it has natural anti-fungal and anti-pest characteristics.

Uses:

- (i) It is widely used for Railway sleepers and for construction works.
- (ii) It is also used for furniture, shipbuilding, flooring and musical instruments.
- (iii) Leaves of sal trees are used for making bidis.



Topic

Date

Teak

Botanical Name: Tectona grandis

Family : Lamiaceae

Properties of Wood :

- (i) Teak wood is naturally water-resistant and physically very strong and durable.
- (ii) It is not prone to significant expansion or contraction with humidity changes.
- (iii) The oils in teak are what make it weather-resistant and it requires basically no care when left outside.
- (iv) Teak wood has a golden or medium brown heartwood with slight grey or red tints. The sapwood is pale yellow almost white and is easy to distinguish.
- (v) The wood usually has straight grains, but can also be interlocked on occasions. It has an uneven texture, sometimes coarse and in other places smooth.

Uses: (i) It is widely used in marine applications such as boatbuilding, including decking, railings, planking and making doors.

- (ii) It is also commonly used for construction purposes, including flooring, decking, cladding, framing etc.
- (iii) Used in furniture, carvings, turnings, etc.



Deodar (Himalayan Cedar)

Botanical Name: Cedrus deodara

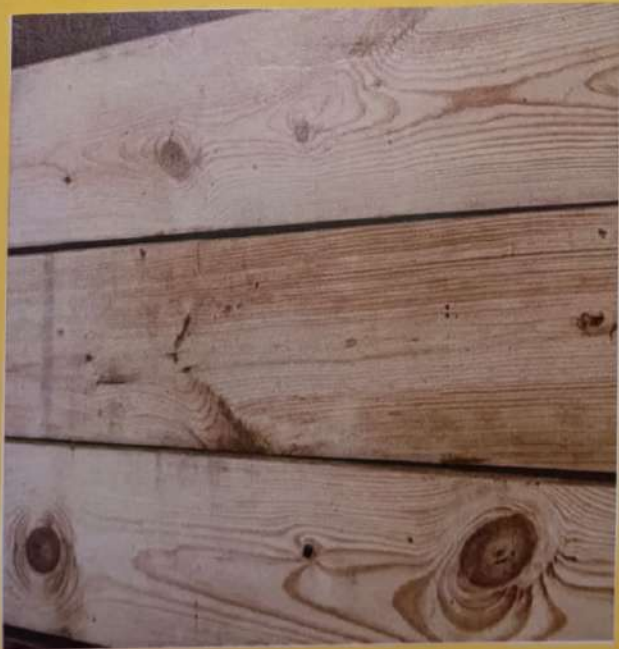
Family : Pinaceae

Properties of wood:

- (i) The wood is yellowish-brown.
- (ii) It is oily and aromatic.
- (iii) The sapwood decays during the seasoning of the logs.
- (iv) The heartwood is very durable and is almost imperishable in the climate of Kashmir & Punjab.
- (v) The wood is light and keeps well in dry as well as wet conditions.

Uses:

- (i) The timber is widely used in construction of barracks and other buildings, bridges, canals, railway sleepers, railway carriages, telegraph poles, etc.
- (ii) It is also used for constructing storages vats for beer, packing cases, boxes, toys, furniture, carts, musical instruments, etc.
- (iii) Destructive distillation of the wood yields 'deodar tar oil' which is antiseptic and is used for preserving skins.



Topic

Date

Chir (Longleaf Indian pine)

Botanical Name : Pinus roxburghii

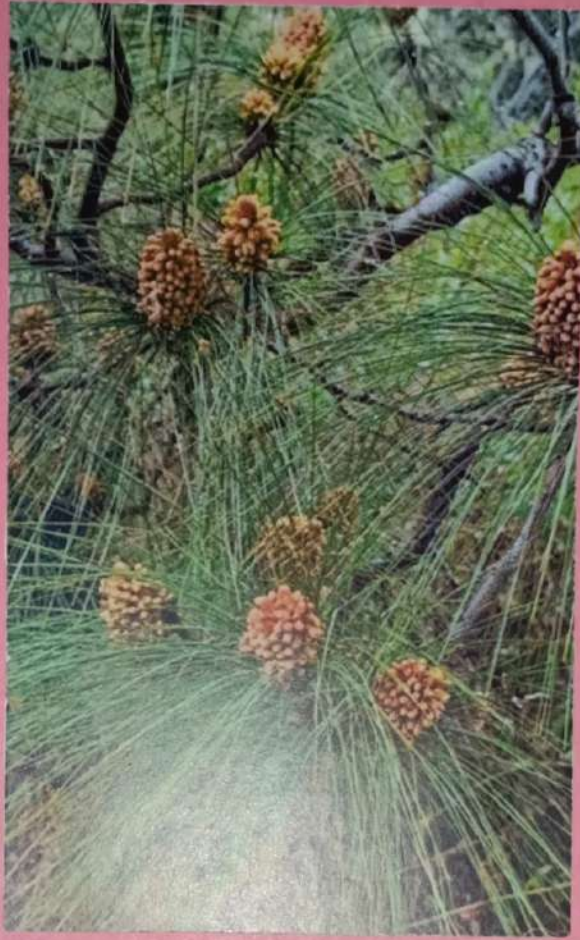
Family : Pinaceae

Properties of Wood :

- (i) The wood is coarse-grained with a pronounced grain pattern due to a marked distinction between the thin walled wood (spring season) and thick walled wood (summer season).
- (ii) Rich in resin
- (iii) Its bark becomes dark red-brown, thick, deeply and longitudinally fissured.
- (iv) The chir wood is heavy, hard, strong and durable wood.

Uses :

- (i) The wood is mainly used for purposes where strength is not essential such as matches, for patterns and flasks in foundries, Cooperages, Boxes, rough carpentary work.
- (ii) Typical uses include construction of buildings, bridges, ships and other types of heavy construction.
- (iii) Used in construction of light furniture.



Topic

Date

Arjuna

Botanical Name : Terminalia arjuna
Family : Combretaceae

Properties of Wood:

- (i) Its bark is coarse, grey to pinkish green, smooth, thin and peels off in uneven strips.
- (ii) Its wood is heavy, strong and durable.
- (iii) Wood have water resistant properties.
- (iv) The wood is medium-weight to heavy, ranging from 680 to 840 kgs per cubic meter, has low natural resistance to decay.

Uses:

- (i) Its wood is used in boat and house building as it is very hard.
- (ii) Its wood is also used in the making of the agricultural implements and weapons too.



Topic

Date

Siris

Botanical Name: Albizia lebbek

Family : Fabaceae

Properties of Wood:

- (i) Heartwood is golden brown, frequently with bands of lighter and darker colored wood. Contrasting sapwood is pale yellow color tends to darken with age.
- (ii) Grain is deeply interlocked. With a coarse texture and good natural luster.
- (iii) Wood is rated as moderately durable; poor insect resistance.
- (iv) Tends to be difficult to machine on account of its interlocked grain. Drying checks and splits may occur if not dried with care. Turns, glues, and finishes well.

Uses:

- (i) It is used for building, flooring, stairs, furniture, cabinetary, joinery, turning, tools, carvings, glued laminated timber and veneer.
- (ii) It can also be used for carpentary, mine props, vehicle bodies, toys and oddities, musical instruments, railway sleepers, boxes, and crates.



Topic

Date.....

Khair

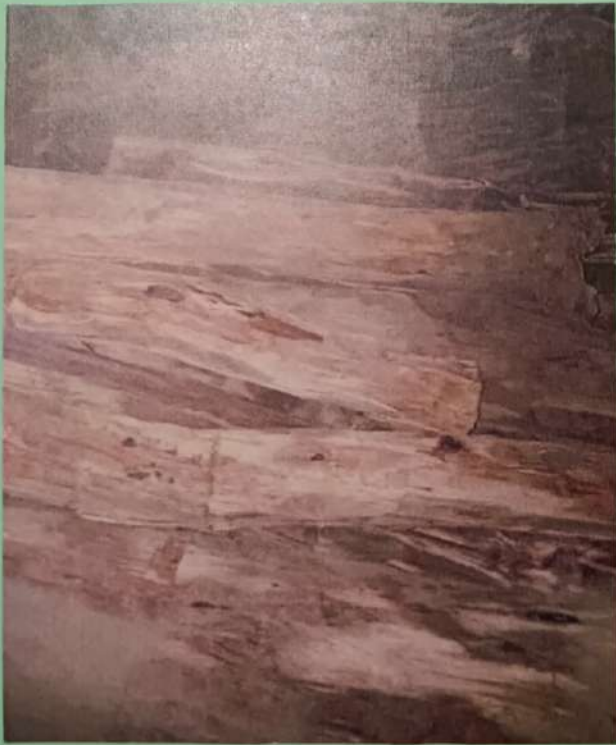
Botanical Name : Senegalia catechu or Acacia catechu
Family : Fabaceae

Properties of Wood:

- (i) Sapwood sharply distinct from heartwood, light yellowish-white or yellow. Heartwood deep red or reddish brown, darkening on exposure; somewhat lustrous.
- (ii) Wood is coarse and even-textured and straight to interlocked grains.
- (iii) The timber is very strong, very hard, very steady and moderately tough.
- (iv) The wood has no characteristic smell or taste.

Uses of wood:

- (i) It is used in house construction.
- (ii) Also used for making rice pestles, oil and sugar-cane crushers, ploughs, tent-pegs, sword handles and keels and knees of boats.



Mahogany

Botanical Name : Swietenia macrophylla
Family : Meliaceae

Properties of Wood:

- (i) Mahogany has straight to interlocked grains, which makes it highly stable.
- (ii) Mahogany wood typically starts off as a light brown colour with pinkish tones, but becomes a deeper reddish-brown colour over time.
- (iii) It's less susceptible to warping, shrinking and swelling than other woods, and takes stain easily.
- (iv) Wood is resistant to rot and decay.

Uses:

- (i) The most common use of Mahogany species is for furniture making.
- (ii) Other common uses of Mahogany include wood flooring, wood doors & windows, high-end trim work, plywood making, boatbuilding, etc.
- (iii) It is also widely used for making guitar bodies.



Topic

Date

Mulberry

Botanical Name: Morus alba

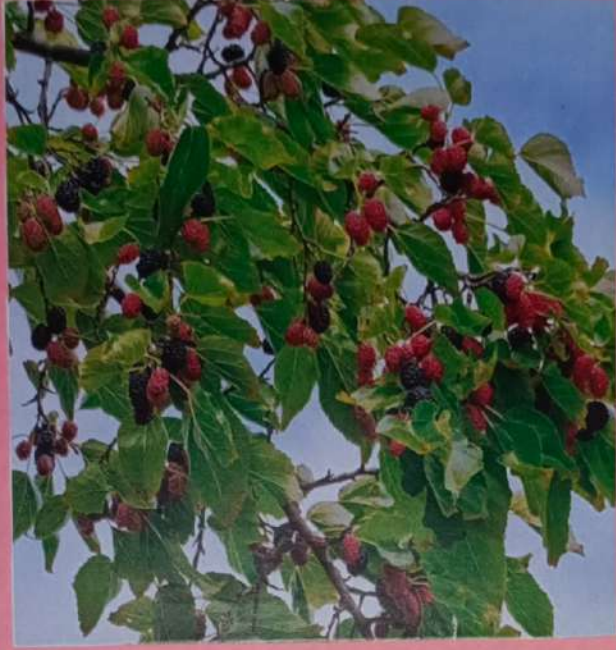
Family : Moraceae

Properties of Wood:

- (i) Heartwood is a golden brown, darkening to a medium/reddish brown with age. Sapwood is a pale yellowish white.
- (ii) Grain is straight, with a uniform medium texture. Good natural luster.
- (iii) Its wood is very durable, with good insect resistance and weathering properties.
- (iv) Responds well to both hand and machine tools. Turns, glues, and finishes well.

Uses:

- (i) Mostly used in furniture, fence posts, and turned objects.
- (ii) Used in dressing tables, full-length mirror frames, tea chests, clothes racks and sewing boxes.



Topic

Date

Sources of Firewood (plants)

Introduction:

Firewood is any wooden material that is gathered and used for fuel. Generally, firewood is not heavily processed and is in some sort of recognizable log or branch form, compared to other forms of wood fuel like pellets. Firewood can be seasoned and heat treated (dry) or unseasoned (fresh/wet). It is generally classified as hardwood or softwood.

Firewood is a renewable resource. However, demand for this fuel can outpace its ability to regenerate on a local or regional level. Good forestry practices and improvements in devices that use firewood can improve local wood supplies.



Topic

Date

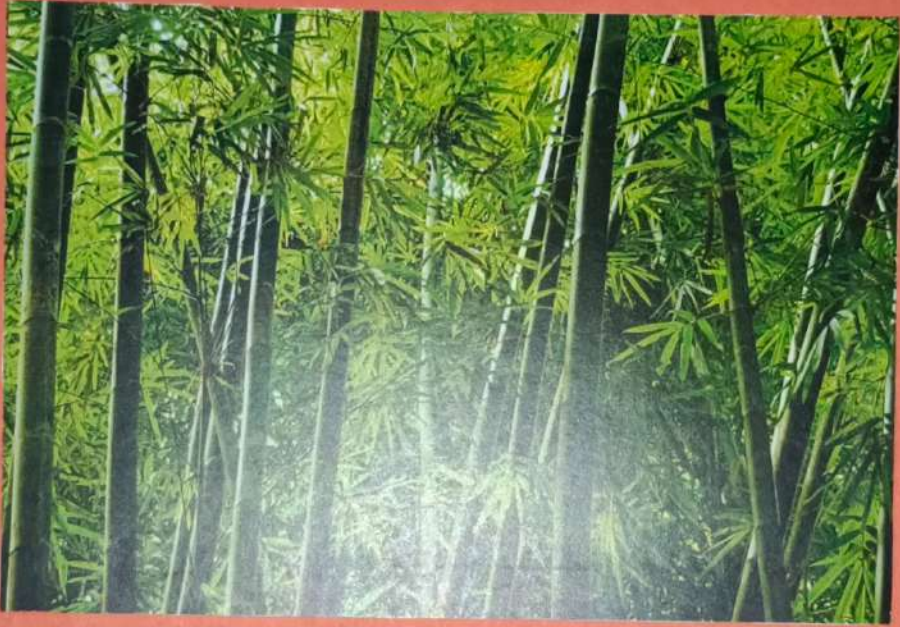
Bamboo

Botanical Name: Bambusa vulgaris

Family: Poaceae

Properties of wood:

- (i) The bamboo wood is light weight, flexible, tough, high tensile, cheap material.
- (ii) It is easy to cut, split, dry, and use.
- (iii) Bamboo can grow significantly faster than most hardwood trees, making it a sustainable and renewable source of fuel.
- (iv) It has low moisture content, high calorific value, reduced smoke production, etc.
- (v) Bamboo's availability and cost effectiveness also make it an attractive option as firewood.
- (vi) Finally, using bamboo as firewood can also help manage invasive bamboo species.

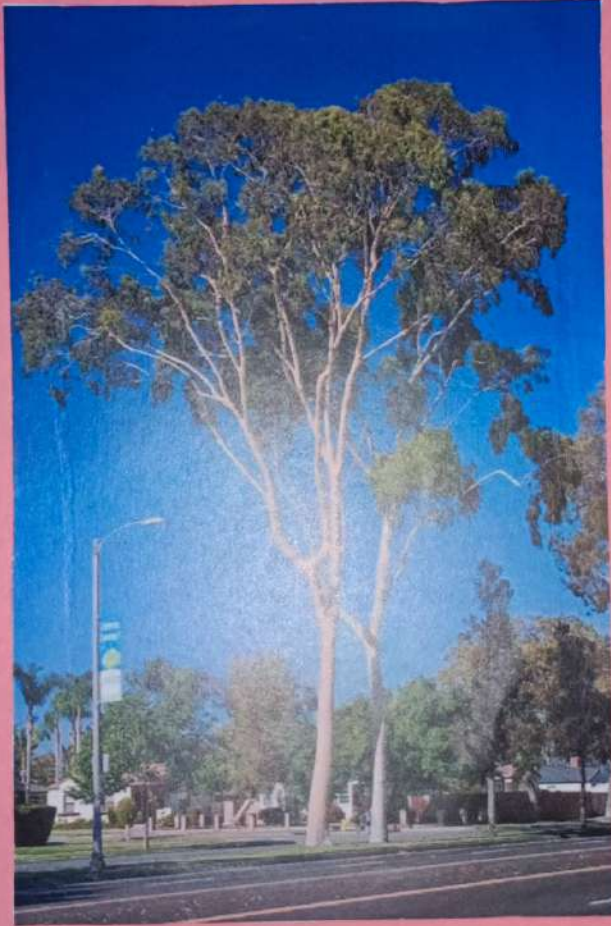


Eucalyptus

Botanical Name : Eucalyptus robusta
 Family : Myrtaceae

Properties of wood :

- (i) The heartwood is pale red when freshly cut, turning orange-red or red-brown with age; it is clearly demarcated from the upto 5 cm wide band of pale brown sapwood.
- (ii) The grain is interlocked, texture coarse.
- (iii) Wood is fairly heavy, moderately hard, strong, durable and able to be used in moist conditions, resistant to attacks by fungi and most insects, including marine borers, and moderately resistant to termite attack.
- (iv) Its wood is an excellent source of fuelwood worldwide as it can quickly regenerate after cutting.
- (v) When it burns, it leaves little ash and produces good charcoal.
- (vi) Another advantage in the burn quality is the high density of this hardwood, paired with its high calorific value. A dense wood means that the fuel will burn for longer and the caloric value will impact the temperature at which the wood logs will burn.



Topic

Date

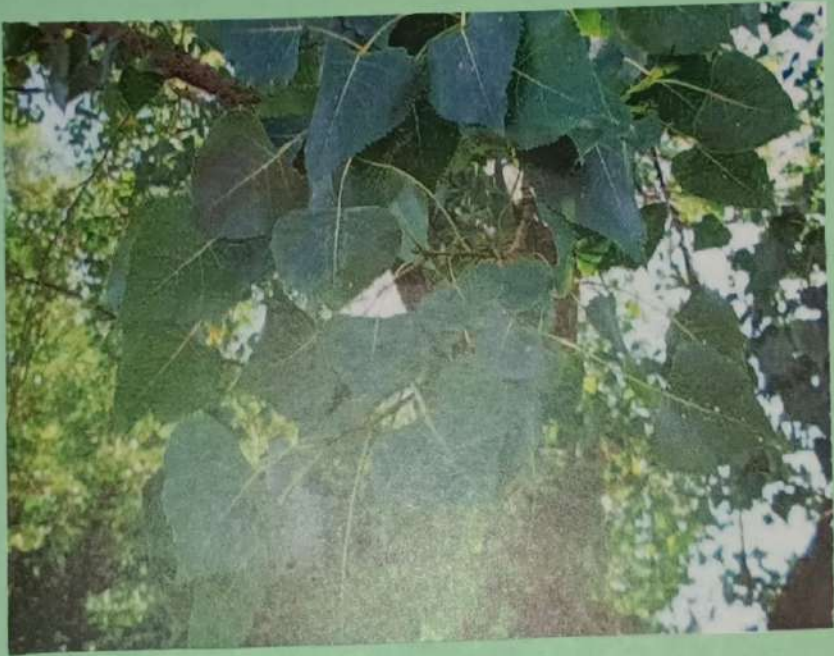
Populus (Poplar) (Cottonwood)

Botanical Name : Populus deltoides

Family : Salicaceae

Properties of wood:

- (i) Poplar wood is generally very light and soft.
- (ii) It is not particularly hard and not naturally durable.
- (iii) It is not subject to much shrinkage, and stable when dry.
- (iv) It has fair coaling properties, so we'll need to feed the fire regularly to keep it blazing.
- (v) Poplar is easy to split, but the wood is notorious for soaking up water so keep it out of rain, even after it's seasoned.
- (vi) Easy to split with any type of axe.
- (vii) Good for starting fires as it burns easily.
- (viii) Poplar firewood gives off a lot of sparks as it burns.
- (ix) Poplar will generally provide very little fragrance as it burns. It may give off an unpleasant bitter aroma.



Topic

Date

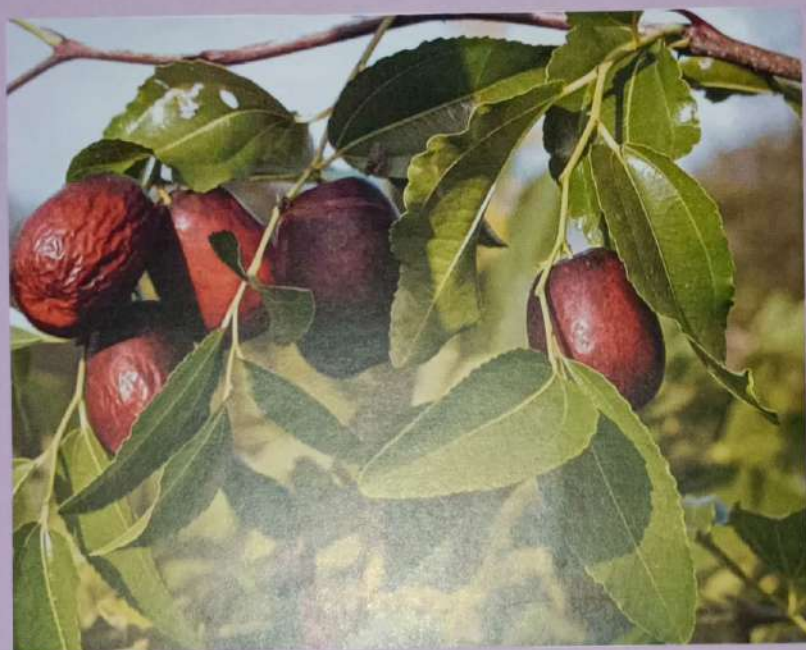
Ber

Botanical Name : Ziziphus jujuba

Family : Rhamnaceae

Properties of Wood :

- (i) Jujube is characterized by its strong wood and angular shoots protruding nodes. Some call it the "iron tree".
- (ii) The wood is hard, heavy, strong and very durable, with fine structure and texture with a reddish color.
- (iii) Jujube is an important fuelwood tree, particularly in the more arid regions of its native range.
- (iv) It is used as firewood and for making charcoal.
- (v) Its wood have high calorific value and density, and low ash, silica and moisture content.



Topic

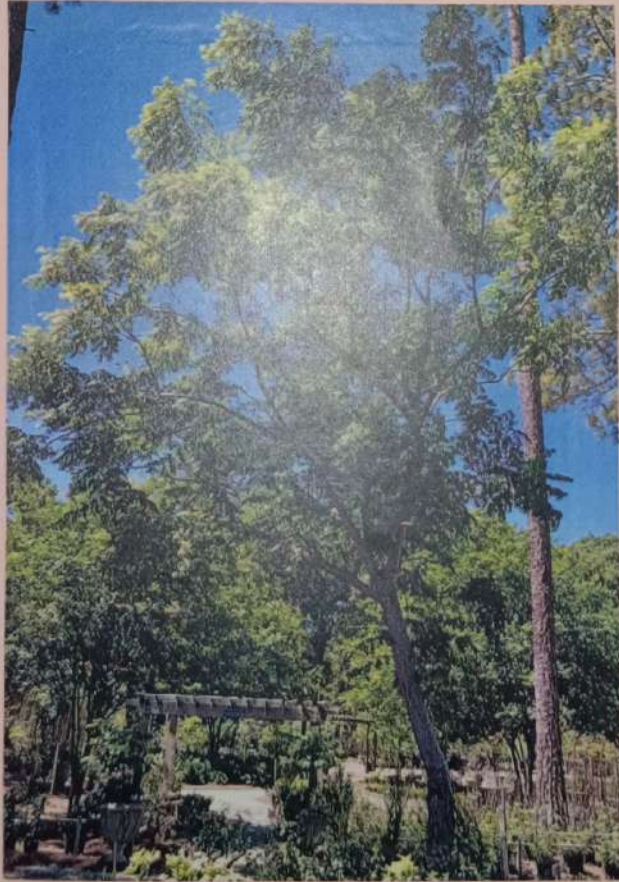
Date

Dek

Botanical Name : Melia azedarach
Family : Meliaceae

Properties of Wood :

- (i) It is a deciduous tree with high quality, medium density wood colored from light brown to dark red.
- (ii) Heartwood is resistant to white and brown rot fungi.
- (iii) Seasoning is relatively simple in that planks which dry without cracking or warping and are resistant to fungal infection.
- (iv) It is mainly used as fuelwood.
- (v) It has calorific value of 5100 kcal/kg.



Topic

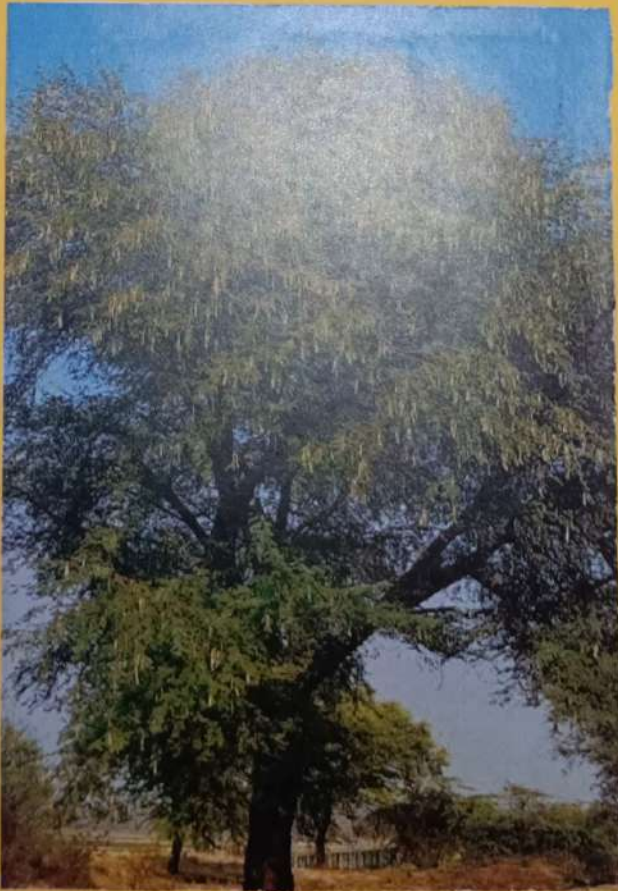
Date

Babul (Babur, Gum Arabic)

Botanical Name : Acacia nilotica or Vachellia nilotica
 Family : Fabaceae

Properties of wood:

- (i) The wood is very heavy, strong, very tough and extremely hard wood.
- (ii) It is coarse-textured and has interlocked grains.
- (iii) The wood is dull and somewhat rough without any characteristic odour or taste.
- (iv) The sapwood is sharply demarcated from the heart wood and is white, turning pale yellow on exposure. The heart wood is pinkish brown and turns reddish brown on ageing.
- (v) As a fuelwood, it is an excellent material and is also made into charcoal. Its charcoal is considered as superior to charcoal from other species.
- (vi) It has properties like it burns slowly with high calorific value, producing very little smoke without objectionable or toxic fumes and neither spits nor sparks.



Topic.....

Date.....

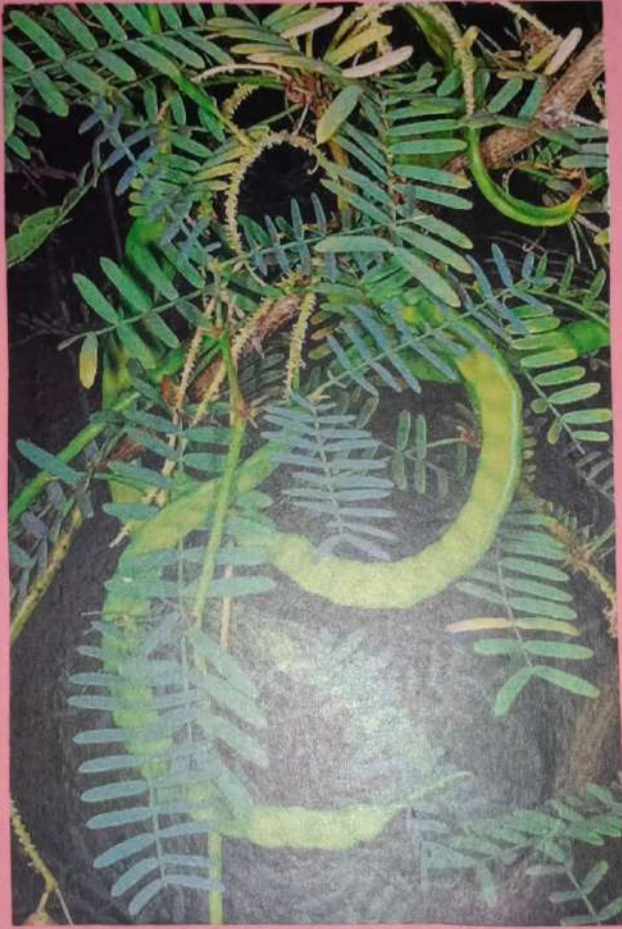
Prosopis (Mesquite)

Botanical Name : Prosopis juliflora

Family : Fabaceae

Properties of Wood:

- (i) Heartwood tends to be a yellowish brown to dark brown, which darkens with age. Sapwood tends to be narrow and is a pale yellow color.
- (ii) It has a medium to coarse texture and a slight natural luster. Grain tends to be straight.
- (iii) The charcoal obtained from this wood is of very high quality and can be produced as easily from green wood as from dried wood.
- (iv) Wood does not produce sparks while burning nor does it emit much smoke.
- (v) It burns with a hot and even heat giving high heating value.



Amla (Indian gooseberry)

Botanical Name : Phyllanthus emblica

Family : Phyllanthaceae

Properties of wood:

- (i) Amla wood is highly valued although most trees produce little heartwood.
- (ii) The wood is light yellow or whitish or reddish.
- (iii) The wood is usually without a characteristic odour or taste.
- (iv) It has fairly straight grain and is very coarse in texture.
- (v) The wood is excellent as fuelwood with a calorific value 5,200 kcal/kg.
- (vi) It also makes excellent charcoal, where dry wood gives about 40% charcoal and 0.8% methanol.



Topic

Date

Broussonetia (Paper mulberry)

Botanical Name : Broussonetia papyrifera
Family : Moraceae

Properties of wood :

- (i) The wood is light coloured, soft, greyish-white.
- (ii) It has even and straight grained or coarse grained.
- (iii) It is soft, easily worked and not very durable.
- (iv) It is promoted for firewood because it is a fast-growing tree with often abundant sucker formation.
- (v) It has high calorific value, reduced smoke, low ash, and high density wood.

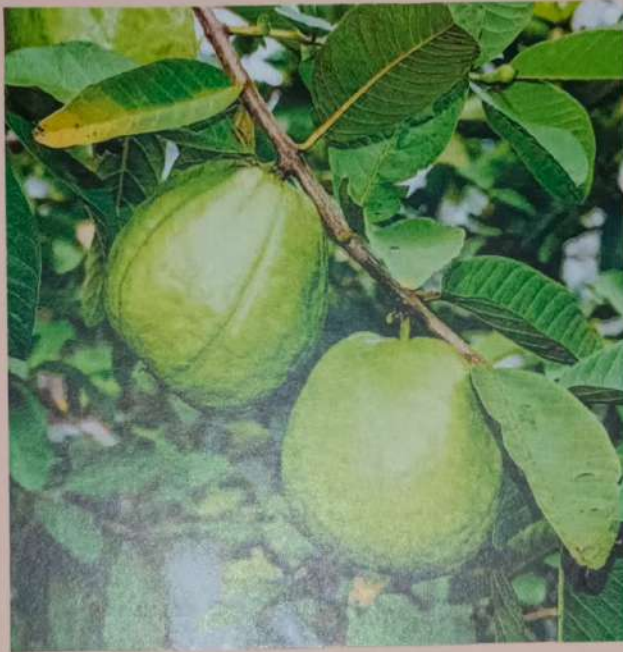


Guava

Botanical Name: Psidium guajava
Family : Myrtaceae

Properties of wood:

- (i) The wood is fairly strong, heavy and hard.
- (ii) It has even-grain wood.
- (iii) It is used as an excellent firewood.
- (iv) It makes good charcoal.
- (v) Guava wood smolders with a subtly sweet, medium-flavored smoke, making it an exotic choice of firewood for grilling etc.



Topic

Date

Outcomes

- I have identified ten timber yielding plants and ten firewood plants.
- I have learnt botanical name of some of these plants.
- I have also get to know about the botanical description of the plants
- I learn about the properties of timber yielding plants and firewood plants like their durability, toughness, colour, texture, resistance to decay, working of wood with glues, etc.
- I have also learnt about the various uses of timber wood like in furniture, sporting goods, carving, engraving, railway sleepers, flooring etc.
- I have also learnt about the properties of firewood like low moisture content, low ash, high calorific value.



**OFFICE OF THE
PRINCIPAL GOVERNMENT COLLEGE RUPNAGAR**

ਦਫਤਰ ਪ੍ਰਿੰਸੀਪਲ ਸਰਕਾਰੀ ਕਾਲਜ ਰੁਪਨਗਰ

Tel. : 01881-222263 | E.mail : principal.gc.ropar@gmail.com

No. 1547

Date 93/06/23

LIST OF STUDENTS UNDERTAKING PROJECT WORK IN ENVIRONMENTAL AND ROAD SAFETY

Sr. No.	Roll No	Student Name	Title of Project Work
1	8801	ANJALI	ENVIRONMENTAL POLLUTION
2	8802	ANSHITA SHARMA	AIR, WATER AND SOIL POLLUTION
4	8804	MUSKAN	AIR, WATER AND SOIL POLLUTION
5	8805	MANJEET KAUR	ENVIRONMENTAL POLLUTION
6	8806	MANISH KUMAR	ENVIRONMENTAL POLLUTION
7	8807	ANCHAL	ENVIRONMENTAL POLLUTION
8	8808	TANIA SIDDIQUI	AIR, WATER AND SOIL POLLUTION
9	8809	NIKITA	ENVIRONMENTAL POLLUTION
10	8810	SHAHEENA NAZ	AIR, WATER AND SOIL POLLUTION
12	8812	KARANVEER SINGH	ENVIRONMENTAL POLLUTION
14	8814	HARLEEN KAUR	ENVIRONMENTAL POLLUTION
15	8815	RAJWINDER KAUR	ENVIRONMENTAL POLLUTION
16	8816	KANCHAN DEVI	AIR, WATER AND SOIL POLLUTION
17	8817	AMANDEEP KAUR	ENVIRONMENTAL POLLUTION
18	8818	PRIYA	ENVIRONMENTAL POLLUTION
19	8819	KESHAV GARG	ENVIRONMENTAL POLLUTION
23	8823	NITISH	ENVIRONMENTAL POLLUTION
24	8824	SANJEEV KHAN	ENVIRONMENTAL POLLUTION
25	8825	NAMNEET	AIR, WATER AND SOIL POLLUTION



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No. 1547

Date 23/06/2023

26	8826	MANJIT KAUR	ENVIRONMENTAL POLLUTION
29	8829	GAGANDEEP SINGH	ENVIRONMENTAL POLLUTION
30	8830	VISHAVJEET SINGH	ENVIRONMENTAL POLLUTION
33	8833	PARWINDER SINGH	ENVIRONMENTAL POLLUTION
34	8837	MEGH BAHADUR	ENVIRONMENTAL POLLUTION
35	8838	ABHISHEK YADAV	ENVIRONMENTAL POLLUTION
36	8840	JASPREET KAUR	AIR, WATER AND SOIL POLLUTION
37	8844	YASH KUMAR	ENVIRONMENTAL POLLUTION
38	8846	SHIVANI RANI	AIR, WATER AND SOIL POLLUTION
39	8852	MANPREET SINGH	ENVIRONMENTAL POLLUTION
40	5401	SEHAJPREET KAUR	NOISE POLLUTION
41	5402	PRIYANKA KUMARI	WATER POLLUTION
42	5403	MUSKAN KUMARI	SOIL POLLUTION
43	5404	GURNAAZ	AIR POLLUTION
44	5405	HARLEEN KAUR	LIST OF COMMON PLANTS
45	5406	VAISHNAVI CHOPRA	NOISE POLLUTION
46	5407	AMANPREET KAUR	WATER POLLUTION
47	5408	AARTI DEVI	SOIL POLLUTION
48	5409	RAVEENA	AIR POLLUTION
49	5410	PRIYA SAINI	COMMON PLANTS
50	5411	RAMANJEET KAUR	NOISE POLLUTION



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No. 1547

Date 23/06/22

51	5412	RINKEY	WATER POLLUTION
52	5413	PUSHPINDER KAUR	NOISE POLLUTION
53	5414	MANVI	AIR POLLUTION
54	5415	MANSHA AHUJA	COMMON PLANTS
55	5416	BHUPINDER SINGH	NOISE POLLUTION
56	5417	SAPNA RANI	WATER POLLUTION
57	5418	RAJAN VERMA	SOIL POLLUTION
58	5419	SIMRAN KAUR	ENVIRONMENT
59	5420	TANIYA MAHAJAN	COMMON PLANTS
60	5421	AKSHITA SOOD	NOISE POLLUTION
61	5422	ARSHIYA NAGI	WATER POLLUTION
62	5423	PAYAL	WATER POLLUTION
63	5424	RASHIKA BHATTI	AIR POLLUTION
64	5425	SIMRANPREET KAUR	COMMON PLANTS
65	5426	SUDHA RAJ	NOISE POLLUTION
66	5427	AMANPREET KAUR	WATER POLLUTION
67	5429	MILAN MEHANDI RATTA	AIR POLLUTION
68	5430	RITIKA	COMMON PLANTS
69	5432	ARSHDEEP KAUR	WATER POLLUTION
70	5433	MANPREET KAUR	SOIL POLLUTION
71	5434	MEEHA RANI	AIR POLLUTION



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72	5435	JASPREET KAUR	COMMON PLANTS
73	5436	PARVEEN KUMARI	NOISE POLLUTION
74	5437	BANPREET KAUR	WATER POLLUTION
75	5439	MANPREET KAUR	AIR POLLUTION
76	5440	GURJOT KAUR	COMMON PLANTS
77	5441	ASHU KUMARI	NOISE POLLUTION
78	5442	PREETY KUMARI	WATER POLLUTION
79	5445	SURUCHI KUMARI	COMMON PLANTS
80	5447	JASPREET SINGH	WATER POLLUTION
81	5448	GURLEEN KAUR	SOIL POLLUTION
82	5449	JYOTI KAUR	AIR POLLUTION
83	5450	SIMRAN KAUR	COMMON PLANTS
84	5451	VANDANA KUMARI	NOISE POLLUTION
85	5452	ARHSPREET KAUR	WATER POLLUTION
86	5453	SAHIL KUMAR	SOIL POLLUTION
87	5454	SEEYA	AIR POLLUTION
88	5455	HARSH BAHRI	COMMON PLANTS
89	5457	MEHAK VERMA	WATER POLLUTION
90	5458	MANISHA SHARMA	NOISE POLLUTION
91	5459	PARMINDER SINGH	COMMON PLANTS
92	5460	RAVNEET KAUR	WATER POLLUTION



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93	5462	TULSI	SOIL POLLUTION
94	5463	NEHA	AIR POLLUTION
95	5464	RIYA KUMARI	COMMON PLANTS
96	5465	LOVEPREET KAUR	NOISE POLLUTION
97	5466	GURNEET KAUR	WATER POLLUTION
98	5467	SANJANA KAUR	AIR POLLUTION
99	5468	SIDHIKA SHARMA	AIR POLLUTION
100	5469	MANVIR SINGH	AIR POLLUTION
101	5470	PRABHJOT KAUR	COMMON PLANTS
102	5471	ABHISHAKHA RANI	COMMON PLANTS
103	5472	NAVTEJ SINGH	NOISE POLLUTION
104	5473	KHUSHI	SOIL POLLUTION
105	5475	HARSHDEEP	COMMON PLANTS
106	5476	KAMALPREET KAUR	NOISE POLLUTION
107	5477	GURPREET KAUR	WATER POLLUTION
108	5478	KARANVIR SINGH	COMMON PLANTS
109	5479	JASPREET KAUR	AIR POLLUTION
110	5480	SHWETA	COMMON PLANTS
111	5481	GURPREET KAUR	NOISE POLLUTION
112	5482	SIMRAN KAUR	WATER POLLUTION
113	5483	ASHWANI	SOIL POLLUTION



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114	5484	HARPREET KAUR	AIR POLLUTION
115	5485	SIMRAN MOTON	COMMON PLANTS
116	5487	MANJINDER SINGH	SOIL POLLUTION
117	5492	MADHU SHARMA	WATER POLLUTION
118	5493	GURINDER SINGH	SOIL POLLUTION
119	5494	SAJAN KUMAR	AIR POLLUTION
120	5495	SUMAN	COMMON PLANTS
121	5496	SOURAV KUMAR	NOISE POLLUTION
122	5497	AMANDEEP SINGH	COMMON PLANTS
123	5498	HARPREET KAUR	SOIL POLLUTION
124	5499	JASPREET KAUR	AIR POLLUTION
125	5501	PRIYA	NOISE POLLUTION
126	5502	MANISHA RANI	WATER POLLUTION
127	5503	JASHANPREET KAUR	SOIL POLLUTION
128	5504	YASHIKA	AIR POLLUTION
129	5505	MANPREET KAUR	COMMON PLANTS
130	5506	SIMRAN	NOISE POLLUTION
131	5508	ANJALI	SOIL POLLUTION
132	5511	LOVEPREET SINGH GILL	NOISE POLLUTION
133	5512	KESHAV SAIN	WATER POLLUTION
134	5514	SAHIL CHOUDHARY	AIR POLLUTION



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Date 23/06/23

135	5515	SUKHNEET KAUR	COMMON PLANTS
136	5516	NAVJOT KAUR	NOISE POLLUTION
137	5517	ANAMIKA KUMARI	WATER POLLUTION
138	5518	JASPREET SINGH	SOIL POLLUTION
139	5520	SANJANA KUMARI	COMMON PLANTS
140	6701	NATISHA RANI	STUDY OF COMMON PLANTS
141	6702	JASPAL SINGH	Study of Common Birds and their identification
142	6703	RAHUL KUMAR	Study of Common Plants
143	6704	SIMRAN KAUR	Environmental Pollution
144	6705	RAMANDEEP KAUR	Environmental Pollution
145	6706	RITIKA SANDAL	Environmental Pollution
146	6707	ANKITA	Study of Common Plants
147	6708	SAHIL SAINI	Study of Common Birds and Identification
148	6709	JANNATPREET KAUR	Environmental Pollution
149	6710	MANISHA	Environmental Pollution
150	6711	AMANPREET KAUR	Environmental Pollution
151	6712	TAMANNA	Pollution
152	6713	DISHA RANA	Environmental Pollution
153	6714	ANU RANA	Study of Common Plants
154	6716	NEHA	Study of Common Plants
155	6718	SIMRANJIT KAUR	Environmental Pollution



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156	6719	SANA FATIMA	Study of Common Plants
157	6720	NEHA VARMA	Study of Common Plants
158	6721	AMRITPREET KAUR	Environmental Pollution
159	6722	NAVNEET KAUR	Study of Common Plants
160	6723	GAYATRI KUMARI	Environmental Pollution
161	6724	SANGEETA RANI	Study of Common Plants
162	6725	KAMALJEET KAUR	Study of Common Plants
163	6726	INDERPREET KAUR	Environmental Pollution
164	7903	VAISHALI PANT	Pollution:Visit of Local Site of Urban/Rural
165	7905	MUSKAN RANI	Pollution:Visit of Local Site of Urban/Rural
166	7906	SUSHMA DEVI	Pollution:Visit of Local Site of Urban/Rural
167	7908	DIKSHA RANI	Pollution:Visit of Local Site of Urban/Rural
168	7910	MUSKAN KAUR	Pollution:Visit of Local Site of Urban/Rural
169	7919	JASMEEN KAUR	Pollution:Visit of Local Site of Urban/Rural
170	7914	MANPREET	Study of Common Plants, Insects and Birds and Their Basic principle of Identification
171	7917	PRIYANKA SHARMA	Pollution:Visit of Local Site of Urban/Rural
172	7919	ANKITA SHARMA	COMMON PLANTS
173	7921	GURPREET KAUR	Pollution:Visit of Local Site of Urban/Rural
174	7923	RUPINDER KAUR	Pollution:Visit of Local Site of Urban/Rural
175	7924	PARAMJIT KAUR	Pollution:Visit of Local Site of Urban/Rural



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Date 23/06/23

176	7925	RANBIR KAUR	Pollution:Visit of Local Site of Urban/Rural
177	7926	JASMINE BHATTI	Pollution:Visit of Local Site of Urban/Rural
178	7929	SUKHDEEP KAUR	Pollution:Visit of Local Site of Urban/Rural
179	7930	NEHA	Pollution:Visit of Local Site of Urban/Rural
180	7931	ARTI	Pollution:Visit of Local Site of Urban/Rural
181	7932	PRABHJOT KAUR	Pollution:Visit of Local Site of Urban/Rural
182	7936	KOMAL DEVI	Pollution:Visit of Local Site of Urban/Rural
183	7939	HARPREET KAUR	Pollution:Visit of Local Site of Urban/Rural
184	7942	JASPREET KAUR	Pollution:Visit of Local Site of Urban/Rural
185	7947	RITIKA	Pollution:Visit of Local Site of Urban/Rural
186	7948	ABHISHEK SHARMA	Pollution:Visit of Local Site of Urban/Rural
187	7953	Simranjeet	Pollution:Visit of Local Site of Urban/Rural
188	7955	Khushpreet	Pollution:Visit of Local Site of Urban/Rural
189	7956	Dilshad	Pollution:Visit of Local Site of Urban/Rural
190	7960	Gurpreet Kaur	Pollution:Visit of Local Site of Urban/Rural
191	7962	Poonam Devu	Pollution:Visit of Local Site of Urban/Rural
192	7963	Irshad Ali	Pollution:Visit of Local Site of Urban/Rural
193	7964	Jaskaran Singh	Pollution:Visit of Local Site of Urban/Rural
194	3005	JASMEEN SAGAR	ENVIRONMENTAL POLLUTION
195	3006	SIMRANJEET SINGH	ENVIRONMENTAL POLLUTION
196	3007	NISHA	ENVIRONMENTAL POLLUTION



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197	3008	HARMANPREET KAUR	ENVIRONMENTAL POLLUTION
198	3011	NIHAL KUMAR	ENVIRONMENTAL POLLUTION
199	3014	NEETU	ENVIRONMENTAL POLLUTION
200	3015	BEANT KAUR	ENVIRONMENTAL POLLUTION
201	3017	HARSHDEEP KAUR	ENVIRONMENTAL POLLUTION
202	3019	RAJNEESH KAUR	ENVIRONMENTAL POLLUTION
203	3020	RANJANA DEVI	ENVIRONMENTAL POLLUTION
204	3022	SHALINI YADAV	ENVIRONMENTAL POLLUTION
205	3024	KIRANDEEP KAUR	ENVIRONMENTAL POLLUTION
206	3026	VEENA	ENVIRONMENTAL POLLUTION
207	3029	PARSHANT CHAUHAN	ENVIRONMENTAL POLLUTION
208	3032	KIRANDEEP KAUR	ENVIRONMENTAL POLLUTION
209	3034	NAVJOT KAUR	ENVIRONMENTAL POLLUTION
210	3035	PRIYA	ENVIRONMENTAL POLLUTION
211	3036	DALJIT KAUR	ENVIRONMENTAL POLLUTION
212	3038	SIMRANJEET KAUR	ENVIRONMENTAL POLLUTION
213	3039	NISHU	ENVIRONMENTAL POLLUTION
214	3044	RAVNEET KAUR	ENVIRONMENTAL POLLUTION
215	3045	SAKSHAM SHARMA	ENVIRONMENTAL POLLUTION
216	3050	BALWINDER KAUR	ENVIRONMENTAL POLLUTION
217	3052	KAJAL KUMARI	ENVIRONMENTAL POLLUTION



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218	3054	JASHANPREET KAUR	ENVIRONMENTAL POLLUTION
219	3055	GURSEERAT KAUR	ENVIRONMENTAL POLLUTION
220	3065	ANU KUMARI	ENVIRONMENTAL POLLUTION
221	3067	GURWINDER KAUR	ENVIRONMENTAL POLLUTION
222	3069	MANPREET KAUR	ENVIRONMENTAL POLLUTION
223	3070	SABREEN BANO	ENVIRONMENTAL POLLUTION
224	3071	KIRANJIT KAUR	ENVIRONMENTAL POLLUTION
225	3074	ANJALI	ENVIRONMENTAL POLLUTION
226	3075	SIMRANPREET KAUR	ENVIRONMENTAL POLLUTION
227	3076	DIKSHA DEVI	ENVIRONMENTAL POLLUTION
228	3081	RANJANA KUMARI	ENVIRONMENTAL POLLUTION
229	3082	NAVDEEP KAUR	ENVIRONMENTAL POLLUTION
230	3083	RAJNI	ENVIRONMENTAL POLLUTION
231	3087	Asha Verma	ENVIRONMENTAL POLLUTION
232	3088	MOHIT CHECHI	ENVIRONMENTAL POLLUTION
233	3091	HARPREET KAUR	ENVIRONMENTAL POLLUTION
234	3093	BALWINDER KAUR	ENVIRONMENTAL POLLUTION
235	3094	NARINDER KAUR	ENVIRONMENTAL POLLUTION
236	3104	JASKIRAT SINGH	ENVIRONMENTAL POLLUTION
237	3111	MANPREET KAUR	ENVIRONMENTAL POLLUTION
238	3130	MUKESH BHUMBLA	ENVIRONMENTAL POLLUTION



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239	3131	KUNAL VERMA	ENVIRONMENTAL POLLUTION
240	3132	JASHANPREET SINGH	ENVIRONMENTAL POLLUTION
241	3146	JASPREET KAUR	ENVIRONMENTAL POLLUTION
242	3148	ARTI RANI	ENVIRONMENTAL POLLUTION
243	3151	SIMRAN KAUR	ENVIRONMENTAL POLLUTION
244	3156	KAMALPREET KAUR	ENVIRONMENTAL POLLUTION
245	3158	NANDINI SOKHAL	ENVIRONMENTAL POLLUTION
246	3160	GURJIT SINGH	ENVIRONMENTAL POLLUTION
247	3175	BHUPINDER KAUR	ENVIRONMENTAL POLLUTION
248	3178	LOVEPREET KAUR	ENVIRONMENTAL POLLUTION
249	3181	HARDEEP KAUR	ENVIRONMENTAL POLLUTION
250	3184	RAMANDEEP KAUR	ENVIRONMENTAL POLLUTION
251	3185	SIMRANJIT KAUR	ENVIRONMENTAL POLLUTION
252	3190	ANJALI	ENVIRONMENTAL POLLUTION
253	3191	SHARNPREET KAUR	ENVIRONMENTAL POLLUTION
254	3192	HARMANPREET KAUR	ENVIRONMENTAL POLLUTION
255	3193	DALJEET KAUR	ENVIRONMENTAL POLLUTION
256	3195	SAKSHI KUMARI	ENVIRONMENTAL POLLUTION
257	3197	NEHA	ENVIRONMENTAL POLLUTION
258	3199	INDERJIT KAUR	ENVIRONMENTAL POLLUTION
259	3201	KASHISH JAIN	ENVIRONMENTAL POLLUTION



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260	3205	SANAMDEEP KAUR	ENVIRONMENTAL POLLUTION
261	3207	MANPREET SINGH	ENVIRONMENTAL POLLUTION
262	3210	SAPNA	ENVIRONMENTAL POLLUTION
263	3216	GURLEEN KAUR	ENVIRONMENTAL POLLUTION
264	3220	JASHANPREET SINGH	ENVIRONMENTAL POLLUTION
265	3222	KOMALDEEP KAUR	ENVIRONMENTAL POLLUTION
266	3230	GURVINDER KAUR	ENVIRONMENTAL POLLUTION
267	3232	SIMRANJEET KAUR	ENVIRONMENTAL POLLUTION
268	3233	RAMANDEEP KAUR	ENVIRONMENTAL POLLUTION
269	3234	RADHIKA	ENVIRONMENTAL POLLUTION
270	3235	KARANVEER SINGH	ENVIRONMENTAL POLLUTION
271	3236	KAMALPREET KAUR	ENVIRONMENTAL POLLUTION
272	3239	KAMALPREET KAUR	ENVIRONMENTAL POLLUTION
273	3240	JASHANDEEP KAUR	ENVIRONMENTAL POLLUTION
274	3241	ANMOLPREET KAUR	ENVIRONMENTAL POLLUTION
275	3244	KIRANDEEP KAUR	ENVIRONMENTAL POLLUTION
276	3247	BALWINDER KAUR	ENVIRONMENTAL POLLUTION
277	3248	MEENU	ENVIRONMENTAL POLLUTION
278	3249	MANISHA	ENVIRONMENTAL POLLUTION
279	3251	NAVJOT KAUR	ENVIRONMENTAL POLLUTION
280	3253	HARJEET SINGH	ENVIRONMENTAL POLLUTION



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281	3258	GURPREET KAUR	ENVIRONMENTAL POLLUTION
282	3259	RAJWINDER SINGH	ENVIRONMENTAL POLLUTION
283	3261	ARSHPREET SINGH	ENVIRONMENTAL POLLUTION
284	3262	INDERPREET KAUR	ENVIRONMENTAL POLLUTION
285	3263	AMANJEET KAUR	ENVIRONMENTAL POLLUTION
286	3264	KOMAL BHALLA	ENVIRONMENTAL POLLUTION
287	3266	SARABJEET KAUR	ENVIRONMENTAL POLLUTION
288	3269	SUMANPREET KAUR	ENVIRONMENTAL POLLUTION
289	3271	JASPREET KAUR	ENVIRONMENTAL POLLUTION
290	3272	USHA RANI	ENVIRONMENTAL POLLUTION
291	3277	NAVKIRANPREET KAUR	ENVIRONMENTAL POLLUTION
292	3278	SHIVANI	ENVIRONMENTAL POLLUTION
293	3279	KOMALPREET KAUR	ENVIRONMENTAL POLLUTION
294	3282	AMANPREET KAUR	ENVIRONMENTAL POLLUTION
295	3283	MANJOT SINGH	ENVIRONMENTAL POLLUTION
296	3284	LAKHWINDER SINGH	ENVIRONMENTAL POLLUTION
297	3290	MANISHA RANI	ENVIRONMENTAL POLLUTION
298	3294	JASPREET SINGH	ENVIRONMENTAL POLLUTION
299	3297	KRISHNA DEVI	ENVIRONMENTAL POLLUTION
300	3301	ANAMIKA SHARMA	ENVIRONMENTAL POLLUTION
301	3305	GURJOT KAUR	ENVIRONMENTAL POLLUTION



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302	3312	VIPANPREET KAUR	ENVIRONMENTAL POLLUTION
303	3313	TARANPREET KAUR	ENVIRONMENTAL POLLUTION
304	3315	TANIA	ENVIRONMENTAL POLLUTION
305	3320	SIMRANJEET KAUR	ENVIRONMENTAL POLLUTION
306	3322	SUNIL KUMAR MOTON	ENVIRONMENTAL POLLUTION
307	3325	JASMEEN KAUR	ENVIRONMENTAL POLLUTION
308	3327	HARPREET KAUR	ENVIRONMENTAL POLLUTION
309	3338	RAVNEET SINGH	ENVIRONMENTAL POLLUTION
310	3344	HARDEEP KAUR	ENVIRONMENTAL POLLUTION
311	3346	SIMRANJEET KAUR	ENVIRONMENTAL POLLUTION
312	3356	NISHA	ENVIRONMENTAL POLLUTION
313	3375	JASHANDEEP SINGH	ENVIRONMENTAL POLLUTION
314	3382	POONAM	ENVIRONMENTAL POLLUTION
315	3387	KULDEEP KAUR	ENVIRONMENTAL POLLUTION
316	3388	KHUSHPREET KAUR	ENVIRONMENTAL POLLUTION
317	3391	JASHANPREET SINGH	ENVIRONMENTAL POLLUTION
318	3407	NITESH KUMAR	ENVIRONMENTAL POLLUTION
319	3408	HARPAL SINGH	ENVIRONMENTAL POLLUTION
320	3409	SAHILDEEP SINGH	ENVIRONMENTAL POLLUTION
321	3410	AMRITPREET SINGH	ENVIRONMENTAL POLLUTION
322	3411	SEEMA	ENVIRONMENTAL POLLUTION



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323	3412	TARJINDER SINGH	ENVIRONMENTAL POLLUTION
324	3413	REENA	ENVIRONMENTAL POLLUTION
325	3414	AMANDEEP SINGH	ENVIRONMENTAL POLLUTION
326	3415	LEAVLEEN KAUR	ENVIRONMENTAL POLLUTION
327	3416	KULJIT SINGH	ENVIRONMENTAL POLLUTION
328	3417	DAVINDER SINGH	ENVIRONMENTAL POLLUTION
329	3418	KHUSHHAL NATH	ENVIRONMENTAL POLLUTION
330	3419	RAHUL KUMAR	ENVIRONMENTAL POLLUTION
331	3420	SATVIR SINGH	ENVIRONMENTAL POLLUTION
332	3425	GURPREET SINGH	ENVIRONMENTAL POLLUTION
333	3429	HARPREETSINGH	ENVIRONMENTAL POLLUTION
334	3432	MANPREET KAUR	ENVIRONMENTAL POLLUTION
335	3438	SANDEEP SINGH	ENVIRONMENTAL POLLUTION
336	3439	SATPAL SINGH	ENVIRONMENTAL POLLUTION
337	3440	SIMRAN KAUR	ENVIRONMENTAL POLLUTION
338	3444	MANJOT SINGH	ENVIRONMENTAL POLLUTION
339	3445	SANJANA	ENVIRONMENTAL POLLUTION
340	3454	MANJU RANI	ENVIRONMENTAL POLLUTION
341	3460	GURCHET SINGH	ENVIRONMENTAL POLLUTION
342	3467	PRIYANKA RATHORE	ENVIRONMENTAL POLLUTION
343	3477	SIMRANJEET SINGH	ENVIRONMENTAL POLLUTION



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Date 23/06/2023

344	3478	SIMRANJEET SINGH	ENVIRONMENTAL POLLUTION
345	3479	TUSHAR SANGHAR	ENVIRONMENTAL POLLUTION
346	3480	DILPREET SINGH	ENVIRONMENTAL POLLUTION
347	3481	LAKHWINDER SINGH	ENVIRONMENTAL POLLUTION
348	3482	GURDIP SINGH	ENVIRONMENTAL POLLUTION
349	3483	HUSHIAR SINGH	ENVIRONMENTAL POLLUTION
350	3484	JASVIR SINGH	ENVIRONMENTAL POLLUTION
351	3485	DEEPAK SINGH	ENVIRONMENTAL POLLUTION
352	3486	JASLEEN KAUR	ENVIRONMENTAL POLLUTION
353	3487	JASMEEN KAUR	ENVIRONMENTAL POLLUTION

Hanjay
TEACHER INCHARGE

Jitendra Singh
PRINCIPAL

GOVT. COLLEGE, ROPAR

Principal
Govt. College, ROPAR

**A
REPORT
ON**

**STUDY ON COMMON PLANTS AND BASIC PRINCIPLES
OF IDENTIFICATION**

Submitted to:-

Government College, Ropar

Submitted by:-

Name : Anu Rana

Roll No. 6714

This is certified that this work entitled *Study on common
Plants and basic principles of identification* is a bonafide
record of work done by Anu Rana , Roll No. 6714 of
Department of
Botany, Govt. College, Ropar under the supervision of Prof.
Shikha and Prof. Pooja Verma during the session 2022-2023.

Introduction:

- Plants are an incredibly important kingdom of organisms.
- They are multicellular organisms with the amazing ability to make their own food from carbon dioxide in the atmosphere.
- They provide the foundation of many food webs.
- Animal life would not exist if plants were not around.
- The study of plants is known as Botany.
- In this introduction to plants we look at key topics.
- Such as different types of plants and the different parts of a plant such as roots, stems and leaves

Objectives:

- In order to study the billions of different organisms living on Earth, scientists have sorted and classified them based on their similarities and differences.
- This system of classification is also called taxonomy and usually features both English and Latin names for different divisions.
- It is always best to specify the exact plant you want by the scientific name.
- It is also important for people in the commercial plant and nursery business to know both scientific and common names as they become confusing

Rose (Gulab)

Scientific name: *Rosa rubiginosa*.

Family : **Rosaceae**

- Roses are erect, climbing shrubs.
- The stems of roses are usually armed with prickles of various shapes and sizes, commonly called thorns.
- The leaves are alternate and pinnately compound (i.e., feather-formed), usually with oval leaflets that are sharply toothed.
- The flowers of wild roses usually have five petals, whereas the flowers of cultivated roses are often double (i.e with multiple sets of petals).
- Rose flowers size ranges from tiny miniatures 1.25 cm in diameter to hybrid flowers measuring more than 17.5 cm.



Madagascar Periwinkle (Sadabhar)

- Scientific name: *Catharanthus roseus*.
- Family: **Apocynacea**
- *Catharanthus roseus* is a perennial small herb or sub-shrub, up to 90 cm in height.
- Stem is erect, lax branching with flexible long branches, purple or light green.
- Leaves are simple, cauline, opposite, exstipulate, petiolate, elliptic ovate to oblong, 4-10 by 2-4 cm glabrous , base acute, apex obtusely apiculate and lateral nerves 10-12 pairs.
- Petiole is 1.0- 1.5 cm long.
- Inflorescence is racemose axillary or terminal cyme or solitary/paired and shortly pedicillate.
- Flower colour is pink/white and tubular, swollen in the region of anthers, throat of corolla-tube hairy.



Aloe vera

- Scientific name: *Aloe barbadensis miller*.
- Family : **Asphodelaceae**
- Aloe vera is a herb with succulent leaves .
- The leaves are grey to green and sometimes have white spots on their surfaces.
- They have sharp, pinkish spines along their edges.
- They are the source of the colourless gel found in many commercial and medicinal products.
- Aloe vera has been traditionally used to treat skin injuries (burns, cuts, insect bites).
- Also used to treat digestive problems because its anti-inflammatory, antimicrobial, and wound healing properties.



Mint (Pudina)

- Scientific name: *Mentha spicata*.
- Family : **Lamiaceae**
- Mints have square stems and opposite aromatic leaves.
- Many can spread vegetatively by stolons and can be aggressive in gardens.
- The small flowers are usually pale purple, pink, or white in colour and are arranged in clusters, either forming whorls or crowded together in a terminal spike.
- The flowers are not typical of other members of the family, having four rather than five united petals.
- The volatile oils are contained in resinous dots in the leaves and stem



Holy Basil (Tulsi)

- Scientific name: *Ocimum sanctum*.
- Family : **Lamiaceae**.
- The holy basil plant is a small annual or short-lived perennial shrub, up to 1 metre in height.
- The stems are hairy and bear simple toothed or entire leaves oppositely along the stem.
- The fragrant leaves are green or purple, depending on the variety.
- The small purple or white tubular flowers have green or purple sepals and are borne in terminal spikes.
- The holy basil plant is revered in Hinduism as a manifestation of the goddess Lakshmi (Tulsi), the principal consort of the god Vishnu.

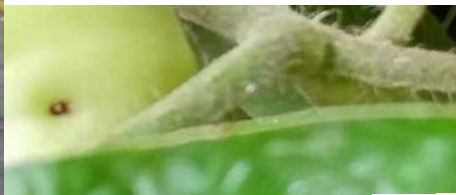


Basic Principle of Identification:

- Plant identification (taxonomy) uses anatomical and morphological clues to compare known plants with unknown plants.
- Accurate identification of a plant can be helpful in knowing how it grows as well as how to care and protect it from pests and diseases.

Identifying characters

1. Reproductive parts
2. Size
3. Shape
4. Bark
5. Leaves
6. Fruit





LEAVES

BLADE

- Broad flat part of a leaf
- Collects sun' s energy for photosynthesis

PETIOLE

- stem-like part of the leaf.
- turns the leaf towards the sun to trap light energy.

NODE (BUD)

- place where the petiole attaches to the stem.



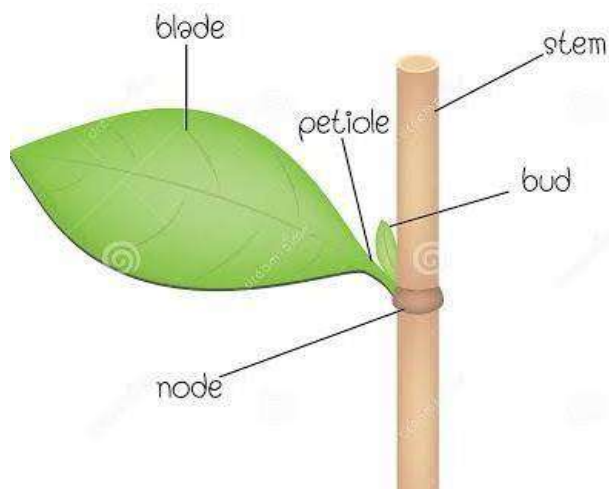
- Neem leaves are medium to large in size and elongated to oblong in shape, averaging 20-40 cm in length. The vibrant green leaves are smooth and glossy with sharp, serrated edges.



- Brahea have large, fan-shaped leaves.



- The leaves are triangular scales with a blunt point and arranged in decussate pairs.





■ Yellow bell flower, leaves are opposite, odd-pinnate, and up to 20 cm in length, with 5 or 7 leaflets. Leaflets are lanceolate to oblong-lanceolate, 6 to 13 cm long, pointed at both ends, and toothed at the margins.



■ Leaves are typically light to dark green and covered with fine hairs. They're arranged in whorls of three to five leaves, each of which can grow up to six inches long.



■ Guava leaves are oblong to oval in shape and average 7-15 cm long and 3-5 cm wide. The leaves grow in an opposite arrangement. Guava leaves are aromatic when crushed and have a scent similar to that of the guava fruit.

Outcomes:

1. To identify plant vegetative and reproductive structures. Students will understand basic principles, processes and functions of plant growth and reproduction, including photosynthesis, respiration, transpiration, vegetative growth and reproductive growth, fertilization and fruit formation.
2. The main objectives of plant taxonomy is to identify characteristics of undiscovered species by comparing with known species, to specify characteristics of recently discovered species, to arrange them in respective 'taxa' after looking at their similarities and to give them scientific names.
3. Research on plants enriches our intellectual life and adds to our knowledge about other life processes. The results of research on plant systems also can teach us how to approach problems in agriculture, health, and the environment.

ENVIRONMENTAL AND ROAD SAFETY
AWARENESS

A
REPORT
ON

STUDY ON COMMON BIRDS AND BASIC PRINCIPLES OF IDENTIFICATION

Submitted to:-

Government College, Ropar

Submitted by:-

Name : Sahil Saini

Roll No. 6708 This is certified that this work entitled *Study on common Plants and basic principles of identification* is a bonafide record of work done by Sahil Saini, Roll No. 6708 of Department of Botany, Govt. College, Ropar under the supervision of Prof. Shikha and Prof. Pooja Verma during the session 2022-2023.

Objectives:

The main objective of this study is to document and understand the diverse avian species present in a specific geographical area. The study aims to identify and observe common birds, their behavior, habitats, and distribution patterns. By conducting this study, we seek to promote birdwatching as a recreational and educational activity and raise awareness about the importance of bird conservation for maintaining ecological balance.

Basic Principles of Identification of Birds:

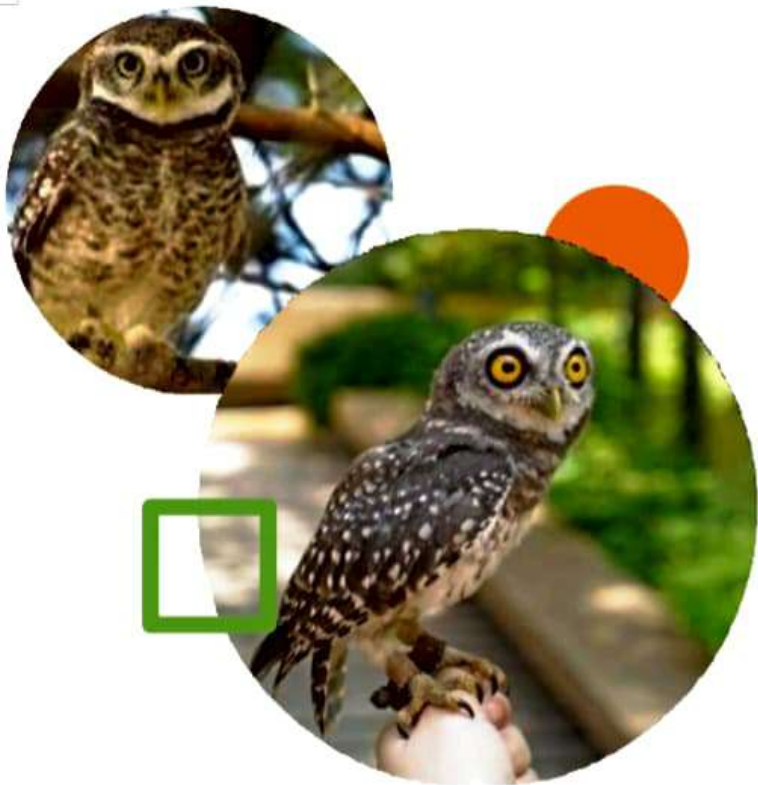
- 1. Visual Characteristics:** The identification of birds primarily relies on visual characteristics such as size, shape, color patterns, and markings. Observing the overall appearance of the bird, including its bill, wings, tail, and legs, helps in narrowing down the potential species.
- 2. Field Guides and Resources:** Utilizing field guides, bird books, or mobile applications dedicated to bird identification can be immensely helpful. These resources provide detailed descriptions, illustrations, and distribution maps, aiding in accurate bird identification.
- 3. Habitat and Behavior:** Paying attention to the bird's habitat and behavior can offer valuable clues for identification. Different bird species have specific preferences for nesting, feeding, and migration patterns, which can aid in narrowing down the possibilities.
- 4. Vocalizations:** Bird calls and songs are unique to each species and serve as essential cues for identification. Learning to recognize the distinct vocalizations of common birds can be a significant aspect of birdwatching.
- 5. Note-taking and Record-keeping:** Maintaining field notes and records of the birds observed during the study helps in tracking patterns, identifying new species, and comparing data over time. Detailed observations may include location, date, time, weather conditions, and behavior of the birds.

By applying these basic principles of bird identification and conducting a thorough study of common birds, birdwatchers, and conservationists can contribute to the understanding and protection of avian biodiversity in a given region.

Crested Serpent Eagle (*Spilornis cheela*)

Crested Serpent Eagles are dark from above with a lighter brown underside. They have white spots and streaks on their wing coverts and scapulars and the underside of their flight feathers is black with broad white bands. The nape of neck and the crown are black, while the crest is brown and barred with white.





Spotted Owlet (*Athene brama*)

The **Spotted Owlet** is a small owl with a round head, yellow eyes and prominent white eyebrows. It is also known as the Spotted Little Owl. The sides of the face are dark, contrasting with white rear edges. The cere is dusky green or greenish brown, the bill being greenish-horn, but sometimes darker, and sometimes more yellow on the upper ridge. The crown, sides of the head, and upperparts are earth-brown to greyish or rufescent, marked with small white spots.

Alexandrine Parakeet (*Psittaculaeupatria*)

- The **Alexandrine Parakeets** have a large head and bill, a sleek body and a long tapered tail. The male has a general green plumage with some grayish-blue on the cheeks and a dark purple-red patch on the wing. There is a faint black stripe from the cere to the eye, a black stripe across the lower cheek, and a wide rose-pink collar.





House Crow (*Corvus splendens*)

- The house crow (*Corvus splendens*) has black plumage that appears glossy with a metallic greenish-blue-purple sheen on the forehead, crown, throat, back, wings and tail (Madge and Burn 1994). In contrast, the nape, neck and lower breast are not glossy and are paler grey tones. The bill is black and the upper beak is strongly curved.

Grey Wagtail (*Motacillacinerea*)

- The face is a mid grey shade with a white stripe above the eye and a white moustache over a black chin and throat. The underparts are yellow with the undertail coverts being bright yellow and the flanks a pale yellowy white. The underwing feathers are grey. The bill is black, eyes are brown with a white eye ring and the legs a pinky flesh colour.



White-throated Kingfisher (*Halcyon smyrnensis*)

- White-throated kingfishers have thick, reddish-orange bills, red legs, and dark chocolate-colored heads, bellies, and shoulders. A brilliant white patch can be found on the throat and sometimes the breast. The wings and tail are bright blue with white patches on the primaries and black distal tips.





Red-wattled Lapwing (*Vanellus indicus*)

- The Red Wattled Lapwing is a striking bird with a long and pointed yellow beak, a chestnut-brown head, neck, and underparts, a black crown, nape, and back, and white wing-spots. They have distinctive red wattles above each eye that hang down in front of their beaks, giving them their name.



Indian Black Ibis (*Pseudibis papillosa*)

- This bird is also called Red-naped ibis or black ibis and its scientific name is *Pseudibis papillosa*. We can recognize this bird with the crimson red patch on the head and a white patch on the shoulder, though, young Black ibis birds don't have a crimson color patch on the head.



Intermediate Egret (*Ardea intermedia*)

- The non-breeding colours are similar, but the Intermediate is smaller, with neck length a little less than body length, a slightly domed head, and a shorter, thicker bill. The Great Egret has a noticeable kink near the middle of its neck, and the top of its longer bill nearly aligns with the flat top of its head.



Common Koel (*Eudynamys scolopaceus*)



- It forms a superspecies with the closely related black-billed koels, and Pacific koels which are sometimes treated as subspecies. The Asian koel like many of its related cuckoo kin is a brood parasite that lays its eggs in the nests of crows and other hosts, who raise its young. They are unusual among the cuckoos in being largely frugivorous as adults. The name *koel* is echoic in origin with several language variants.

Rock Dove (*Columbalivia*)

- The white lower back of the pure Rock dove is its best identification characteristic; the two black bars on its pale grey wings are also distinctive. The tail has a black band on the end, and the outer web of the tail feathers are margined with white.



House Sparrow (*Passer domesticus*)



- The House Sparrow is a stout, stocky sparrow, with shorter legs and a thicker bill than indigenous American sparrows. Members of both sexes are brown backed with black streaks throughout this area. Its underside is pale buff. Males have white cheeks and a black bib, while females do not.

Outcomes:

- **Increased Awareness:** The study of common birds raises awareness among individuals about the rich Avian diversity in their local area. People become more appreciative of the birds around them and the need for their conservation.
- **Ecological Understanding:** By documenting bird species and their habitats, researchers gain valuable insights into the ecological balance of the region. This knowledge helps in understanding the interdependencies between bird populations and their ecosystems.
- **Educational Value:** The study serves as an educational tool, encouraging students and the public to learn about birdwatching, identification techniques, and the significance of bird conservation.
- **Conservation Efforts:** Understanding common bird species and their distribution helps in formulating effective conservation strategies. The data collected can aid in identifying critical habitats and designating protected areas for bird populations.
- **Biodiversity Monitoring:** Regular bird monitoring allows researchers to track changes in bird populations over time, providing important indicators of broader ecosystem health and climate change impacts.

- **Birdwatching Tourism:** The study of common birds can promote birdwatching tourism, attracting nature enthusiasts and generating economic benefits for local communities.
- **Community Engagement:** Birdwatching activities and workshops foster community engagement, encouraging people to connect with nature and appreciate its beauty and importance.
- **Personal Enjoyment:** Birdwatching is a fulfilling and relaxing hobby that provides individuals with an opportunity to reconnect with nature and find joy in observing birds' behaviors and interactions.

Government College, Ropar

A

PROJECT REPORT

ON

WATER POLLUTION

Submitted to

Lovleen Verma

Submitted by

Name – ASWANI

Roll No. 5483

This is certified that this work entitled **Soil Pollution** is a bonafide recor of work done by **Nilesh Kumar**, Roll No. **5483** Department of Commerce , Govt. College, Ropar under the supervision of Lovleen during the session 2022-2023.

Field Visit Report on Soil Pollution in Ropar

A field visit was conducted to assess the soil pollution in the Rupnagar region. The purpose of the visit was to identify potential sources of contamination, assess the extent of soil pollution, and propose possible remediation measures.

Location:

The study area covered various locations in Rupnagar, including industrial areas, agricultural lands, residential neighborhoods, and waste disposal sites.

Objectives:

1. Identify potential sources of soil pollution, such as industrial activities, agricultural practices, and waste disposal.
2. Evaluate the level of soil contamination through soil sampling and laboratory analysis.
3. Assess the impact of soil pollution on local ecosystems and human health.
4. Recommend suitable remediation strategies to mitigate soil pollution.

Introduction:

Soil pollution refers to the contamination of the natural soil environment with harmful substances, chemicals, or pollutants that adversely affect its quality, fertility, and overall health. These pollutants can come from various sources, including industrial activities, agricultural practices, improper waste disposal, and the use of hazardous chemicals. Soil pollution can lead to degradation of soil structure, reduction in nutrient content, and the accumulation of toxic substances, posing serious threats to plant, animal, and human life, as well as to ecosystems as a whole.

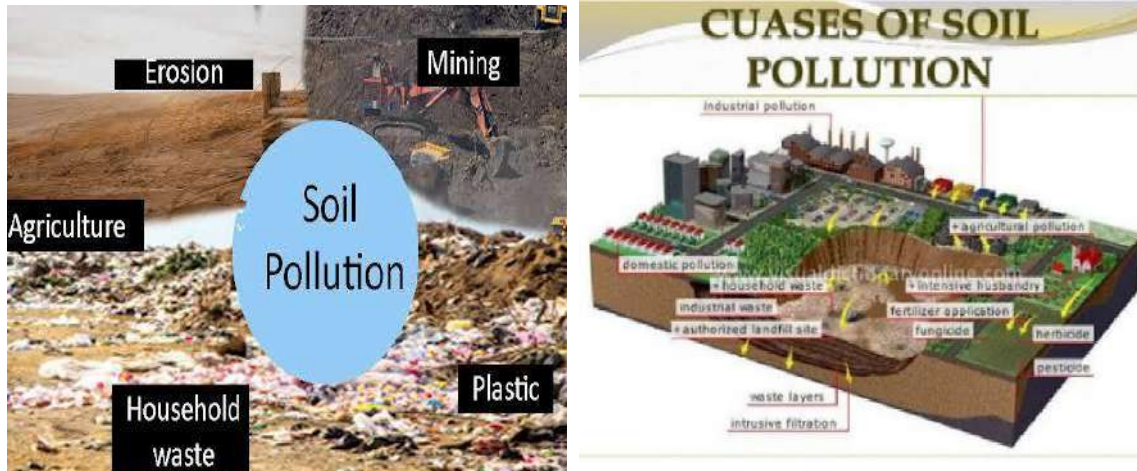
Causes:

Soil pollution is caused by a variety of human activities and natural processes that introduce harmful substances into the soil. Some common causes of soil pollution include:

1. **Industrial Activities:** Discharge of industrial wastes, chemicals, heavy metals, and toxins into the soil from factories and manufacturing processes contribute to soil pollution.
2. **Agricultural Practices:** The excessive use of chemical fertilizers, pesticides, and herbicides can lead to the buildup of harmful substances in the soil. Improper irrigation and irrigation runoff can also contribute to soil pollution.

3. **Improper Waste Disposal:** Incorrect disposal of solid and hazardous waste, including plastic, electronics, and other non-biodegradable materials, can contaminate the soil with pollutants.
4. **Mining Activities:** Mining operations release heavy metals and chemicals into the soil, causing soil pollution in the surrounding areas.
5. **Urbanization and Construction:** Construction activities introduce pollutants such as cement, chemicals, and debris into the soil, disrupting its natural composition.
6. **Contaminated Water Sources:** Water contaminated with pollutants can seep into the soil, leading to soil pollution. Contaminated groundwater can also affect soil quality.
7. **Oil Spills:** Accidental oil spills, whether on land or water, can result in the contamination of soil in the affected areas.
8. **Deforestation:** Removal of vegetation through deforestation reduces the natural protection of the soil, making it vulnerable to erosion and pollution.
9. **Agricultural Runoff:** Rainwater carrying pollutants from agricultural fields can lead to soil contamination when it seeps into the ground.
10. **Biological Factors:** Activities of microorganisms and fungi can release toxins into the soil, contributing to soil pollution.
11. **Radioactive Substances:** Improper disposal of radioactive waste or nuclear accidents can introduce radioactive materials into the soil, causing soil pollution.
12. **Household Waste:** Improper disposal of household waste, including chemicals, pharmaceuticals, and cleaning agents, can lead to soil pollution.

Addressing soil pollution requires adopting sustainable agricultural practices, proper waste management, and the responsible use of chemicals and industrial processes. Preventing soil pollution is crucial for maintaining the health of ecosystems, ensuring food safety, and preserving the quality of our natural resources.



Observations:

Waste Disposal Sites:

Unregulated dumping sites were identified, where household and other waste was disposed of improperly, posing a significant risk of contaminating the soil .



Improper garbage disposal poses significant environmental and health risks. It can lead to pollution of land, waterways, and air, endangering animal life and human well-being.

Industrial Areas:

Several industrial units were observed in the region, including factories, manufacturing plants, and chemical processing units. These establishments potentially contribute to soil pollution through improper waste disposal and industrial emissions.



Agricultural Lands:

Large-scale agricultural practices, including the use of fertilizers, pesticides, and herbicides, were noticed in the area. These activities may lead to soil contamination and nutrient imbalances. Additionally, the problem of stubble burning was observed during the field visit, which contributes to air pollution and affects the soil quality.





Cutting of Tress:

Cutting trees (deforestation) worsens soil pollution. Trees prevent erosion, bind soil, and enrich it with organic matter. Without them, soil erosion, runoff, and sediment transport increase, spreading pollutants. Soil fertility, stability, and water quality are compromised. Reforestation and conservation practices are essential to counter these effects.



Soil pollution has various detrimental effects:

1. Reduced Soil Fertility: Pollutants disrupt nutrient balance, affecting plant growth and crop yield.

2. Contaminated Water: Pollutants leach into groundwater, affecting water quality and human health.
3. Ecosystem Harm: Soil pollution harms soil-dwelling organisms and disrupts ecosystems.
4. Health Risks: Pollutants in crops can enter the food chain, posing health risks to humans and animals.
5. Soil Erosion: Pollution weakens soil structure, contributing to erosion and land degradation.
6. Biodiversity Loss: Soil contamination can lead to loss of plant species and microorganisms.



Recommendations:

1. Implement Strict Industrial Regulations:

Enforce stringent regulations on industrial waste management and emissions to minimize the release of harmful pollutants into the soil.

2. Promote Sustainable Agricultural Practices:

Encourage farmers to adopt organic farming methods, reduce the use of chemical inputs, and promote crop rotation to enhance soil health. Address the issue of stubble burning by

promoting alternative methods of crop residue management, such as mulching or incorporation into the soil.

3. Establish Proper Waste Management:

Create waste disposal facilities with adequate monitoring and encourage recycling to reduce the improper disposal of waste.

4. Conduct Public Awareness Programs:

Raise awareness among the local community about the dangers of soil pollution, the impact of stubble burning, and the importance of responsible waste management.

Outcomes :

Studying soil pollution yields important outcomes:

1. Awareness: Understanding pollution's causes, sources, and impacts raises awareness about environmental risks.
2. Solutions: Research identifies effective mitigation and remediation strategies.
3. Policy Impact: Findings inform policies and regulations for sustainable land use and pollution control.
4. Agricultural Practices: Insights guide responsible pesticide and fertilizer use, safeguarding soil health.
5. Health Protection: Knowledge of pollutant pathways aids in protecting food safety and human health.
6. Conservation: Research supports efforts to preserve soil biodiversity and prevent ecosystem degradation.

Such outcomes help shape informed decisions, driving efforts to combat soil pollution and promote environmental sustainability.

ZOOLOGY FIELD REPORTS



**OFFICE OF THE
PRINCIPAL GOVERNMENT COLLEGE RUPNAGAR**
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No. 1547

Date 23/06/23

LIST OF B.SC. 1ST YEAR STUDENTS UNDERTAKING FIELD WORK/SURVEY (2022-2023)

Sr. No.	Roll No	Name	Title of Field report
1	6503	Amarjeet Kaur	Visit to Chatbir Zoological Park
2	6504	Anita Bangar	Visit to Chatbir Zoological Park
3	6505	Bhagya Shree	Visit to Chatbir Zoological Park
4	6509	Harmanpreet Kaur	Visit to Chatbir Zoological Park
5	6513	Jasveen Kaur	Visit to Chatbir Zoological Park
6	6514	Jatin Verma	Visit to Chatbir Zoological Park
7	6522	Neha Devi	Visit to Chatbir Zoological Park
8	6529	Riya	Visit to Chatbir Zoological Park
9	6531	Simran Kaur	Visit to Chatbir Zoological Park
10	6532	Suman Rani	Visit to Chatbir Zoological Park
11	6536	Ramanpreet Kaur	Visit to Chatbir Zoological Park
12	6549	Sanjana	Visit to Chatbir Zoological Park
13	6544	Gurpreet Kaur	Visit to Chatbir Zoological Park

Head

Department of Zoology

Govt. College, Ropar

Jatinder Singh
Principal

Govt. College, Ropar

Principal
Govt. College, ROPAR



Government College, Ropar



A
FIELD REPORT
ON
CHATBIR ZOOLOGICAL PARK

Submitted to

Prof. Surinder Singh

Submitted by

Name – Jatin Verma

Roll No. - 6514

This is certified that this work entitled Visit to Chatbir Zoological Park is a bonafide recor of work done by Jatin Verma Roll No. **6514** , Department of Zoology , Govt. College, Ropar under the supervision of Prof. Surinder Singh during the session 2022-2023.

Field Visit Report: Chatbir Zoological Park, Zirakpur

On 22nd November 2022, a group of 45 B.Sc Medical students from Government College Ropar embarked on an educational field visit to Chatbir Zoological Park in Zirakpur. Under the esteemed guidance of Principal Jatinder Gill and the able supervision of Prof. Shikha Chaudhary, Surinder Singh, and Pooja Verma, the students set out on an exciting journey to explore the wonders of the animal kingdom.

Objectives :

1. Educational experience outside the classroom.
2. Study and appreciation of biodiversity.
3. Observation of animal behavior in a semi-natural habitat.
4. Creating awareness about wildlife conservation.
5. Interacting with experts in the field.
6. Applying theoretical knowledge practically.
7. Stimulating curiosity and interest in zoology.
8. Promoting ethical considerations in animal care.
9. Personal development and fostering empathy towards wildlife.



Overview of Chatbir Zoological Park

Chatbir Zoological Park, also known as Mahendra Chaudhary Zoological Park, is a prominent zoological park located in Zirakpur, Punjab, India. Established in 1977, the park is named after the Maharaja Mahendra Chaudhary Zoological Park Society. It spans an area of approximately 505 acres and is dedicated to wildlife conservation, education, and research.

The park's primary focus is on housing and preserving native and endangered species of animals, birds, and reptiles from India and other parts of the world. It serves as an important center for breeding and rehabilitation of endangered species, contributing to their conservation efforts.

Visitors to Chatbir Zoological Park can explore various enclosures and exhibits that offer a glimpse into the natural habitats of the animals. The park is well-known for its diverse collection of wildlife, including big cats like the Asiatic Lion and Bengal Tiger, as well as other fascinating creatures like Indian Leopards, Indian Elephants, and Indian Rhinoceroses.

Apart from the large carnivores and herbivores, Chatbir Zoological Park also houses a variety of bird species like the Indian Peafowl, Great Indian Hornbill, and White Pelican. Reptile enthusiasts can find snakes like the Indian Python and Indian Cobra, along with other reptilian species.

In addition to being a popular destination for local and national tourists, the park plays a crucial role in educating the public about wildlife conservation and environmental protection. It offers educational programs and awareness campaigns to promote the importance of safeguarding our natural heritage and preserving biodiversity.

Chatbir Zoological Park's commitment to wildlife conservation and its impressive collection of animals make it a significant destination for nature lovers and wildlife enthusiasts in the region.



Observations:

During visit to Chatbir Zoological Park, observed the following:

1. **Animal Enclosures:** The zoo has well-designed enclosures that closely mimic the natural habitats of the animals, providing ample space for them to roam and exhibit their natural behaviors.
2. **Diverse Wildlife:** The zoo boasts an impressive collection of animals, including lions, tigers, elephants, bears, deer, and various bird species. It was heartening to witness the rich biodiversity present at the park.
3. **Educational Signage:** Throughout the zoo, there are informative boards detailing facts about the animals, their habitats, and conservation efforts, making it an excellent place for visitors to learn about wildlife.
4. **Visitor Amenities:** Chatbir Zoological Park offers a range of facilities for visitors, such as restrooms, food courts, and shaded areas, ensuring a comfortable and enjoyable experience for everyone.

Description of Animals:

Zoological Park in Zirakpur houses a diverse range of animal species.

Bengal Tiger (*Panthera tigris tigris*):

The Bengal Tiger is India's national animal and one of the most recognized symbols of the country.

It is the largest subspecies of tiger and has a striking coat with orange to reddish-orange fur covered in dark black stripes.

Tigers are solitary animals, marking and defending their territories. They are powerful predators, capable of taking down large prey such as deer, wild boar, and even gaur (Indian bison).



Bengal Tiger

Asiatic Lion (*Panthera leo persica*):

The Asiatic Lion is a subspecies of lion native to the Indian subcontinent.

It is slightly smaller than its African counterparts but shares the same regal appearance.

Males have a prominent mane that varies in color from light to dark, while females have a more compact appearance.

Asiatic Lions are social animals, often forming prides consisting of related females and their offspring. They are skilled hunters and mainly feed on herbivores like deer and wild boar



Asiatic Lion

Indian Elephant (*Elephas maximus indicus*):

The Indian Elephant is one of the largest land mammals in the world and holds immense cultural and religious significance in India.

It has long, curved tusks and large ears.

Indian Elephants are highly social animals and often live in matriarchal herds led by a dominant female.

They are herbivores, feeding on a variety of vegetation, including grasses, leaves, fruits, and roots.



Indian Elephant

White Pelican (*Pelecanus onocrotalus*):

The White Pelican is a large waterbird found in various parts of the world, including India.

It has a distinctive white plumage and a long, broad bill. White pelicans are excellent swimmers and feed on fish, scooping them up in their expandable throat pouch.

They often nest in colonies near freshwater lakes and marshes.



White Pelican

Python (*Python molurus*):

The Indian Python is a non-venomous constrictor snake and one of the largest snake species in the world.

It has a muscular body with a distinctive pattern of brown blotches on a lighter background.

Pythons ambush their prey, which can include small to medium-sized mammals and birds, and constrict them before swallowing them whole.



Python

White Peacock (Species: *Pavo cristatus*):

The White Peacock is a color variant of the Indian Peafowl (peacock) with a genetic condition called leucism, which results in the absence of pigmentation in its feathers.

As a result, it has white plumage with a slight iridescence and lacks the colorful train feathers found in the male Indian Peafowl.

White Peacocks are just as captivating as their colorful counterparts and are a sight to behold.



White peacock

Ostrich (Species: *Struthio camelus*):

The Ostrich is the largest living bird and is native to Africa.

It is flightless and has long legs, which make it the fastest running bird on land.

Ostriches have a unique appearance with a long neck and a large body covered in soft feathers.

They are omnivores, feeding on a variety of plant material, insects, and small animals.



Ostrich

Indian Rhinoceros (*Rhinoceros unicornis*):

As mentioned earlier, the Indian Rhinoceros, also known as the Greater One-Horned Rhinoceros, is a massive herbivore found in the grasslands and swamps of northern India and Nepal.

They have a single horn and thick, armor-like skin.

Indian Rhinos are primarily grazers, feeding on grasses and aquatic plants.



Indian Rhinoceros

Kangaroo:

Kangaroos are marsupials native to Australia and nearby islands.

They are well-known for their powerful hind legs and large tail, which they use for balance and propulsion.

Kangaroos are herbivorous and primarily feed on grasses and shrubs.

Female kangaroos carry their young in a pouch until they are fully developed.



Kangaroo

Chital (*Axis axis*):

Also known as the Spotted Deer, Chital is a common and easily recognizable deer species found in India and Sri Lanka.

They have a reddish-brown coat covered in white spots, which provides excellent camouflage.

Chitals are herbivorous and feed on a variety of plants, including grasses, leaves, and fruits.



Spotted Deer

Outcomes:

1. Enhanced Knowledge: The visit provided hands-on learning experiences, deepening the students' understanding of various animal species and their behavior.
2. Awe for Biodiversity: Witnessing the diverse range of animal species instilled a sense of wonder and appreciation for the rich biodiversity present in the zoological park.
3. Conservation Awareness: Interacting with experts and understanding animal care efforts raised awareness about the importance of wildlife conservation and protecting endangered species.
4. Ethical Perspective: Observing the animal's living conditions highlighted the importance of ethical considerations in ensuring their well-being and comfort.
5. Sparked Curiosity: The visit ignited curiosity and enthusiasm for zoology, inspiring students to explore further opportunities in the field of wildlife research and conservation.

6. Empathy Towards Wildlife: Interacting with animals fostered empathy and a deeper connection with nature, encouraging a sense of responsibility towards wildlife conservation.
7. Application of Knowledge: applied theoretical concepts learned in classrooms to real-world scenarios, honing their critical thinking and problem-solving skills.
8. Valuable Exposure: Witnessing conservation efforts underscored the significance of initiatives aimed at preserving biodiversity and protecting endangered species.

A
REPORT
ON

MAHENDRA CHAUDHARY ZOOLOGICAL PARK

Submitted to

Prof. Surinder Singh,
Government College, Ropar

Submitted by

Name *Bhagya Shree*
Roll No. *6505 / 106792*

This is certified that this work entitled **MAHENDRA CHAUDHARY ZOOLOGICAL PARK** is a bonafide record of work done by *Bhagya Shree* Roll No. *6505/106792* of Department of **ZOOLOGY**, Govt. College, Ropar under supervision of **Prof. SURINDER SINGH** during the session 2022-2023.

Surinder Singh

TOPIC _____

DATE _____

Objective

The key objectives of zoos are to display the animals to the public, study their behaviour and breed the endangered species for increasing their number. Special enclosures are developed for reptiles, birds, fishes and other aquatic terrestrial and desert life forms are kept in aquaria and aquatic, terrestrial and desert life forms are kept in aquaria and water bodies.

Visitors are asked to the zoo by adhering strictly to the regulations outlined by the zoo authorities.

It provide unforgettable visitor experience. Inspire them to support and contribute to the cause of conservation of wildlife, habitat and water.

Provide opportunities for passive recreation.

TOPIC _____

DATE _____

Acknowledgement

With Man it is impossible, but with God all things are possible.

Above all, I thank the almighty God for making me whatever I am today. All those ideas, with which I am occupied today, all are just because of you God. Thank you for blessing me with enough of ability to express my words as required.

I too thank my teachers and prof. of zoology Dept. for the completion of the report. Because of their valuable, thinking and constructive criticism, new thoughts and great ideas helped me during completion of this report.

I wish to thank my loving parents to support me today and always.

Bhagya Shree



TOPIC _____

DATE _____

Introduction

Mahendra Choudary Zoological park, also known by the name of Chattbir Zoo, is a zoo in Zirakpur, Chandigarh [Punjab].

It is geographically situated in Northern India. This park is a habitat for a vast variety of mammals, birds and reptiles.

It has an area of around 200 acres.

The main highlight of this park is Royal Bengal Tiger. This was constructed in the year 1970 and was opened for the public in 1977.

It has 369 mammals, 400 birds and 20 reptiles.

You can click the beautiful photos of these animals and also observe their activities.

There is a special Dinosaur park where kids can enjoy.

→ I see different animals in this park

→ I explain few animals →



TOPIC

DATE

1. Chameleon

Classification! - Kingdom! - Animalia
Phylum! - Chordata
Class! - Reptilia
Order! - Squamata
Family! - Chamaeloniidae
Genus! - Chamaeleo
Species! - Chamaeleo chamaeleon

Features! - The body is laterally compressed, the tail is sometimes curled, and the bulge eyes move independently of one another. Also some chameleons possess helmet-shaped heads. Some species have conspicuous head ornamentation that may include as many as three long horns projecting forward. Chameleons mostly live in the rainforest and deserts of Africa. Colour of skin help them blend their habitats.



TOPIC _____

DATE _____

2. Naja - Naja

- Classification :-
- Kingdom :- Animalia
 - Phylum :- Chordata
 - Sub phylum :- Vertebrata
 - Class :- Saurpterygia / Reptilia
 - Order :- Squamata
 - Family :- Elapidae
 - Genus :- Naja
 - Species :- Naja - Naja

Features :- Naja - Naja is Indian cobra or Nag. Body measures 2 to 3 metres in length and is wheatish (gehuwa) in colour. During hibernation the colour becomes golden but on exposure to light it changes to brown mouth, eyes and nostrils. Cobra is diurnal, shy, living in holes, under stones, mud walls and in thick vegetation. It is oviparous, carnivorous and feed frogs, rats, lizards and other snakes.



TOPIC _____

DATE _____

3. DRAGON

Classification :-
Kingdom :- Animalia
Phylum :- Chordata
Class :- Reptilia
Order :- Squamata
Family :- Varanidae
Genus :- Varanus
Sub genus :- Varanus
Species :- V. komodoensis

Features :- A dragon is usually represented as a huge, bat-winged, fire-breathing, scaly lizard or snake with a barbed tail. The belief in these creatures apparently arose without the slightest knowledge on the part of the ancients of dinosaurs, which have some resemblance to dragons. It is usually solitary, however, once they find a mate, they mate for life.



TOPIC

DATE

4. DRAGON SKELETON

Developed on a public - private partnership model, the park houses read - size, interactive robotic models of dinosaurs.

They have intelligence that is genius level, if not surpassing it, however, due to them being extremely, violently protective of their hoards, mates, and young, they are considered beasts. Dragons are usually solitary, however once they find a mate, they mate for life.

In Mahendra Chaudary zoological park have skeleton of dragon. Oracle bones, also shell on bone used in ancient chinese divination. Their skeletons despite being hollow and light are very strong.



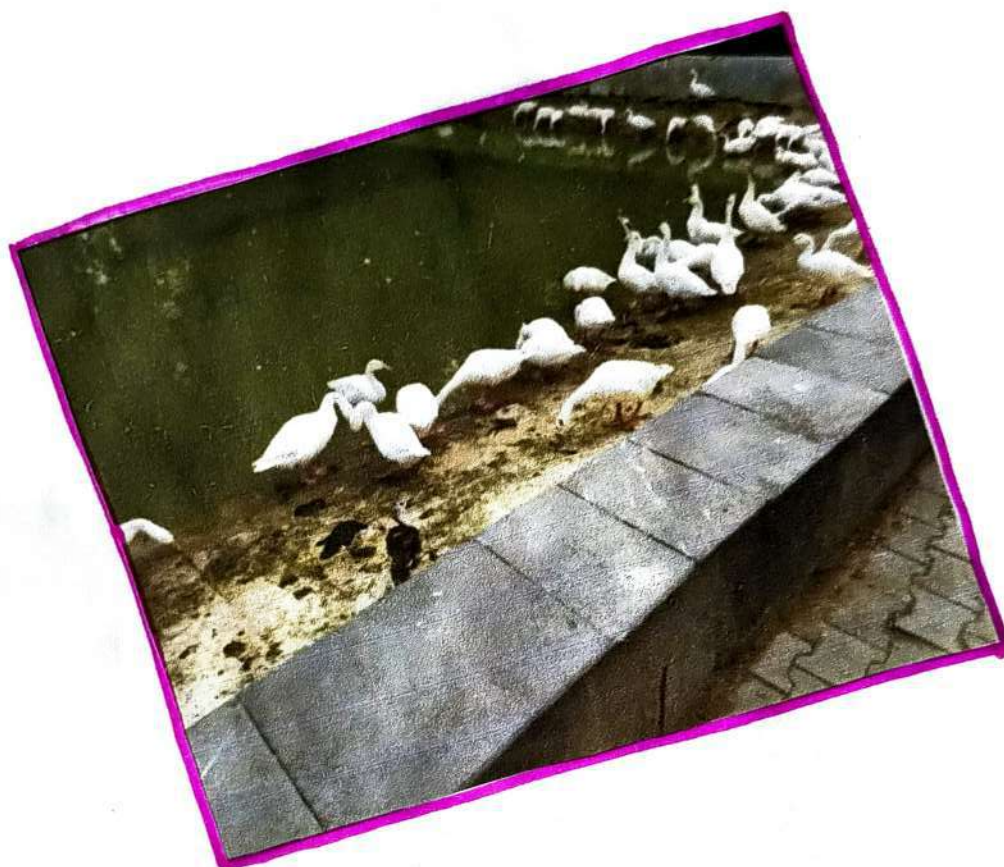
TOPIC

DATE

5. CROCODILE

Classification :- Kingdom :- Animalia
Phylum :- Chordata
Class :- Reptilia
Order :- Crocodylia
Family :- Crocodylidae
Genus :- Crocodylus
Scientific Name :- Crocodylus acutus

Features :- Crocodiles have powerful jaws with many conical teeth and short legs with clawed webbed toes. They show a unique body form that allows the eyes, ears, and nostrils to be above the water surface while most of the animal is hidden below. The tail is long and massive, and the skin is thick and plated. The limit of age is 1-2 years. It is carnivore in nature.



TOPIC _____

DATE _____

6. DUCK

Classification:-
Kingdom:- Animalia
Phylum:- Chordata
Class:- Aves
Order:- Anseriformes
Superfamily:- Anatoidea
Family:- Anatidae

Features:- All types of ducks have waterproof feathers. A unique system of blood vessels keeps their feet warm in icy weather. Not all ducks make a quacking sound. These birds can turn their heads backward to clean, or preen, their feathers. Male ducks have more colourful feathers than females. Most duck eggs hatch within 28 days. Ducklings can fly within 5-8 weeks of hatching. Duck waddle because of webbed feet.



TOPIC

DATE

7. PEACOCK

Classification :- Kingdom!- Animalia
 Phylum!- Chordata
 Class!- Aves
 Order!- Galliformes
 Family!- Phasianidae
 Subfamily!- Phasianinae
 Tribe!- Pavonini.

Features!- The peacock is brightly coloured, with a predominantly blue fan-like crest of spatula-tipped wire-like feathers and is best known for the long train made up of elongated upper tail covert feathers which bear coloured eyespots. These stiff feathers are raised into a fan and quivered in a display during courtship. Very important in Hinduism also because this feather was very dear to Lord Shri Krishna.



TOPIC

DATE

9. Monkey

- Classification:-
- Kingdom:- Animalia
 - Phylum:- Chordata
 - Class:- Mammalia
 - Order:- Primates
 - Suborder:- Haplorhini
 - Infraorder:- Simiiformes

Features:- Monkey live in trees, grasslands, mountains, forests, and on high plains. A group of monkeys is called a troop. Most primates share six basic features:- forward-facing eyes, eye sockets, grasping hands, nails, fingerprints, and large brains. Monkeys are most easily distinguished from apes by their tails. Most species are arboreal, using all four limbs to leap from tree to tree. They can sit upright and stand erect. Most species run along branches rather than swinging arm over arm like the apes.



TOPIC _____

DATE _____

10. Elephant

Classification :- Kingdom :- Animalia
Phylum :- Chordata
Class :- Mammalia
Order :- Proboscidea
Superfamily :- Elephantoidea
Family :- Elephantidae

Features :- They are the world's largest land animal. You can tell the three species apart by their ears. Their trunks have mad skills. Their tusks are actually teeth. They have got thick skin. Elephants are constantly eating. They communicate through vibrations. It have distinctly massive bodies, large ears, and trunks. They use their trunks to pick up objects, trumpet warnings, greet other elephant; or suck up water for drinking or bathing, among other uses.



TOPIC

DATE _____

11. Tiger

Classification :- Kingdom :- Animalia
Phylum :- Chordata
Class :- Mammalia
Order :- Carnivora
Suborder :- Feliformia
Genus :- Panthera
Family :- Felidae
Species :- P. tigris
Binomial name :- Panthera tigris

Features :- Tigers have reddish-orange coats with prominent black stripes, white spots on their ears. Like human fingerprint, no two tigers have the exact same markings. Because of this; researchers can use stripe patterns to identify different individuals when studying tigers.

OBJECTIVE

The key objectives of zoos are to display the animals to the public, study their behaviour and breed the endangered species for increasing their number. Special enclosures are developed for reptiles, birds, fishes and other aquatic, terrestrial and desert life forms are kept in aquaria and water bodies.

Visitors are asked to visit the zoo by adhering strictly to the regulations outlined by the zoo authorities.

It provide unforgettable visitor experience.
 Inspire them to support and contribute to the cause of conservation of wildlife, habitat and water.
 Provide opportunities of passive recreation.

A REPORT ON

MAHENDRA CHAUDHARY ZOOLOGICAL PARK

Submitted to

Prof. Surinder Singh

Government College, Ropar

Submitted by

Name ANITA BANGAR

Roll No. 6504/106797

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1.

Topic PEACOCK

Date

Classification:-

Scientific Name:-

Kingdom : ANIMALIA

PAVOCRISTATUS

Phylum : CHORDATA

Class : AVES

Order : GALLIFORMES

Family : PHASIANIDAE

Genus : PAVO



The most interesting fact about the Peacock is the colourfull feathers of this pheasant family. The main body of the peacock is bluish green in colour. The peacock is found in many locations including Burma, India and Sri Lanka region. They tend to live in location that offer them access to low bushes and plants. The colourfull tail of the peacock is fanned out to be show dominance and for purpose of attracting a mate. They live in groups. Peacock feeds on a variety of food items. Grain is one of most common items that they eat. They consume whatever they gain access to. In the wild they can live for upto 20 years. Indian peacock is the NATIONAL BIRD OF INDIA.





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2) Topic NAJA-NAJA (Indian cobra)

Scientific Classification-

Kingdom : ANIMALIA
Phylum : CHORDATA
Class : REPTILIA
Order : SQUAMATA
Family : ELAPIDAE
Genus : NAJA
Species : NAJA NAJA



The Indian Cobra also known as this Spectacled Cobra, Asian Cobra or Binocellate Cobra is a species of the genus Naja found in Indian Subcontinent. The Indian Cobra varies tremendously in colour and pattern throughout its range. The Indian Cobra is moderately sized, heavy bodied species. This Cobra species can easily be identified by its relatively large and quite impressive hood, which expands when threatened. The majority of adult specimens range from 1 to 1.5 metres in length. The Indian Cobra inhabits a wide range of habitats. It can be found in dense or open forests, plains, agricultural land, rocky terrain, wetlands and are absent from desert Indian. Cobras are oviparous and lay their eggs between months of April & July. The Indian Cobra is greatly respected and feared in Hindu Mythology.

Topic DINOSAUR-(The Ancient Reptile)

Dinosaurs are a diverse group of animals of the clade Dinosauria. They first appeared during the Jurassic period, 237.4 million years ago and were dominant terrestrial vertebrates for 135 million years.

The dinosaurs were divided into two main types - one with a bird like pelvis and the other with reptilian pelvis. Dinosaurs survived for more than 70,000 years after the earth was hit by a massive meteorite originally believed to have caused their extinction.

Heaviest dinosaur: BRANCHIOSAURUS/BRONTOSAURUS

Smallest dinosaur: LESOTHO SAURUS

Smallest dinosaur egg: only 3cm long, species not discovered yet

Most brainy dinosaur: TRIDODON

Largest flesh eater: TYRANNOSAURUS

The dumbest dinosaur: STEGOSAURUS

Tallest dinosaur: BRACHIOSAURID

Oldest dinosaur: 230 million year old, found in Madagascar.



Topic Glass Snake / Lizard

Scientific Classification:

Kingdom : Animalia

Phylum : Chordata

Class : Reptilia

Order : Squamata

Family : Anguillidae

Genus : OPHISAURUS



The glass snake or glass lizards resembles snakes, but are actually lizards. Although most species have no legs, their head shapes, movable eyelids and external eye opening identify them as lizards. They are known as jointed snakes. They reach lengths of up to 4ft. (1.2m), but about 2/3 of this is the tail. Glass lizard feeds on insects, spiders, other small reptiles and young rodents. Their diets are limited by their inability to unhinge their jaws. Some glass lizards give birth to live young but mostly lay eggs. The greatest no. of species in the genus are native to Asia, from India to China and the Indonesian islands.



Scientific Classification

- Kingdom : ANIMALIA
- Phylum : CHORDATA
- Class : REPTILIA
- Order : SQUAMATA
- Family : CHAMAELEONIDAE

Chameleons OR Chamaeleons are a distinctive and highly specialised clade of old world lizards with 209 species described. These species come in range of colours, and many species have the ability to change colour. Chameleons are distinguished by their zygodactylous feet; their long, highly modified extendable tongues; their swaying gait, and crest or horns on their brow and snout. Chameleons' eyes are independently mobile, but in aiming at prey item they focus forward in coordination, affording the animal stereoscopic vision. They are adapted for climbing and visual hunting. They are found in warm habitats that range from rain forests to dry savannas. Chameleons change colour by changing the spacing between the guanine crystals, which changes the wavelength of light reflected off the crystals which changes the colour of the skin. These are mostly oviparous, with some living viviparous. Generally eats insects, but larger species may also take other lizards and young birds.

Topic PYTHON (Ajgar) Date _____

Scientific Classification:

- Kingdom - Animalia
- Phylum - Chordata
- Class - Reptilia
- Order - Squamata
- Family - Pythonidae



The PYTHONIDAE, commonly known as pythons, are family of non-venomous snakes found in Africa, Asia and Australia. Among its members are some of the largest snakes in the world. Many species have been hunted aggressively, which has decimated some, such as the Indian Python, PYTHON MOLURUS. Most members are ambush predators, in that they typically remain motionless in a camouflaged position, and then strike suddenly at passing prey. Pythons use their sharp, backward-curving teeth, to grasp prey which is then killed by constriction after an animal has been grasped to restrain it, the python quickly wraps a no. of coils around it. Death occurs primarily by asphyxiation. Females lay eggs. After they lay their eggs, females typically incubate them until they hatch.

Topic **OSTRICH (STRUTHIO CAMELUS)**

Scientific Classification:

Kingdom : Animalia

Phylum : Chordata

Class : Aves

Order : Struthioniformes

Family : Struthionidae

Genus : Struthio Camelus



The Ostrich or Common Ostrich is either one or two species of large flightless birds native to Africa. It is distinctive in its appearance, with a long neck and legs, and can run up to about 70 km/h; the fastest land speed of any birds. This ostrich is the largest living species of any bird and lays the largest eggs of any living bird. The ostrich's diet consists mainly of plant matter, though it also eats invertebrates. It lives in nomadic groups of 5 to 50 birds. They usually weigh from 68 to 145 kg. Ostriches normally spend the winter months in pairs or alone. They are diurnal with lacking teeth, they swallow pebbles, but mainly feeds on seeds, shrubs, grass, fruits and flowers. They are sexually matured at 2-4 year old, an individual may reproduce several times over its lifetime.

Topic **KANGAROO**

Date

Scientific Classification

Kingdom :- ANIMALIA

Phylum :- CHORDATA

Class :- MAMMALIA

Order :- DIPROTODONTIA

Family :- MACROPODIDAE

Genus :- MACROPUS



The kangaroo is a marsupial; endemic to Australia. A large male can be 2m tall and weigh 90kg. Kangaroos have large, powerful hind legs, large feet adapted for leaping, a long muscular tail for balance, small head. Like most marsupium in which female kangaroos have a pouch called marsupium in which joeys complete postnatal development. The kangaroo is an unofficial symbol of Australia and appears as an emblem on the Australian coat of arms. Wild kangaroos are shot for meat, leather hides and to protect grazing land, kangaroos are the only large animals to use hopping as a means of locomotion. Many species are nocturnal. Group of kangaroos are called mobs. Kangaroos have few natural predators. Kangaroos have developed adaptations to a dry, infertile land and highly variable climate. Fly disease is rare but not new among kangaroos.

Scientific Classification:

- Kingdom : ANIMALIA
- Phylum : CHORDATA
- Class : MAMMALIA
- Order : CARNIVORA
- Family : FELIDAE
- Genus : PANTHERA
- Species : PANTHERA LEO



The lion is one of the five biggest cats in the genus Panthera of the living fields the lion is second only to the tiger in length and weight, Lion colouration varies from light buff to yellowish, reddish or dark ochraceous brown. The underparts are generally lighter and the tail tuft is black. They show sexual dimorphism. The mane of adult male lion, unique among cats, is one of the most distinctive characteristics of species. The white lion is not a distinctive subspecies, but a special morph with a genetic condition leucism, that causes paler colouration. Lions spend much of their time resting & are inactive for about 20 hours per days. Lion is a predatory carnivore. Lionesses do most of hunting. They are most effective hunters. Her gestation period is around 110 days. Litter consists of 3-4 cubs. young cubs are vulnerable to predation by Hyenas, leopards and jackals.



Topic VIPERA (VIPER) Date _____Scientific Classification

- Kingdom : ANAMALIA
- Phylum : CHORDATA
- Class : REPTILIA
- Order : SQUAMATA
- Family : VIPERIDAE
- Genus : VIPERINAE



Vipera is a genus of venomous vipers. It has a very wide range, being found from North Africa to just within the Arctic circle and from Great Britain to Pacific Ocean. Members are usually cooler environments. These found usually small and more or less stocky built.

Most species prefer cooler environments. These found at lower altitudes tend to prefer higher altitudes & drier, rocky habitats, while the species occur at more northern latitudes prefer lower elevations and environments that have more vegetation and melting snow.

All species of vipers are terrestrial, viviparous giving birth to live young. Most viper species have venom that contains both neurotoxic and hemotoxic components.

Topic **IGUANA** Da

Scientific Classification

Kingdom : Animalia

Phylum : Chordata

Class : Reptilia

Order : Squamata

Suborder : Iguania

Family : Iguanidae

Genus : Iguana



Iguana, any of eight genera and regularly roughly 30 species of the larger members of the lizard family. The name iguana usually refers only to the members of the subfamily Iguaninae.

The best known species is the common or green, which occurs from Mexico southward to Brazil, males of this species reach a maximum length of over 2 metres and 6 kg. It is often seen basking in the sun on the branches of trees overhanging water, into which it will plunge if disturbed.

Scientific Classification
 Kingdom : Animalia
 Phylum : Chordata
 Class : Mammalia
 Order : Artiodactyla
 Family : Cervidae
 Genus : Axis
 Species : A. Axis

Chital are active throughout the day. In the summer time is spent in rest under shade, and the sun's glare is avoided if the temperature reaches 80°F, activity peaks as dusk approaches. As days grow cooler, foraging begins before sunrise and peaks by early morning. Activity slows during midday. A study in the Chitral National Park showed that Chital travel the most in summer of all seasons.



OUTCOME:

Conclusion :-

Birds and animals at a zoological park live in an environment that is similar to their natural habitat in many ways. The zoological park not only houses endangered species, but also assists them in reproducing in captivity. They may eventually be able to thrive in the wild again.

In addition to offering breeding programs, animals can undergo routine inspections for parasitic viral diseases, and cancer.

It is useful for researchers. Zoo may also play an essential part for researcher. In reality, several zoos provide habitats for exotic animals, no longer in the wild.

A
REPORT
ON

MAHENDRA CHAUDHARY ZOOLOGICAL PARK

Submitted to
Prof. Surinder Singh
Government College, Ropar

Submitted by
Name Jasveen
Roll No. 6513 / 106777

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WILDLIFE

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Wildlife traditionally refers to undomesticated animal species, but has come to include all plants, fungi and other organisms that grow or live wild in an area without being introduced by humans. Wildlife can be found in all ecosystems. Deserts, forests, rain-forests, plains, grasslands, and other areas including the most developed urban sites, all have distinct forms of wildlife. While the term in popular culture usually refers to animals that are untouched by human factors, most scientists agree that much wildlife is affected by human activities. Anthropologists believe that the stone age people and hunter-gatherers relied on wildlife both plant & animals, for their food. Many animals species have spiritual significance in different cultures around the world, and their products may be used as sacred objects in religious rituals. Many nations have established their tourism sector around their natural wildlife i.e., National Parks, sanctuaries, zoo etc. Wildlife has long been a common subject for educational television shows: National Geographic, Wild Kingdom, BBC natural history unit, Animal Planet. Wildlife television is now a multimillion-dollar industry with specialist documentary film-makers.



WILDLIFE

Wildlife traditionally refers to undomesticated animal species, but has come to include all plants, fungi and other organisms that grow or live wild in an area without being introduced by humans. Wildlife can be found in all ecosystems. Deserts, forests, rain-forests, plains, grasslands, and other areas including the most developed urban sites, all have distinct forms of wildlife. While the term in popular culture usually refers to animals that are untouched by human factors, most scientists agree that much wildlife is affected by human activities. Anthropologists believe that the stone age people and hunter-gatherers relied on wildlife both plant & animals, for their food. Many animals species have spiritual significance in different cultures around the world, any their and their products may be used as sacred objects in religious rituals. Many nations have established their tourism sector around their natural wildlife i.e, National Parks, sanctuaries, zoo etc. Wildlife has long been a common subject for educational television shows: National Geographic; Wild Kingdom, BBC natural history unit, Animal Planet. Wildlife television is now a multimillion-dollar industry with specialist documentary film-makers.

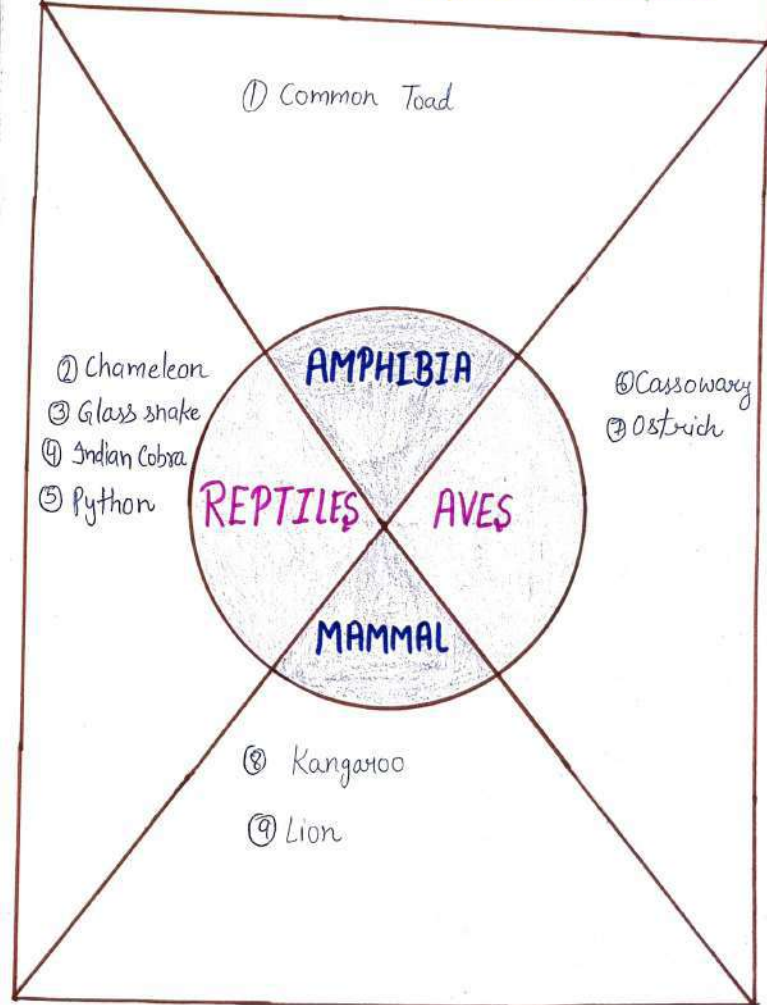


Phylum: Chordata

Section: Gnathostomata

Sub-Phylum: Vertebrata

Super Class: Tetrapoda



The Vertebrates With Dual-life

General Characters :-

- 1> They are the first cold-blooded vertebrates from evolution point of view which came to land.
- 2> They are amphibious in nature, i.e., can live both in water and land. Class amphibia includes about 3,000 species.
- 3> They are mostly found in warm countries.
- 4> They are ectothermic (cold-blooded).
- 5> Body is divisible into head and trunk. Tail may be present.
- 6> Paired fins are absent. Unpaired fins may be present.
- 7> Fertilization is external. They are mostly oviparous.
- 8> They return to water for breeding. Male lacks copulatory organs. The metamorphosis is usually present.
- 9> They occur in fresh water & moist land. They are not found in sea water, except a few.



1. BUFO-BUFO (Common Toad)

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Scientific Classification:

Kingdom : ANIMALIA

Phylum : CHORDATA

Class : AMPHIBIA

Order : ANURA

Family : BUFONIDAE

Genus : BUFO

Species : BUFO-BUFO



Quick facts:

Scientific Name : BUFO-BUFO

Life span : 10-12 YEARS (in WILD)

Higher classification : TOADS

Length : 15 cm (ADULT)

Clutch Size : 5000 - 6000

The common toad, European toad is an amphibian found throughout most of Europe, in the western-part of North-Asia, and in a small portion of North-West Africa. The toad is an inconspicuous animal as it usually ~~it~~ lies hidden during the day. It becomes active at dusk and spends the night

hunting for the invertebrates on which it feeds.

Toads are usually solitary animals. Bufoxin is the toxin substance found in the paratoid gland and skin of the common toad. The

toad has long been considered to be an animal of ill omen or a connection to a spirit world.

REPTILIA

The Creeping Vertebrates

General Characters :

- 1) Reptiles are the creeping and growing cold blooded vertebrates bearing epidermal scales.
- 2) They are ectothermic.
- 3) Mostly found in warmer parts of the world.
- 4) They are mostly terrestrial animals.
- 5) Skin is dry, rough and without glands, bearing epidermal scales or scutes.
- 6) Snakes and lizards shed their scales or skin cast.
- 7) They do not respire by means of gills respiration always takes place through lungs. Ribs help to expand and contract body cavity, making the lung respiration more efficient than in amphibia.
- 8) Skull is monocondylic, i.e, with single occipital condyle.
- 9) They are mostly oviparous. Reptiles lay macrolecithal eggs. Some forms are viviparous or ovoviviparous.



2. CHAMELEON

355

Scientific Classification:

Kingdom : ANIMALIA
Phylum : CHORDATA
Class : REPTILIA
Order : SQUAMATA
family : CHAMELEONIDAE



Chameleons OR Chamaleons are a distinctive and highly specialised clade of old world lizards with 202 species described. These species come in range of colours, and many species have the ability to change colours. Chameleons are distinguished by their zygodactylous feet; their long, highly modified extrudable tongues; their swaying gait, and crests or horns on their crown and snout. Chameleon's eyes are independently mobile, but in aiming at prey item, they focus forward in coordination, affording the animals stereoscopic vision. They are adapted for climbing and visual hunting. They are found in warm habitats that range from rain forests to desert conditions. Chameleons change colour by changing the space between the Guanine crystals, which changes the wavelength of light reflected off the crystals which changes the color of the skin. These are mostly oviparous, with some being ovoviviparous. Generally eats insects, but larger species may also take other lizard and young birds.

3. GLASS SNAKE / Lizard

Scientific Classification:

Kingdom : ANIMALIA

Phylum : CHORDATA

Class : REPTILIA

Order : SQUAMATA

Family : ANGUIDAE

Genus : OPHISAURUS



The glass snake or glass lizards resembles snakes, but are actually lizards.

Although most species have no legs, their head shapes, movable eyelids and external eye opening identify them as lizards.

They are known as pointed snakes. They reach lengths of up to 4ft (1.2m), but about 2/3 of this is the tail. Glass lizard feeds on insects, spiders,



Other small reptiles are young rodents. Their diets are limited by their inability to unhinge their jaws. Some glass lizards give birth to live young but mostly lay eggs. The greatest no. of species in the genus are native to Asia from India to China and the Indonesian islands.

4. NAJA-NAJA: (Indian Cobra) ³⁵⁶

Scientific Classification:

Kingdom : ANIMALIA

Phylum : CHORDATA

Class : REPTILIA

Order : SQUAMATA

Family : ELAPIDAE

Genus : NAJA

Species : NAJA NAJA



The Indian cobra, also known as the spectacled cobra, Asian cobra or Binocellate cobra, is a species of the genus *Naja* found in Indian subcontinent. The Indian cobra varies tremendously in colour and pattern throughout its range. The Indian cobra is moderately sized, heavy bodied species. This cobra species can easily be identified by its relatively large and quite impressive hood, which it expands when threatened. The majority of adult specimens range from 1 to 1.5 metres in length. The Indian cobra inhabits a wide range of habitats. It can be found in dense or open forests, plains, agricultural land, rocky terrain, wetlands and are absent from desert. Indian cobras are oviparous and lay their eggs between months of April & July. The Indian cobra is greatly respected and feared in Hindu mythology.

5. PYTHON: (Ajgar)

Scientific classification:-

- Kingdom: ANIMALIA
- Phylum: CHORDATA
- Class: REPTILIA
- Order: SQUAMATA
- Family: PYTHONIDAE

The PYTHONIDAE, commonly known as pithepythons, are a family of non-venomous snakes found in Africa, Asia and Australia. Among its members are some of the largest snakes in the world. Many species have been hunted aggressively, which has decimated some, such as the Indian Python, PYTHONMOLURUS. Most members are ambush predators, in that they typically remain motionless in a camouflaged position, and then strike suddenly at passing prey. Pythons use their sharp, backward curving teeth, to grasp prey which is then killed by constriction, after an animal has been grasped to restrain it, the python quickly wraps a no. of coils around its. Death occurs primarily by asphyxiation. Females lay eggs. After they lay their eggs female typically incubate them until they hatch.



AVES

The Birds...

General Characters :-

1) Birds are bipedal feathered and warm blooded (homiothermous) animals i.e, they are able to maintain a constant body temperature.

2) Their forelimbs are modified into wings.

3) Most of them can fly except flightless birds. Class Aves has about 9000 species

4) The hindlimbs are adapted for perching, walking or swimming etc. and usually bear 4, sometimes 3 and rarely 2 toes.

5) Respiration is by lungs, Heart is 4 chambered.

6) Birds / Aves are basically divided into 2 Categories :- Flightless and flying birds

1) Flightless birds are :- Ostrich, Penguin, Cassowary etc

2) Flying birds are: Peacock, Parrot etc.

3) Hence, "birds are glorified reptiles"



6. CASSOWARY



Scientific Classification:

Kingdom: ANIMALIA

Phylum: CHORDATA

Class: AVES

Order: CASUARIIFORMES

Family: CASUARIIDAE

Genus: CASUARIUS

The cassowaries are flightless birds without a keel on their sternum bone; native to the tropical forests of New Guinea, nearby islands and northeastern Australia. Cassowaries feed mainly on fruit, although all species are truly omnivorous and will take a range of other plant food, including shoots and grass seeds in addition to fungi, invertebrates and small vertebrates. They are very shy, but when provoked they are capable of inflicting injuries, occasionally fatal, to dogs and people. They are mostly 1.5 to 1.8 m tall and can jump up to 1.5 meters and they are quite good swimmers. Cassowaries are socio solitary birds. Cassowaries are predominantly fungivorous.

7. OSTRICH

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Scientific Classification:

Kingdom: ANIMALIA

Phylum: CHORDATA

Class: AVES

Order: STRUTHIONIFORMES

Family: STRUTHIONIDAE

Genus: STRUTHIO

Species: S. CAMELUS



The ostrich or common ostrich is either one or two species of large flightless birds native to Africa. It is distinctive in its appearance, with a long neck and legs, and can run up to about 70 km/h; the fastest land speed of any birds. The ostrich is the largest living species of any bird and lays the largest eggs of any living bird. The ostrich's diet consist mainly of plant matter, though it also eats invertebrates. It lives in nomadic groups of 5 to 50 birds. They usually weigh from 63 to 145 kg. Ostriches normally spend the winter months in pair or alone. They are diurnal. With no lacking teeth, they swallow pebbles, but mainly feeds on seeds, herbs, grass, fruit & flowers. They are sexually matured at 2-4 years old, an individual may reproduce several times over its lifetime.

MAMMAL

The Mammals:

General Characters:

- 1) These animals are warm blooded, hairy and have mammary or milk producing glands. They are the only animals which nourish their young ones with milk.
- 2) They are homoiothermous (Warm blooded).
- 3) Oil glands and sweat glands are present in the skin.
- 4) Respiration is by lungs.



5) Except egg laying mammals, they are viviparous.

6) Mammals occur in all sorts of habitats. They are dominant animals and are capable to learn because of their better developed brain.

Example: Oviparous: Anathorhynchus (Duck Billed Platypus),

Tachyglossus = Echidna (Spiny Anteater)

Viviparous: Macropus (Kangaroo), Balaenoptera (Blue whale), Man (Homo sapiens).



8. KANGAROO

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Scientific Classification:

Kingdom: ANIMALIA

Phylum: CHORDATA

Class: MAMMALIA

Order: DIPROTODONTIA

Family: MACROPODIDAE

Genus: MACROPUS



The Kangaroo is a marsupial; endemic to Australia. A large male can be 2m tall and weigh 90 kg. Kangaroos have large, powerful hind legs, large feet adapted for leaping, a long muscular tail for balance, small head. Like most marsupials, female kangaroos have a pouch called a marsupium in which joeys complete postnatal development. The kangaroo is an unofficial symbol of Australia and appears as an emblem on the Australian coat of arms. Wild kangaroos are shot for meat, leather hides, and to protect grazing land. Kangaroos are the only large animals to use hopping as a means of locomotion. Many species are nocturnal. Group of kangaroos are called Mobs. Kangaroos have few natural predators. Kangaroos have developed a no. of adaptations to a dry, infertile and highly variable climate. Eye disease is rare but not new among kangaroos.

8. KANGAROO

Scientific Classification:

Kingdom: ANIMALIA
Phylum: CHORDATA
Class: MAMMALIA
Order: DIPROTODONTIA
Family: MACROPODIDAE
Genus: MACRUPUS



The Kangaroo is a marsupial; endemic to Australia. A large male can be 2m tall and weigh 90kg. Kangaroos have large, powerful hind legs, large feet adapted for leaping, a long muscular tail for balance, small head. Like most marsupials, female kangaroos have a pouch called a marsupium in which joeys complete postnatal development. The kangaroo is an unofficial symbol of Australia and appears as an emblem on the Australian coat of arms. Wild kangaroos are shot for meat, leather hides, and to protect grazing land. Kangaroos are the only large animals to use hopping as a means of locomotion. Many species are nocturnal. Groups of kangaroos are called mobs. Kangaroos have few natural predators. Kangaroos have developed a no. of adaptations to a dry, infertile and highly variable climate. Eye disease is rare but not new among kangaroos.

9. LION

360

Scientific Classification:

Kingdom: ANIMALIA
Phylum: CHORDATA
Class: MAMMALIA
Order: CARNIVORA
Family: FELIDAE
Genus: PANTHERA
Species: PANTHERA LEO



The lion is one of the five biggest cats in the Genus Panthera of the living fields. The lion is second only to the tiger in length and weight. Lion coloration varies from light buff to yellowish, reddish or dark ochraceous brown. The underparts are generally lighter and the tail tuft is black. They show sexual dimorphism. The mane of the adult male lion, unique species. The white lion is not a distinct subspecies, but a special morph with a genetic condition, leucism, that causes paler coloration. Lions spend much of their time resting and are inactive for about 20 hours per day. Lion is a predatory carnivore. Lionesses do most of hunting. They are most effective hunters. Her gestation period is around 110 days. Litter consists of 3-4 cubs. Young cubs are vulnerable to predation by hyenas, leopards and jackals.

Topic

*** [] ***

Notes

*** [] ***

Date

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A
REPORT
ON
MAHENDRA CHAUDHARY ZOOLOGICAL PARK

Submitted to

Government College, Ropar

Submitted by

Name SanjanaRoll No. 6549 / 106735

ASSIGNMENT ZOOLOGY

NAME → SANJANA

ROLL NO. → 6549 / 106735

CLASS → BSc. I MEDICAL

SUBMITTED TO → Mr. SURINDER SIR

This is certified that this work entitled **MAHENDRA CHAUDHARY ZOOLOGICAL PARK** is a bonafide record of work done by Sanjana Roll No. 6549 of Department of ZOOLOGY, Govt. College, Ropar under supervision of Prof. SURINDER SINGH during the session 2022-2023.

Acknowledgement

With Man it is impossible, but with God all things are possible.

Prave all, I thank the almighty God for making me whatever I am today. All those ideas with which I am occupied today. All are just because of you God. Thank you for blessing me with enough of ability to express my words as required.

I too thank you my teachers and prof. of zoology of Dept. of the completion of report because of their valuable, thinking and constructive criticism. New thoughts and great ideas helped me during completion of this report.

I wish to thank my loving parents to support me today and always.

Panjana



शुद्ध



Topic

Notes

Wildlife

Wildlife traditionally refers to undomesticated animal species, but has come to include all plants, fungi, and other organisms that grow or live wild in an area without being introduced by humans. Wildlife can be found in all ecosystem, deserts, forest, rain forests, plains, grasslands, and other areas including the most developed urban site, all have distinct forms of wildlife while the term in popular culture usually refers to animals that are untouched by human factors. Scientist agree that much wildlife is affected by human activities. Anthropologist believe that the stone age people and hunter-gatherers relied on wildlife both plant and animals for their food. Many animals species have spiritual significance in different cultures around the world, any they and their products may be used as sacred objects in religious rituals. Many nation have established their tourism sector around their natural wildlife i.e. National parks, sanctuaries, zoo etc. Wildlife has long been a common subject for educational television shows: National Geographic's Wild Kingdom, BBC natural history unit, Animal planet, wildlife television is now a multimillion dollar industry with specialist documentary filmmakers.



PHYLUM: - CHORDATA

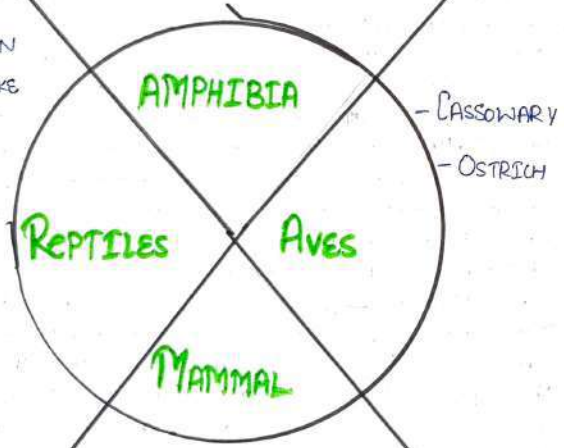
SUB-PHYLUM: - VERTEBRATA

SECTION: - GNATHOSTOMATA

SUPER-CLASS: - Tetrapoda

- Common Toad

- CHAMELEON
- GLASS SNAKE
- INDIAN COBRA
- PYTHON



- CASSOWARY
- OSTRICH

- KANGAROO
- LION

Topic

Notes

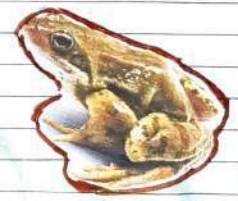
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Amphibia

The Vertebrates With Dual life:-

- General Character:-

- They are first cold-blooded vertebrates from evolution point of view which came to land
- They are amphibious in nature.
- They are mostly found in warm countries.
- They are ectothermic (cold-blooded)
- Body is divisible into head and trunk. Tail may be present.
- Paired fins are absent. Unpaired fins may be present.
- Fertilization is external. They are mostly oviparous
- They return to water for breeding. Male lacks copulatory organs. The metamorphosis is usually present.
- They occur in fresh water & moist land. They are not found in sea water, except a few.



Designer

Topic

Notes

Date

BUFO-BUFO (COMMON TOAD)



Scientific Classification :-

Kingdom: Animalia Order: Anura
 phylum: chordata Family: Bufonidae
 class: Amphibia Species: Bufo-Bufo

Quick facts:- Scientific name: Bufo-Bufo
 Life span: 10-18 years (in wild)
 Higher classifier: Toads
 length: 15cm (Adult)
 Clutch size: 5000-6000

The common toad, European toad is an amphibian found throughout most of Europe, in the western part of North Asia and in small portion of North west Africa. The toad is an inconspicuous animal as it usually lies hidden during the day. It becomes active at dusk and spends the night hunting for the invertebrates on which it feeds. Toads are usually solitary animals. Bufotoxin is the toxin substance found in the paratoid gland and skin of the common toad. The toad has long been considered to be an animal of ill omen or a connection to a spirit world.

Topic

Notes

Date

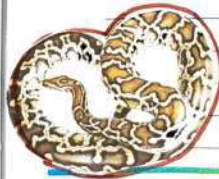


REPTILIA.....

THE CREEPING VERTEBRATES

GENERAL CHARACTERS:-

- Reptiles are the creeping and crawling cold blooded vertebrates bearing epidermal scales.
- They are ectothermic.
- Mostly found in warmer parts of the world.
- They are mostly terrestrial.
- Skin is dry, rough and without glands, bearing epidermal scales or skin cast.
- They do not respire by means of gills. Respiration always take place through lungs. Ribs help to expand and contract body cavity making the lung respiration more efficient than in amphibia.
- Skull is monocondylic, i.e. which single occipital condyle.
- They are mostly viviparous reptiles by macrolecithal eggs. Some forms are viviparous or ovoviviparous.



CHAMELEON

Scientific Classification:-

Kingdom :- ANIMALIA
 Phylum :- CHORDATA
 Class :- REPTILIA
 Order :- SQUAMATA
 Family :- CHAMELEONIDAE



Chameleons or chameleons are a distinctive and highly specialised clade of old world lizards with 800 species described. These species come in range of colours, and many species have the ability to change colour. Chameleons are distinguished by their zygodactylous feet, their long highly modified extendable tongues, their swaying gait and crest or horn on their grow and snout. Chameleon's eye are independently mobile but in aiming at prey item, they focus forward in coordination, confounding the animals stereoscopic vision. They are adapted for climbing and visual hunting. They are found in warm habitats that range from rain forests to deserts conditions. Chameleons change colour by changing the space between the cyanine crystals, which changes the wavelength of light.

GLASS SNAKE / LIZARD



Scientific Classification:-
 Kingdom:- Animalia
 Phylum:- Chordata
 Class:- Reptilia
 Order:- Squamata
 Family:- Anguillidae
 Genus:- Ophisaurus



The glass snake or glass lizards resemble snakes, but are actually lizards. Although most species have no legs, their head shapes, movable eyelids and external eye opening identify them as lizards. They are known as pointed snakes. They reach length of up to 4ft (1.2m) but about 2/3 of this is that tail. Glass lizards feed on insects, spiders, other small reptiles and young rodents. Their diets are limited by their inability to unhinge their jaws some glass lizard gave birth to live young but mostly lay eggs. The greatest no. of species in the genus are native to Asia from India to China and the Indonesian islands.

PYTHON (AJGAR)



Scientific Classification

Kingdom! - Animalia

Phylum! - Chordata

Class! - Reptilia

Order! - Squamata

Family! - Pythonidae

Kindom PYTHONIDAE, commonly known as pythons, are a family of non-venomous snakes found in Africa, Asia and Australia. Among its members are some of the largest snakes in the world. Many species have been hunted aggressively which has decimated some, such as the Indian python, PYTHON: MOLURIS. Most members are ambush predators, in that they typically remain motionless in a camouflaged position, and then strike suddenly at passing prey. Pythons use sharp, backward curving teeth, to grasp prey which is then killed by constriction after an animal has been grasped to restrain it, the python quickly wraps a no. of coils around it.

AVES

THE BIRDS.....



General Characters:-
 Birds are dipedal feathered and warm blooded (homeothermous) animal i.e., they are able to maintain a constant body temperature.

- Their forelimbs are modified into wings.
- Most of them can fly except flightless birds. Class aves has about 9000 species.
- The hindlimbs are adapted for perching, walking or swimming and usually bear 4, sometimes 3 and rarely 2 toes.
- Respiration is by lungs, Heart is 4 chambered.
- Birds / Aves are basically divided into 2 categories:-
- Flightless and flying birds.
- Flightless birds are:- Ostrich, penguin, cassowary etc.
- Flying birds are "Peacock, Parrot" etc.
- Hence "birds are glorified reptiles".



CASSOWARY

Scientific Classification



Kingdom : Animalia

Phylum : Chordata

class - Aves

Order - Casuariformes

Family - Casuariidae

Genus : Casuarus

The cassowaries are flightless birds without a keel on their sternum bone; native to the tropical forests of New Guinea, nearby islands and northeastern Australia. Cassowaries feed mainly on fruit, although all species are truly omnivorous and will take a range of other plant food, including shoots and grass seeds in addition to fungi, invertebrates and small vertebrates. They are very shy, but when provoked they are capable of inflicting injuries, occasionally fatal to dogs and people. They are mostly 1.5 to 1.8 m tall and can jump up to 1.5 meters and they are quite good swimmers. Cassowaries are solitary birds. Cassowaries are predominantly frugivorous.

.. OSTRICH ..

Scientific Classification:-



- Kingdom - Animalia
- Phylum - Chordata
- Class - Aves
- Order - Struthioniformes
- Family - Struthionidae
- Genus - Struthio
- Species - S. Camelus

The ostrich or common ostrich is either one or two species of large flightless birds native to Africa. It is distinctive in its appearance, with a long neck and legs, and can run upto about 70km/h; the fastest land speed of any birds. The ostrich is the largest living species of any bird and lays the largest eggs of any living bird. The ostrich diet consist mainly of plant matter, though its also eats invertebrates. It lives in nomadic groups of 5 to 50 birds. They usually weigh from 63 to 145kg. Ostriches normally spend the winter months in pair or alone. They are diurnal, with lacking teeth, they swallow pebbles, but mainly feeds on seeds, herbs, grass, fruit & flowers. They are sexually matured at 2-4 years old. Designer

MAMMALS...

THE MAMMALS...



1. They animals are warm blooded, hairy and have mammary or milk producing glands. They are the only animal which nourish their young ones with milk.
2. They are homeiothermous (warm blooded).
3. Oil glands and sweat glands are present in skin.
4. Respiration is by lungs.
5. Except egg laying mammals they are viviparous.
6. Mammals occur in all sorts of habitats. They are capable to learn because of their better developed brain. Example :- Oviparous :- Ornithotrymchus (Duck Billed platypus), Jachyglossus - Echidna (spiny Anteater) viviparous :- Marsupius (kangaroo) • Balanoptera (Blue whale), Man (Homo sapiens).



.. KANGAROO ..

Scientific Classification:-

Kingdom:- Animalia

Phylum:- Chordata

Class:- Mammals

Order:- Diprotodontia

Family:- Macropodidae

Genus:- Macropus



The kangaroo is a marsupial, endemic to Australia. A large male can lie 2m tall and weigh 90kg. Kangaroo has large, powerful hind legs, large feet adapted for leaping, a long muscular tail for balance, small head. Like most marsupial, female kangaroos have a pouch called a marsupium in which joeys complete postnatal development. The kangaroo is an unofficial symbol of Australia and appears as an emblem on the Australian coat of arms. Wild kangaroos are shot for meat, leather, hides, and to protect grazing land. Kangaroos are only large animals to use hopping as a mean of locomotion. Many species are nocturnal. Group of kangaroos are called mobs.



LION...

Scientific Classification:-

- Kingdom:- Animalia
- Phylum:- Chordata
- Class:- Mammalia
- Order:- Carnivora
- Family:- Felidae
- Genus:- Panthera
- Species:- Panthera leo



The lion is one of the five biggest cats in the genus Panthera of the living field the lion is second only to the tiger in length and weight.

Lion colouration varies from light buff to yellowish, reddish or dark ochraceous brown. The underparts are generally lighter and the tail tuft is black. They shows sexual dimorphism. The mane of the adult male lion species. The white lion is not a distinct subspecies, but a special morph with a genetic condition, leucism, that causes polar colourisation. Litters consist of 2-4 cubs. young cubs are vulnerable to predation by Hyenas, leopards and jackals.

A
REPORT
ON
MAHENDRA CHAUDHARY ZOOLOGICAL PARK

Submitted to

Prof. Surinder Singh

Government College, Ropar

Submitted by

Name Amarjeet Kaur

Roll No. 106799, Ctg Roll no: 6503

This is certified that this work entitled **MAHENDRA CHAUDHARY ZOOLOGICAL PARK** is a bonafide record of work done by Amarjeet Kaur Roll No. ¹⁰⁶⁷⁹⁹106799 of Department of ZOOLOGY, Govt. College, Ropar under supervision of Prof. SURINDER SINGH during the session 2022-2023.

Surinder Singh
28/1/2023

ACKNOWLEDGEMENT

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With Man it is impossible, but with God all things are possible.

Above all, I thank the almighty God for making me whatever I am today. All those ideas, with which I am occupied today. All are just because of you God. Thank you for blessing me with enough of ability to express my words as required.

I too thank my teachers and Prof. of Zoology Department for the completion of the report. Because of their valuable, thinking and constructive criticism, new thoughts and great ideas helped me during completion of this report.

I ~~wish~~ wish to thank my loving parents to support me today and always.

Amarjeet Kaur.

OBJECTIVE

The key objectives of zoos are to display the animals to the public, study their behaviour and breed the endangered species for increasing their number.

Special enclosures are developed for reptiles, birds, fishes and other aquatic, terrestrial and desert life forms are kept in aquaria and water bodies.

Visitors are asked to visit the zoo by adhering strictly to the regulations outlined by the zoo authorities.

It provide unforgettable visitor experience. Inspire them to support and contribute to the cause of conservation of wildlife, habitat and water. Provide opportunities for passive recreation.

Classification of report

- 1. Chameleon
- 2. Naja - Naja
- 3. Dragon
- 4. Dragon Skeleton
- 5. Crocodile

- 6. Duck
- 7. Peacock
- 8. Parrot
- 9. Sparrow

- 10. Monkey
- 11. Langur (Asian Monkey)
- 12. Forest cat
- 13. Zebra
- 14. Elephant
- 15. Tiger
- 16. Lion



GROUP PICTURE IN COLLEGE



GROUP PICTUER IN MAHENDRA CHAUDARY ZOOLOGICAL PARK 379



1. CHAMELEON

Classification: Kingdom: Animalia
Phylum: Chordata
Class: Reptilia
Order: Squamata
Family: Chamaeleonidae
Genus: Chamaeleo
Species: Chamaeleo chamaeleon

Features: The body is laterally compressed, the tail is sometimes curled, and the bulged eyes move independently of one another. It also, some chameleons possess helmet-shaped heads. Some species have conspicuous head ornamentation that may include as many as three long horns projecting forwards. Chameleons mostly live in the rain forests and deserts of Africa. Colour of skin helps them blend their habitats.



2. NAJA - NAJA

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Classification: Kingdom: Animalia
Phylum: Chordata
Subphylum: Vertebrata
Class: Saurpterygii / Reptilia
Order: Squamata
Family: Elapidae
Genus: Naja
Species: Naja - Naja

Features: Naja - Naja is Indian cobra or Nag. Body measures 2 to 3 metres in length and is wheatish (gehruwa) in colour. During hibernation the colour becomes golden but on exposure to light it changes to brown mouth, eyes and nostrils. Cobra is diurnal, shy, living in holes, under stones, mud walls and in thick vegetation. It is oviparous, carnivorous and feed frogs, rats, lizards and other snakes.



3. DRAGON

Classification: Kingdom: Animalia
 Phylum: Chordata
 Class: Reptilia
 Order: Squamata
 Family: Varanidae
 Genus: Varanus
 Sub genus: Varanus
 Species: V. komodoensis



Features: A dragon is usually represented as a huge, bat-winged, fire-breathing, scaly lizard or snake with a barbed tail. The belief in these creatures apparently arose without the slightest knowledge on the part of the ancients of dinosaurs, which have some resemblance to dragons. It is usually solitary, however, once they find a mate, they mate for life.

4. DRAGON SKELETON

Developed on a public-private partnership model, the park houses steel-size, interactive robotic models of dinosaurs.



~~Dictat~~ They have intelligence that is genius level, if not surpassing it, however, due to them being extremely, violently protective of their hoards, mates, and young, they are considered beasts. Dragons are usually solitary, however, once they find a mate, they mate for life.

In Mahendra Chaudhary zoological park have skeleton of dragon. Oracle bones, also known as dragon bones, are pieces of turtle shell or bone used in ancient Chinese divination. Their skeletons despite being hollow and light are very strong.

5. CROCODILE



Classification: Kingdom: Animalia
Phylum: Chordata
Class: Reptilia
Order: Crocodylia
Family: Crocodylidae
Genus: Crocodylus
Scientific Name: Crocodylus acutus.

Features: Crocodiles have powerful jaws with many conical teeth and short legs with clawed webbed toes. They share a unique body form that allows the eyes, ears, and nostrils to be above the water surface while most of the animal is hidden below. The tail is long and massive, and the skin is thick and plated. The limit of age is 1-2 years. It is carnivore in nature.

6. DUCK



Classification: Kingdom: Animalia
Phylum: Chordata
Class: Aves
Order: Anseriformes
Superfamily: Anatoidae
Family: Anatidae

Features: All types of ducks have waterproof feathers. A unique system of blood vessels keeps their feet warm in icy weather. Not all ducks make a quacking sound. These birds can turn their heads backward to clean, or preen, their feathers. Male ducks have more colorful feathers than females. Most duck eggs hatch within 28 days. Ducklings can fly within 5-8 weeks of hatching. Duck waddle because of webbed feet.

7. PEACOCK



Classification: Kingdom: Animalia
Phylum: Chordata
Class: Aves
Order: Galliformes
Family: Phasianidae
Subfamily: Phasianinae
Tribe: Pavoini

Features: The peacock is brightly coloured, with a predominantly blue fan-like crest of spatula-tipped wire-like feathers and is best known for the long train made up of elongated upper-tail covert feathers which bear colourful eyespots. These stiff feathers are raised into a fan and quivered in a display during courtship. Very important in Hinduism also because this feather was very dear to Lord Shri Krishna.

8. PARROT



Classification: Kingdom: Animalia
Phylum: Chordata
Class: Aves
Clade: Psittaciformes
Order: Psittaciformes Wagler

Features: Characteristic features of parrots include a strong, curved bill, an upright stance, strong legs, and clawed zygodactyl feet. Many parrots are vividly coloured, and some are multi-coloured. and some are Most parrots exhibit little or no sexual dimorphism. They form the most variably sized bird order in terms of length. A peacock feather in the house is considered highly auspicious. People use this to protect their homes from negativities and keep positivity alive in the hearts of the natives.

9. SPARROW



Classification: Kingdom: Animalia
Phylum: Chordata
Class: Aves
Order: Passeriformes
Suborder: Passeri
Infraorder: Passerida
Superfamily: Passeroidea
Family: Passeridae Rafinesque
Genus: Passer

Features: Male House Sparrows are brightly colored birds with gray heads, white cheeks, a black bib, and rufous neck - although in cities you may see some that are dull and grubby. Females are a plain buffy-brown overall with dingy gray-brown underparts. Their backs are noticeably striped with buff, black, and brown.

10. MONKEY

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Classification: Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Primates
Suborder: Haplorhini
Infraorder: Simiiformes



Features: Monkeys live in trees, grasslands, mountains, forests, and on high plains. A group of monkeys is called a troop. Most primates share six basic features: forward-facing eyes, eye sockets, grasping hands, nails, fingerprints, and large brains. Monkeys are most easily distinguished from apes by their tails. Most species are arboreal, using all four limbs to leap from tree to tree. They can sit upright and stand erect. Most species run along branches rather than swinging arm over arm like the apes.

11. LANGUR (ASIAN MONKEY)

Classification: Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Primates
Suborder: Haplorhini
Infraorder: Simiiformes
Family: Cercopithecidae
Subfamily: Colobinae
Tribe: Presbytini
Genus: Simiopsis Desmarest
Species: Simiopsis entellus



Features: Leaf monkeys and other langurs are gregarious, diurnal, and basically arboreal monkeys with long tails and slender bodies. The limbs, hands, and feet are also long and slender. Langurs lack cheek pouches like monkeys but have enlarged

12. FOREST CAT

Classification: Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Carnivora
Suborder: Feliformia
Family: Felidae
Subfamily: Felinae
Genus: Felis
Species: F. chaus
Binomial Name: Felis chaus



Features: The Norwegian forest cat is a large, heavily boned, heavily coated cat. She is a muscular and looks like the hunter she used to be. She has a triangular head, set on a thick, muscular neck. The ears are medium sized and the chin is strong, but slightly rounded.

13. ZEBRA



Classification: Kingdom: Animalia
 Phylum: Chordata
 Class: Mammalia
 Order: Perissodactyla
 Family: Equidae
 Genus: Equus
 Subgenus: Hippotigris

Features: Most famously, zebras have black and white stripes. Grevy's are the largest of all zebras, and they have long necks with prominent, erect manes. They have the largest ears of any zebra species, and their long, narrow heads give them a mule-like appearance. The lion is the most prevalent predator of a zebra. White-colored stripes can be 18 degrees cooler than their dark counterparts.

14. ELEPHANT

386



Classification: Kingdom: Animalia
 Phylum: Chordata
 Class: Mammalia
 Order: Proboscidea
 Superfamily: Elephantoidea
 Family: Elephantidae

Features: They're the world's largest land animal. You can tell the three species apart by their ears. Their trunks have mad skills. Their tusks are actually teeth. They've got thick skin. Elephants are constantly eating. They communicate through vibrations. It have distinctly massive bodies, large ears, and trunks. They use their trunks to pick up objects, trumpet warnings, greet other elephant, or suck up water for drinking or bathing, among other uses.

15. TIGER



Classification : Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Carnivora
Suborder: Feliformia
Family: Felidae
Subfamily: Pantherinae
Genus: Panthera
Species: P. tigris
Binomial name: Panthera tigris

Features: Tigers have reddish-orange coats with prominent black stripes, white bellies and white spots on their ears. Like a human fingerprint, no two tigers have the exact same markings. Because of this, researchers can use stripe patterns to identify different individuals when studying tigers.

16. LION



Classification : Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Carnivora
Suborder: Feliformia
Family: Felidae
Subfamily: Pantherinae
Genus: Panthera
Species: P. leo
Binomial Name: Panthera leo

Features: Lions have strong, compact bodies and powerful forelegs, teeth and jaws for pulling down and killing prey. Their coats are yellow-gold, and adult males have shaggy manes that range in color from blond to reddish-brown to black. The length and color of a lion's mane is likely determined by age, genetics and hormones.

OUTCOME

Conclusion: Birds and animals at a Zoological Park live in an environment that is similar to their natural habitat in many ways. The zoological park not only houses endangered species, but also assists them in reproducing in captivity. They may eventually be able to thrive in the wild again.

In addition to offering breeding programs, animals can undergo routine inspections for parasites, viral diseases, and cancer.

It is useful for researchers: zoos may also play an essential part for researchers. In reality, several zoos provide habitats for exotic animals, no longer in the wild.

A
REPORT
ON
(NAME OF TOPIC)

Submitted to

Government College, Ropar

Submitted by

Name Neha Devi

Roll No. 6522 / 106753



(Mahender Chaudhary Zoological Park)

This is certified that this work entitled (NAME OF TOPIC) is a bonafide record of work done by ___ (Name of student) Neha Devi Roll No. 6522 of Department of Zoology, Govt. College, Ropar under the supervision of (Name of teacher) during the session 2022-2023.

Pr. Swinder Singh

389

With Man, it is impossible, but with God all things are possible.

Above all, I thank the almighty god for making me whatever I am today. All those ideas, with which I am occupied today. All were just because of you God. Thank you for blessing me with enough of ability to express my words as required.

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I wish to thank my loving parents to support me today and always.

Neha Devi.

OBJECTIVE ÷

The key objectives of zoos are to display the animals to the public & study their behaviour and breed the endangered species for increasing their number. Special enclosures are developed for reptiles birds, fishes and other aquatic, terrestrial and desert life forms are kept in aquaria and water bodies.

visitors are asked to visit the zoo by adhering strictly to the regulations outlined by the zoo authorities.

It provide unforgettable visitor experience. Suggest them to support and contribute, to the cause of conservation of provide opportunities for passive recreations.

Classification of Report

1. Chameleon

2. Naja - Naja

3. Dragon

4. Dragon skeleton

Reptiles

Aves

Mammals

Monkey

Tiger

Lion

Duck

Peacock

Pardot

Sparrow

GROUP PHOTO IN COLLEGE



1. CHAMELEON



Classification: Kingdom: Animalia 391
Phylum: Chordata
Class: Reptilia
Order: Squamata
Family: Chamaeleonidae
Genus: Chamaeleo
Species: Chamaeleo chamaeleon

Features: The body is laterally compressed, the tail is sometimes curled, and the bulged eyes move independently of one another. Also some chameleons, possess helmet-shaped heads. Some species have conspicuous head ornamentation that may include as many as three long horns projecting forwards. Chameleons mostly live in the rain forest and desert of Africa.

NAJA - NAJA



Classification: Kingdom : Animalia
 Phylum : Chordata
 Sub-phylum : Vertebrata
 Class : Reptilia
 Order : Squamata
 Family : Elapidae
 Genus : Naja
 Species : Naja - Naja

Features: Naja - Naja is Indian cobra or Nag. Body measures 2 to 3 meters in length and is whitish. During hibernation the colour becomes golden but on exposure to light it changes to brown. Mouth, eyes and nostrils are in patterns, inconspicuous and feet, legs, scales & tinoids.

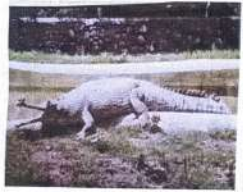
DRAGON



Classification: Kingdom : Animalia
 Phylum : Chordata
 Class : Reptilia
 Order : Squamata
 Family : Varanidae
 Genus : Varanus
 Sub-genus : Varanus
 Species : Varanus komodoensis

Features: A dragon is usually depicted as a large bat-winged fire breathing scaly lizard or snake with a barbed tail. The belief in their existence apparently arose without the slightest knowledge on the part of the ancient historians. While there are no records of dragons it is rather probable however that they had a real life.

CROCODILE



Classification : Kingdom : Animalia
Phylum : Chordata
Class : Reptilia
Order : Crocodylia
Family : Crocodylidae
Genus : Crocodylus
Scientific Name: Crocodylus acutus

Features :- Crocodiles have powerful jaws with many conical teeth and legs are short with clawed webbed feet. They share a unique body form that allows the eyes, ears and nostrils to be above the water. The limit of age is 1-2 years. It is a carnivore in nature.

DUCK



Classification Kingdom : Animalia
Phylum : Chordata
Class : Aves
Order : Anseriformes
Super family : Anatoidae
Family : Anatidae

393

Features :- All type of ducks have waterproof feathers. A unique system of blood vessels keep their feet warm in icy- weathers. Not all ducks make a quacking sound. These birds can turn their heads backward to clean or preen their feathers. Duckling can fly within 5-8 weeks of hatching. Ducks waddle because of webbed feet.

PEACOCK

Classification : Kingdom : Animalia
Phylum : Chordata
Class : Aves
Order : Galliformes
Family : Phasianidae
Sub-family : Phasianinae
Tribe : Pavonini

Features : The peacock is brightly coloured, with a predominantly blue fan-like crest of spatulate-tipped wire-like features and is best known for the long train made up of elongated upper-tail covert feathers which bear colourful eyespots.



PARROT

Classification : Kingdom : Animalia
Phylum : Chordata
Class : Aves
Clade : Psittacopasserae
Order : Psittaciformes
Wagler

394



Feathers : The parrot include a strong, curved bill, an upright stance, strong legs, and webbed zygodactyl feet. Many parrots have vividly coloured and some are multi-coloured. Most parrots exhibit little or no sexual dimorphism. They form the most variably sized bird order in terms of length.

MONKEY



Classification Kingdom : Animalia
 Phylum : Chordata
 Class : Mammalia
 Order : Primates
 Suborder : Haplorhini
 Infraorder : Simiiformes

Features : Monkey live in trees, grassland, mountains, forest and on high plains. A group of monkey is called a troop. Most primates share six basic

features : forward-facing eyes, grasping hands, nails, fingerprints and large brains. Most species are arboreal using all four limbs to leap from tree to tree.

FOREST CAT



Classification Kingdom : Animalia 395
 Phylum : Chordata
 Class : Mammalia
 Order : Carnivora
 Sub-order : Feliformia
 Family : Felidae
 Sub-family : Felinae
 Genus : Felis

Feature : The Norwegian forest cat is a large heavily bodied, heavily coated cat. She is a muscular and looks like hunter. She used to be she has a triangular head, set on a thick, muscular neck.

TIGER



classification : Kingdom : Animalia
 Phylum : Chordata
 Class : Mammalia
 Order : Carnivora
 Sub-order : Feliformia
 Family : Felidae
 Sub-family : Pantherinae
 Genus : Panthera
 Species : P-tigris
 Binomial name : Panthera tigris.

features :- Tigers have reddish, orange, coated with prominent black stripes, white bellies and white spots on their legs like a human finger-print. No two tigers have the exact same markings. Because of this, researchers can use stripe patterns to identify different individuals also when studying tigers.

LION



classification : Kingdom : Animalia 396
 Phylum : Chordata
 Order : Mammalia
 Sub-order : Carnivora
 Family : Feliformia
 Sub-family :
 Genus : Panthera
 Species : P. leo

Binomial Name : Panthera leo

features :- Lions have strong, compact bodies and powerful forelegs, teeth and jaws for pulling down and killing prey. Their coats are yellow gold and adult males have shaggy manes that range in colour from blond to reddish-brown to black.

OUTCOME

Conclusion: Birds and animals at a zoological park live in an environment that is similar to their natural habitat in many ways. The zoology park not only houses endangered species, but also assist them in reproducing in captivity. They may eventually be able to thrive in the wild again.

In addition to offering breeding programs, animals can undergo routine inspections for parasites, viral diseases and cancer.

Researches: zoos may also play an essential part for researches. In reality, several zoos provide habitat for exotic animals no longer in the wild.

A
REPORT
ON

Submitted to

Government College, Ropar

Submitted by

Name Riya
Roll No. 6529/106737



This is certified that this work entitled
MAHENDRA CHAUDHARY ZOOLOGICAL PARK
is a bonafide record of work done by Riya Roll No.
6529 of Department of Zoology, Govt. College, Ropar under the
supervision of _____
during the session 2022-2023.

ACKNOWLEDGEMENT

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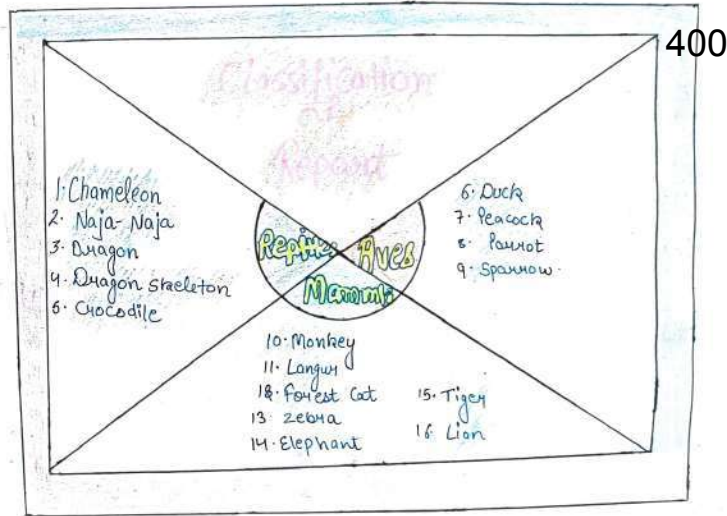
Riya

Objective

The key objectives of zoos are to display the animals to the public, study their behaviour and breed the endangered species for increasing their number. Special enclosures are developed for reptiles, birds, fishes and other aquatic, terrestrial and desert life forms are kept in aquaria and water bodies.

Visitors are asked to visit the zoo by adhering strictly to the regulations outlined by the zoo authorities.

It provides unforgettable visitor experience. Inspire them to support and contribute to the cause of conservation of wildlife, habitat and water.
Provide opportunities for passive recreation.



GROUP PHOTO IN College



L. CHAMELEON

401

Classification : Kingdom : Animalia
Phylum : Chordata
Class : Reptilia
Order : Squamata
Family : Chamaeleonidae
Genus : Chamaeleo
Species : Chamaeleo chamaeleon



Features : The body is laterally compressed, the tail is sometimes curled, and the bulged eyes move independently of one another. Also, some chameleons possess helmet-shaped heads. Some species have conspicuous head ornamentation that may include as many as three long horns projecting forwards. Chameleons mostly live in the rain forest and woodlands of Africa.



Classification: Kingdom: Animalia
 Phylum: Chordata
 Subphylum: Vertebrata
 Class: Reptilia
 Order: Squamata
 Family: Elapidae
 Genus: Naja
 Species: Naja-Naja

Features: Naja-Naja is Indian Cobra or Nag. Body measures 2 to 3 meters in length and is wheatish (gehwad) in colour. During hibernation the colour becomes golden but on exposures to light it changes to brown. Mouth, eyes and nostrils. Cobra is diurnal, shy, living in holes, under stones, mud walls and in thick vegetation. It is oviparous, carnivorous and feeds on frogs, rats, lizards.

3. DRAGON



Classification: Kingdom: Animalia
 Phylum: Chordata
 Class: Reptilia
 Order: Squamata
 Family: Varanidae
 Genus: Varanus
 Sub-genus: Varanus
 Species: V. Komodoensis

Features: A dragon is usually represented as a huge, bat-winged, fire-breathing scaly lizard or snake with a barbed tail. The belief in these creatures apparently arose without the slightest knowledge on the part of the ancients of dinosaurs, which have some resemblance to dragons. It is usually solitary, however once they find a mate they mate for a life.

4. DRAGON SKELETON



Developed on a public - private partnership - model the park houses near - size, interactive robotic models of dinosaurs.

They have intelligence that is genius level, if not surpassing it, however due to them being extremely, violently protective of their hoards, mates, and young they are considered beasts. Dragons are usually solitary, however, once they find a mate, they mate for life.

In Mohendra Chaudhary zoological park have skeleton of dragon. Dragon bones also, known as dragon bones, are pieces of turtle shell or bone used in ancient Chinese divination. Their skeletons despite being hollow and light are very strong.

5. Crocodile



Classification: Kingdom: Animalia
Phylum: Chordata
Class: Reptilia
Order: Crocodylia
Family: Crocodylidae
Genus: Crocodylus
Scientific Name: Crocodylus acutus.

Features: Crocodiles have powerful jaws with many conical teeth and legs are short with clawed webbed toes. They share a unique body form that allows the eyes, ears and nostrils to be above the water surface while most of the animal is hidden below. The tail is long and massive and the skin is thick and plated. The limit of age is 1-2 years. It is Carnivore in nature.

6. Duck



Classification: Kingdom: Animalia
 Phylum: Chordata
 Class: Aves
 Order: Anseriformes
 Superfamily: Anatoidae
 Family: Anatidae

Features: All types of ducks have waterproof feathers. A unique system of blood vessels keep their feet warm in icy weather. Not all ducks make a quacking sound. These birds can turn their heads backward to clean, or preen their feathers. Male ducks have more colorful feathers than females. Most duck eggs hatch within 28 days. Ducklings can fly within 5-8 weeks of hatching. Ducks waddle because of webbed feet.

7. Peacock



Classification: Kingdom: Animalia
 Phylum: Chordata
 Class: Aves
 Order: Galliformes
 Family: Phasianidae
 Sub-family: Phasianinae
 Tribe: Pavoini

Features: The peacock is brightly colored, with a predominantly blue fan-like crest of spatula-tipped wire like feathers and is best known for the long train made up of elongated upper-tail covert feathers which bear colorful eyespots. These stiff feathers are raised into a fan and quivered in a display during courtship. Very important in Hinduism also because this feather was very dear to Lord Shri Krishna.

3. PARROT



Classification: Kingdom: Animalia
 Phylum: Chordata
 Class: Aves
 Clade: Psittacopasserae
 Order: Psittaciformes Wagler.

Features: Characteristic features of parrots include a strong, curved bill, an upright stance, strong legs, and clawed zygodactyl feet. Many parrots are vividly colored and some are multi-colored. Most parrots exhibit little or no sexual dimorphism. They form the most variably sized bird order in terms of length. A peacock feather in house is considered highly auspicious. People use this to protect their homes from negativities and keep positivity alive in the hearts of the natives.

4. MONKEY



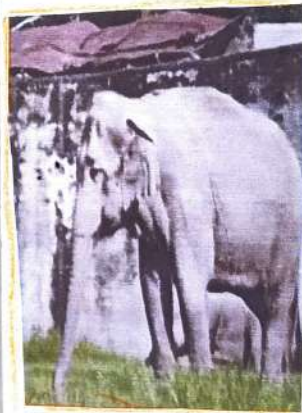
Classification: Kingdom: Animalia
 Phylum: Chordata
 Class: Mammalia
 Order: Primates
 Suborder: Haplorhini
 Infraorder: Simiiformes.

Features: Monkeys live in trees, grasslands, mountains, forests, and on high plains. A group of monkeys is called a troop. Most primates share six basic features: forward-facing eyes, eye socket grasping hands, nails, fingerprints and large brains. Monkeys are most easily distinguished from apes by their tails. Most species are arboreal using all four limbs to leap from tree to tree.



Classification: Kingdom: Animalia
 Phylum: Chordata
 Class: Mammalia
 Order: Carnivora
 Suborder: Feliformia
 Family: Felidae
 Subfamily: Felinae
 Genus: Felis

Feature: The Norwegian forest cat is a large heavily bodied, heavily coated cat. She is a muscular and looks like hunter she used to be she has a triangular head, set on a thick, muscular neck. The ears are medium sized and the chin is strong but slightly rounded.



Classification: Kingdom: Animalia
 Phylum: Chordata
 Class: Mammalia
 Order: Proboscidea
 Superfamily: Elephantoidae
 Family: Elephantidae

Features: They are the world's largest land animal. You can tell three species apart by their ears. Their trunks have mad skills. Their trunks have actually trunks teeth. They've got thick skin. Elephants are constantly eating. They communicate through vibrations. It has incredibly massive bodies, large ears and trunks. They use their trunks to pick up objects, trumpet, warnings, greet other elephants, or suck up water for drinking or bathing.

19 Tiger

Classification: Kingdom: Animalia
 Phylum: Chordata
 Class: Mammalia
 Order: Carnivora
 Suborder: Feliformia
 Family: Felidae
 Subfamily: Pantherinae
 Genus: Panthera
 Species: P. tigris
 Binomial name: Panthera tigris.



Features: Tigers have reddish-orange coats with prominent black stripes, white bellies and white spots on their ears. Like a human fingerprint, no two tigers have the exact same markings. Because of this, researchers can use stripe patterns to identify different individuals, also when studying tigers.

13 Lion

Classification: Kingdom: Animalia
 Phylum: Chordata
 Class: Mammalia
 Order: Carnivora
 Suborder: Feliformia
 Family: Felidae
 Subfamily: Pantherinae
 Genus: Panthera
 Species: P. leo
 Binomial name: Panthera leo.

Features: Lions have strong, compact bodies and powerful forelegs, teeth and jaws for pulling down and killing prey. Their coats are yellow-gold, and adult males have shaggy manes that range in colour from blond to reddish-brown to black. The length and colour of lion's mane is largely determined by age, genetics and hormones.

Outcome

Conclusion: Birds and animals at a zoological park - live in an environment that is similar to their natural habitat in many ways. The zoological park not only houses endangered species, but also assist them in reproducing in captivity. They may eventually be able to thrive in the wild again.

In addition to offering breeding programs, animals can undergo routine inspections for parasites, viral diseases and cancer.

Researcher: zoos may also play an essential part for research. In reality, several zoos provide habitat for exotic animals no longer in the wild.

A

**REPORT
ON
MAHENDRA CHAUDHARY ZOOLOGICAL PARK**

Submitted to

Prof. Surinder Singh.

Government College, Ropar

Submitted by

Name Ramanpreet KaurRoll No. 6536 / University → 106742.

This is certified that this work entitled **MAHENDRA CHAUDHARY ZOOLOGICAL PARK** is a bonafide record of work done by Ramanpreet Kaur Roll No. 6536 of Department of ZOOLOGY, Govt. College, Ropar under supervision of Prof. SURINDER SINGH during the session 2022-2023.



Uni - 106742

College - 6536

OBJECTIVE

- The key objectives of zoos are to display the animals to the public, study their behaviour and breed the endangered species for increasing their number.
- Special enclosures are developed for reptiles, birds, fishes and other aquatic, terrestrial and desert life forms are kept in aquaria and water bodies.
- Visitors are asked to visit the zoo by adhering strictly to the regulations outlined by the zoo authorities.
- It provides unforgettable visitor experience. It prompts them to support and contribute to the cause of conservation of wildlife, habitat and water, provide opportunities for passive recreation.



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I wish to thank my loving parents to support me today and always.



Ramanpreet Kaur.



INTRODUCTION

● Mahendra Chaudhary Zoological park, also known by the name of Chattbir Zoo, is a zoo in Zirakpur, Chandigarh [Punjab].

● It is geographically situated in Northern India.

● This park is a habitat for a vast variety of mammals, birds and reptiles.

● It has an area of around 200 acres.

● The main highlight of this park is Royal Bengal Tiger.

● This was constructed in the year 1970 and was opened for the public in 1977.

● It has 369 mammals, 400 birds, and 20 reptiles.

● You can click the beautiful photos of these animals and also observe their activities.

● There is a special Dinosaur park where kids can enjoy.

● I see different animals in this park.

● I explain few animals →

1. NAJA - NAJA (Indian Cobra)

Scientific Classification

- Kingdom → Animalia
- Phylum → Chordata
- Class → Reptilia
- Order → Squamata
- Family → Elapidae
- Genus → Naja
- Species → Naja Naja.

The Indian cobra also known as the Spectacled Cobra, Asian Cobra or Binocellate Cobra is a species of the genus Naja found in Indian subcontinent. The Indian Cobra varies tremendously in colour and pattern throughout its range. The Indian Cobra is moderately sized, heavy bodied species. This Cobra species can easily be identified by its relatively large hood and quite impressive hood, which it expands when threatened. The majority of adult specimens range from 1.3 to 1.5 metres in length. The Indian cobra is greatly respected and feared in Hindu mythology.



Naja - Naja.



Glass Snake

GLASS SNAKE / LIZARD

Scientific Classification:

- Kingdom → Animalia
- Phylum → Chordata
- Class → Reptilia
- Order → Squamata
- Family → Anguillidae
- Genus → Ophisaurus

The glass snake or glass lizards resembles snakes, but are actually lizards. Although most species have no legs, their head shapes, movable eyelids and external eye opening identify them as lizards. They are known as pointed snakes. They reach length of up to 4ft (1.2m), level about 2/3 of this is tail. Glass lizard feeds on insects, spiders, other small reptiles and young rodents. Their diet are limited by their inability to unhinge their jaws. Some glass lizards give either to live young but mostly lay eggs. The greatest no. of species in the genus are native to Asia, from India to China and the Indonesian islands.

3. CRYPTOBRANCHUS ALLEGANIENSIS

Scientific Classification:

- Kingdom → Animalia
- Phylum → Chordata
- Class → Amphibia
- Order → Urodela
- Family → Cryptobranchidae
- Genus → Cryptobranchus
- Species → Cryptobranchus Alleganiensis

The Hellbender is a giant salamander endemic species to Eastern North America. These salamanders are much larger than any others in their range, they employ an unusual means of respiration (which involves cutaneous gas exchange through capillaries found in dorsoventral skin folds and they fill a particular niche - both as predators and prey in their ecosystems, which either they or their ancestors have occupied for around 65 million years. The species is listed as Near Threatened.



Cryptobranchus Alleganiensis



Chameleon

4 CHAMELEON

Scientific Classification:

- Kingdom → Animalia
- Phylum → Chordata
- Class → Reptilia
- Order → Squamata
- Family → Chamaeleonidae

Chameleons are a distinctive and highly specialised clade of old world lizards with 222 species described. These species come in range of colours, and many species have the ability to change colours. They are found in warm habitats that range from rain forests to desert conditions. Chameleons change colour by changing the space between the keratin crystals, which changes the wavelength of light reflected off the crystals which changes the colour of the skin. They are mostly oviparous, with some being ovoviviparous. Generally eat insects, but larger species may also take other lizards and young birds.

5. PYTHON

Scientific Classification.

- Kingdom → Animalia
- Phylum → Chordata
- Class → Reptilia
- Order → Squamata
- Family → Pythonidae

The Pythonidae, commonly known as pythons, are a family of non-venomous snakes found in Africa, Asia and Australia. Among its members are some of the largest snakes in the world. Many species have been hunted aggressively, which has decimated some, such as the Indian python, *Python molurus*. Most members are ambush predators, in that they typically remain motionless in a camouflaged position and strike suddenly at passing prey. Death occurs primarily by asphyxiation. Females lay eggs. After they lay their eggs, females typically incubate them until they hatch.



Python

IGUANA

Scientific Classification

- Kingdom → Animalia
- Phylum → Chordata
- Class → Reptilia
- Order → Squamata
- Sub-Order → Iguania
- Family → Iguanidae
- Genus → Iguana

Iguana, any of eight genera and roughly 30 species of the larger members of the lizard family. The name iguana usually refers only to the members of the subfamily Iguaninae. The best-known species is the common or green, which occurs from Mexico southward to Brazil. Males of this species reach a maximum length of over 2 metres and 6 kg. It is often seen basking in the sun on the branches of trees overhanging water, into which it will plunge if disturbed.



Iguana

7. PEACOCK

Scientific Classification.

- Kingdom → Animalia
- Phylum → Chordata
- Class → Aves
- Order → Galliformes
- Family → Phasianidae
- Genus → Pavo.

The most interesting fact about the Peacock is the colourful feathers of this pheasant family. The main of the peacock is bluish green in colour. The peacock is found in many locations including Burma, India and in Lanka region. They tend to live in locations that offer them access to low trees and plants. The colourful tail of the peacock is fanned out to be able to show dominance and for purpose of attracting a mate. They live in groups. Peacock feeds on a variety of food items. Grain is one of most common items that they eat. Indian peacock is the NATIONAL BIRD OF INDIA.



Peacock.



Ostrich

8. OSTRICH

Scientific Classification.

- Kingdom → Animalia
- Phylum → Chordata
- Class → Aves
- Order → Struthioniformes
- Family → Struthionidae
- Genus → Struthio
- Species → S. Camelus.

The Ostrich or Common Ostrich is either one or two species of large flightless birds native to Africa. It is distinctive in its appearance, with a long neck and legs, and can run upto about 70 km/h; the fastest land speed of any birds. They are deaf with lacking teeth, they swallow pebbles. But mainly feeds on seeds, shrubs, grass fruit and flowers. They are sexually matured at 2-4 years old, an individual may reproduce sexual times over its life time.



White Pelican

♀ WHITE PELICAN

Scientific Classification

- Kingdom → Animalia
- Phylum → Chordata
- Class → Aves
- Order → Pelecaniformes
- Family → Pelecanidae
- Genus → Pelecanus
- Species → *P. erythrorhynchos*.

The great white pelican mainly eats fish. It leaves its roost to feed early in the morning and may fly over looms in search of food, as has been observed in Chad and Mogode, Cameroon. It needs from 0.9 to 0.14 kg of fish every day, which corresponds to around 38,000,000 kg annual fish consumption at the largest colony of the great white pelican, on Tanzania's Lake Rukwa. Fish targeted are usually fairly large ones, in the 500-600g weight range up to 1.8 kg and taken based on regional abundance.

10. KANGAROO

Scientific Classification

- Kingdom → Animalia
- Phylum → Chordata
- Class → Mammalia
- Order → Diposodonta
- Family → Macropodidae
- Genus → Macropus

The kangaroo is a marsupial, endemic to Australia. A large male can lie 2m tall and weight 90kg. Kangaroos have large, powerful hind legs, large feet adapted for leaping, a long muscular tail for balance, small head. Like most marsupials, female kangaroos have a pouch called marsupium in which jays complete postnatal development. The kangaroo is an unofficial symbol of Australia and appears as an emblem on the Australian coat of arms. Kangaroos have developed no. of adaptations. Eye disease is rare, but not new among kangaroos.



Kangaroo



Dinosaurs

11. DINOSAURS

- Heaviest dinosaur \rightarrow Brachiosaurus
- Smallest dinosaur \rightarrow Lesothosaurus
- Smallest dinosaur egg \rightarrow only 3cm long.
- Most brainy dinosaur \rightarrow Troodon
- Largest flesh-eater \rightarrow Tyrannosaurus
- The dumbest dinosaur \rightarrow Stegosaurus
- Fattest dinosaur \rightarrow Brachiosaurid
- Oldest dinosaur \rightarrow 230 million years old, found in Madagascar.

Dinosaurs are a diverse group of animals of the clade Dinosauria. They first appeared during the Jurassic period, 237.4 million years ago and were dominant terrestrial vertebrates for 135 million years. The dinosaurs were divided into two main types - one with a bird like pelvis and the other with reptilian pelvis. Dinosaurs survived for more than 700,000 years after the earth was hit by a massive meteorite, originally believed to have caused their extinction.

12. LION

Scientific Classification

- Kingdom → Animalia
- Phylum → Chordata
- Class → Mammalia
- Order → Carnivora
- Family → Felidae
- Genus → Panthera
- Species → Panthera leo

The lion is one of the five biggest cats in the genus Panthera of the living fields. The lion is second only to the tiger in length and weight. Lion colouration varies from light buff to yellowish reddish or dark ochraceous brown. Lions spend much of their time resting and are inactive for about 20 hours per day. They are most effective hunters. Her gestation period is around 110 days. Litter consists of 3-4 cubs. Young cubs are vulnerable to predation by Hyenas, leopards and jackals.



Lion



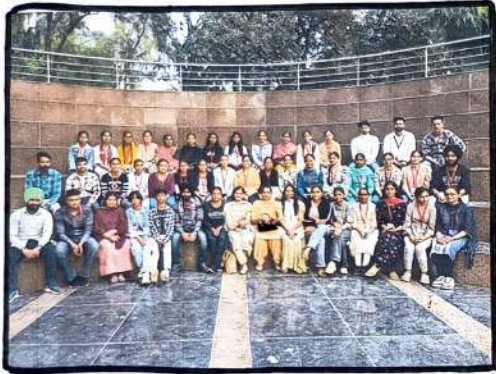
Chital

13. CHITAL

Scientific Classification

- Kingdom → Animalia
- Phylum → Chordata
- Class → Mammalia
- Order → Artiodactyla
- Family → Cervidae
- Genus → Axis
- Species → A. Axis

Chital are active throughout the day. In the summer time is spent in rest under shade, and the sun's glare is avoided if the temperature reaches 80°F, activity peaks as dusk approaches. As days grow cooler, foraging begins before sunrise and peaks by early morning. Activity slows down during midday. A study in the Gir National Park showed that chital travel the most in summer of all seasons.



Zoo visits help children understand animal behavior and characteristics. Even though some animals are confined in cages, their setting provide a semblance of their natural habitat.

Me and my friends enjoy this trip and see many animals like - lion, deen, elephant etc. And also clicks the group photos.

OUTCOME

- Birds and animals at a zoological park live in an environment that is similar to their natural habitat in many ways.
- The zoological park not only houses endangered species, but also assists them in reproducing in captivity.
- They may eventually be able to thrive in the wild again.
- In addition to offering breeding programs, animals can undergo routine inspections for parasites, viral diseases, and cancers.
- Zoos may also play an essential part for researchers.
- In reality, several zoos provide habitats for exotic animals, no longer in the wild.



ACKNOWLEDGEMENT

* With Man it is impossible, but with God all things are possible.

* Above all, I think the almighty God for making me whatever I am today. All those ideas, with which I am occupied today. All are just because of you God. Thank you for blessing me with enough of ability to express my words as required.

* I too thank my teachers and prof. of Zoology Department for the completion of the report. because of their valuable, thinking and constructive criticism, new thought and great ideas helped me during completion of this report.

* I wish to thank my loving parents to support me today and always.

* Harmanpreet Kaur

OBJECTIVE

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The key objective of zoo are to display the animals to the public. Study their behaviour and breed the endangered species for increasing their number.

Special enclosures are developed for reptiles, birds, fishes. and other aquatic, terrestrial and desert life forms. are kept in aquaria and water bodies.

Visitors are asked to visit the zoo by adhering strictly to the regulations outlined by the zoo authorities.

It provide unforgettable visitor experience. Inspire them to support and contribute to the cause of conservation of wildlife, habitat and water provide opportunities for passive recreation.

CLASSIFICATION OF REPORT

* Reptiles

- (1) Chameleam
- (2) Naja-Naja
- (3) Crocodile

* Aves

- (4) Duck
- (5) Sparrow
- (6) Parrot

* Mammals

- (7) Monkey
- (8) Zebra
- (9) Elephant
- (10) Tiger



GROUP PICTURE IN COLLAGE

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GROUP PICTURE IN MAHENDRA CHAUDARY ZOOLOGY PARK



1. CHAMELEON

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- Classification :-> Kingdom: Animalia
Phylum: Chordata
Class: Reptilia
Order: Squamata
Family: Chamaeleonidae
Genus: Chamaeleo
Species: Chamaeleo chamaeleon

- Features :- The body is laterally compressed, the tail is sometimes curled, and the bulged eyes move independently of one other also, some chameleon possess helmet-shaped head. Some species have conspicuous head ornamentation that may include as many as three long horns projecting forwards. Chameleons mostly live in the rain forest and desert of Africa. Colour of skin helps them blend their habitats.

2. NAJA - NAJA

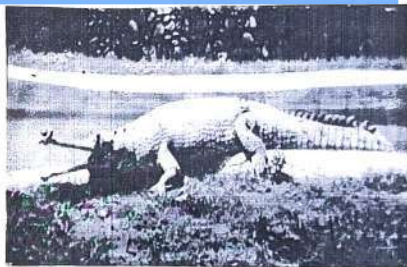


- Classification: Kingdom: Animalia
Phylum: Chordata
Sub-phylum: Vertebrata
Class: Sarcophrygia/Reptilia
Order: Squamata
Family: Elapidae
Genus: Naja
Species: Naja - Naja

- Features: - Naja-Naja is Indian cobra or nag. body measures 2 to 3 meters in length and is wheatish (genus) in colour. During hibernation the colour becomes golden but on exposure to light it changes to brown mouth, eyes and nostrils. cobra is diurnal, shy, living in holes under stones, mud walls and in thick vegetation. It is oviparous, carnivorous and feed frogs, rats, lizards and other snakes.

3. CROCODILE

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- Classification: Kingdom: Animalia
Phylum: Chordata
Class: Reptilia
Order: Crocodylia
Family: Crocodylidae
Genus: Crocodylus
Scientific Name: Crocodylus a cutus.

- Features: - Crocodiles have powerful jaws with many clawed webbed toes. They share a unique body form that allows the eyes, ears, and nostrils to be above the water surface while most of the animal is hidden below. The tail is long and massive and the skin is thick and plated. The limit of age is 1-2 years. It is carnivore in nature.

4. DUCK



Classification :- Kingdom: Animalia
Phylum: Chordata
Class: Aves
Order: Anseriformes
Superfamily: Anatoidae
Family: Anatidae

Features: All types of ducks have waterproof feathers. A unique system of blood vessels keeps their feet warm in icy weather. Not all ducks make a quacking sound. These kinds can turn their head backward to clean, or preen, their feathers. Male ducks have more colorful feathers than female. Most duck eggs hatch within 28 days. Ducklings can fly within 5-8 weeks of hatching.

5. PARROT

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Classification: Kingdom: Animalia
Phylum: Chordata
Class: Aves
Clade: Psittacopasserale
Order: psittaciformes wagler

Features: - Characteristic features of Parrot include a strong, curved bill, an upright stance, strong legs, and clawed zygodactyl feet. Many parrots are vividly colored, and some are multi-colored. Most parrots exhibit little or no sexual dimorphism. They form the most variably sized bird order in terms of length. A peacock feather in the house is considered highly auspicious. People use this to protect their homes from nequities and keep positively alive in the hearts of the natives.

6. SPARROW



Classification :- Kingdom: Animalia
 Phylum: - Chordata
 Class: - Aves
 Order: - Passeriformes
 Sub-order: - Passeri
 Infraorder: Passerida
 Sub-family: Passeridae
 Family: Passeridae Rafinesque
 Genus: Passer.

Features :- Male House sparrows are brightly colored birds with gray heads, white cheeks, a black bib, and rufous neck - although in cities. You may see some that are dull and grubby. Female are a plain buffy-brown overall with dingy gray-brown underparts. Their backs are noticeably with buff, black and brown.

7. MONKEY

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Classification :- Kingdom: Animalia
 Phylum: Chordata
 Class: Mammalia
 Order: Primates
 Sub-order: Haplorhini
 Infraorder: Simiiformes

Features :- Monkeys live in trees, grasslands, mountains, forests, on high plains. A group of monkeys is called a troop. Most primates share six basic features: forward facing eyes, eye sockets, grasping hands, nails, fingerprints, and large brains. Monkeys are most easily distinguished from apes by their tails. Most species are arboreal, using all four limbs to leap from tree to tree. They can sit upright and stand erect. Most species run along branches rather than swinging arm over arm like the apes.

8. TIGER



* Classification :- Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Carnivora
Suborder: Feliformia
Family: Felidae
Sub-family: Pantherinae
Genus: Panthera
Species: P. tigris
Binomial name: Panthera tigris

* Features :- Tigers have reddish-orange coats with prominent black stripes, white bellies and white spots on their ears. Like a human fingerprint, no two tigers have the exact same markings. Because of this, researchers can use stripe patterns to identify different individuals when studying tigers.

9. ZEBRA

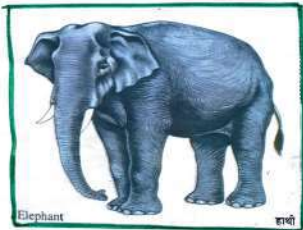
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* Classification :- Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Perissodactyla
Family: Equidae
Genus: Equus
Subgenus: Hippotigris

* Features :- Most famously, zebras have black and white stripes. Grevy's are the largest of all zebras and they have long necks with prominent, erect manes. They have the largest ears of any zebra species, and their long narrow heads give them a mule-like appearance. The lion is the most prevalent predator of a zebra - white coloured. Stripes can be 18 degrees cooler than their dark counterparts.

ELEPHANT



* Classification :- Kingdom: Animalia
 Phylum: Chordata
 Class: Mammalia
 Order: Proboscidea
 Superfamily: Elephantidae
 Family: - Elephantidae

* Features :- They're the world's largest land animal. You can tell the three species apart by their ears.

• Their actual teeth, they've got thick skin. Elephants are constantly eating. They communicate through vibrations. It has distinctly massive bodies, large ears, and trunks. They use their trunks to pick up objects, trumpet warnings, greet other elephants, or suck up water for drinking or bathing, among other uses.

* OUTCOME

Conclusion :- Birds and animals at zoological parks live in an environment that is similar to their natural habitat in many ways. The zoological park not only houses endangered species, but also assist them in reproducing in captivity. They may eventually be able to thrive in the wild again.

In addition to offering breeding programs animals can undergo routine inspections for parasites, viral diseases and cancer.

It is useful for researchers :- It may also play an essential part for researcher. In reality, several zoos provide habitats for exotic animals, no longer in wild.

A

REPORT

ON

Visit to Zoological Park

Submitted to

Prof. Pravin Kumar Singh

Government College, Ropar

Submitted by

Name Harmanpreet Kaur

Roll No. 6509

This is certified that this work entitled

Report on Zoological Park

is a bonafide record of work done by Harmanpreet Kaur Roll No.

6509 of Department of Zoology, Govt. College, Ropar under the

supervision of Prof. Pravin Kumar Singh

during the session 2022-2023.

[Signature]



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No. 1547

Date 23/06/2023

LIST OF STUDENTS UNDERTAKING PROJECT WORK IN DRUG ABUSE: PROBLEM, MANAGEMENT AND PREVENTION (SESSION 2022-2023)

SR. NO.	ROLL NO.	STUDENT'S NAME	TOPIC
1	6551	HARDEEP SINGH	REPORT ON DE- ADDICTION CENTRE
2	6527	RAVINDER SINGH	REPORT ON DE- ADDICTION CENTRE
3	6506	GAGAN KUMAR	REPORT ON DE- ADDICTION CENTRE
4	6524	PAYAL	REPORT ON DE- ADDICTION CENTRE
5	6519	KOMALPREET KAUR	REPORT ON DE- ADDICTION CENTRE
6	6542	SONIA	REPORT ON DE- ADDICTION CENTRE
7	6550	PRIYANKA	REPORT ON DE- ADDICTION CENTRE
8	6509	HARMANPREET KAUR	REPORT ON DE- ADDICTION CENTRE
9	6543	SIMRAN	REPORT ON DE- ADDICTION CENTRE
10	6520	MANISHA KUMARI	REPORT ON DE- ADDICTION CENTRE
11	6516	KHUSHPREET KAUR	REPORT ON DE- ADDICTION CENTRE
12	6538	TANU	REPORT ON DE- ADDICTION CENTRE
13	6547	TARANJOT KAUR	REPORT ON DE- ADDICTION CENTRE
14	7501	AANCHAL DEVI	DRUG ABUSE
15	7505	AKASHDEEP SINGH	DRUG ABUSE
16	7506	AMANPREET KAUR	DRUG ABUSE
17	7507	AMRINDER SINGH	DRUG ABUSE
18	7508	ANISHA VERMA	DRUG ABUSE
19	7509	ANJANPREET KAUR	DRUG ABUSE
20	7512	ARSHDEEP KAUR	DRUG ABUSE
21	7513	AYUSHI	DRUG ABUSE
22	7516	DILJIT	DRUG ABUSE
23	7517	DILPREET KAUR	DRUG ABUSE
24	7519	GURTEG SINGH	DRUG ABUSE
25	7521	HARPREET KAUR	DRUG ABUSE
26	7523	JANISHT SHARMA	DRUG ABUSE
27	7524	JASHANPREET KAUR	DRUG ABUSE
28	7525	KAMNA	DRUG ABUSE
29	7526	KANAL	DRUG ABUSE
30	7527	KAPIL VERMA	DRUG ABUSE
31	7531	MAHEK SOOD	DRUG ABUSE
32	7532	MANJEET KAUR	DRUG ABUSE
33	7534	MANPREET	DRUG ABUSE
34	7535	MANPREET KAUR	DRUG ABUSE
35	7536	MANPREET KAUR	DRUG ABUSE



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No. 1547

Date 23/06/2023

36	7537	MANVI MANN	DRUG ABUSE
37	7538	MEHAKJOT KAUR	DRUG ABUSE
38	7539	MONIKA RANI	DRUG ABUSE
39	7540	NAVDEEP KAUR	DRUG ABUSE
40	7541	NAVJOT	DRUG ABUSE
41	7542	PARMINDER SINGH	DRUG ABUSE
42	7545	PUSHPA DEVI	DRUG ABUSE
43	7546	RADHA RANI	DRUG ABUSE
44	7547	RAJINDER KAUR	DRUG ABUSE
45	7548	RAJNI	DRUG ABUSE
46	7549	RASHMEET KAUR	DRUG ABUSE
47	7550	SALONI	DRUG ABUSE
48	7554	SEEMA RANI	DRUG ABUSE
49	7555	SHEHNAZ	DRUG ABUSE
50	7556	SHIVANI	DRUG ABUSE
51	7557	SIMARANJEET KAUR	DRUG ABUSE
52	7559	SIMRAN KAUR	DRUG ABUSE
53	7560	SIMRANDEEP KAUR	DRUG ABUSE
54	7562	SIMRANJEET KAUR	DRUG ABUSE
55	7564	SUKHPREET KAUR	DRUG ABUSE
56	7565	SUMAN	DRUG ABUSE
57	7566	TINA	DRUG ABUSE
58	7568	VISHALI	DRUG ABUSE
59	7569	AVNEET KAUR	DRUG ABUSE
60	7570	GAGANDEEP KAUR	DRUG ABUSE
61	7572	KARANJOT KAUR	DRUG ABUSE
62	7575	KANCHAN DEVI	DRUG ABUSE
63	7576	HARPREET KAUR	DRUG ABUSE
64	7580	PRIYA DEVI	DRUG ABUSE
65	7583	KUNAL	DRUG ABUSE
66	5001	AASHIKA KUMARI	SIGNS AND SYMPTOMS OF DRUG ABUSE
67	5003	ANU	MANAGEMENT OF DRUG ABUSE
68	5004	ARSHPREET KAUR	MANAGEMENT OF DRUG ABUSE
69	5005	AVNEET KAUR	INTRODUCTION TO DRUG ABUSE
70	5008	DIKSHA	PREVENTION OF DRUG ABUSE
71	5010	ESHA RANI	DRUG ABUSE CONCEPT AND OVERVIEW
72	5011	GAGANDEEP KAUR	SIGNS AND SYMPTOMS OF DRUG ABUSE
73	5012	GARIMA VOHRA	CAUSES AND CONSEQUENCES OF DRUG



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No. 1577

Date 25/06/2023

			ABUSE
74	5013	GEETANJALI RAI	PREVENTION OF DRUG ABUSE
75	5014	GURDEEP KAUR	MANAGEMENT OF DRUG ABUSE
76	5016	GURPREET KAUR	SIGN AND SYMPTOMS OF DRUG ABUSE
77	5017	GURPREET KAUR	CAUSES AND CONSEQUENCES OF DRUG ABUSE
78	5018	GURPREET SINGH	PREVENTION OF DRUG ABUSE
79	5022	HARMAN SINGH	CAUSES AND CONSEQUENCES OF DRUG ABUSE
80	5024	HARSHPREET KAUR	MANAGEMENT OF DRUG ABUSE
81	5025	HARSHPREET SINGH	INTRODUCTION TO DRUGS OF ABUSE
82	5027	HARSUNNY SINGH	CAUSES AND CONSEQUENCES OF DRUG ABUSE
83	5029	ISHIKA	SIGNS AND SYMPTOMS OF DRUG ABUSE
84	5030	JANVI KHANNA	EFFECTS AND SYMPTOMS OF DRUG ABUSE
85	5034	JASMINE KAUR	MANAGEMENT OF DRUG ABUSE
86	5035	JASPREET SINGH	DRUG ABUSE
87	5036	JASVEER KAUR	SIGNS AND SYMPTOMS OF DRUG ABUSE
88	5038	JYOTI	PREVENTION OF DRUG ABUSE
89	5041	KHUSI TIWARI	SIGNS AND SYMPTOMS OF DRUG ABUSE
90	5042	KIRANJEET KAUR	CAUSES AND CONSEQUENCES OF DRUG ABUSE
91	5049	MANDEEP KAUR	MANAGEMENT OF DRUG ABUSE
92	5053	MANPREET KAUR	SIGNS AND SYMPTOMS OF DRUG ABUSE
93	5054	MANPREET KAUR	SIGNS AND SYMPTOMS OF DRUG ABUSE
94	5055	MANSIMRAN KAUR	EFFECTS AND WITHDRAWAL SYMPTOMS
95	5056	MANWINDER SINGH	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
96	5057	MASUM KUMARI	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
97	5058	MEHAK ANAND	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
98	5059	MOHAMAD ABUL KAISH	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
99	5060	MOHAN GOPAL	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
100	5061	MUKUL SHARMA	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
101	5062	NARESH CHAUHAN	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL



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No. 1547

Date 23/06/2023

102	5063	NAVLEENKAUR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
103	5064	NEETU RANI	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
104	5065	NEHSAR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
105	5066	NICKY	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
106	5068	NISHANT	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
107	5069	NITISH SHARMA	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
108	5070	PARBHJOT KAUR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
109	5071	PARMINDER KAUR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
110	5072	PARVEEN KAUR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
111	5073	PAVNEET KAUR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
112	5074	POOJA	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
113	5075	POOJA DEVI	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
114	5076	POOJA KUMARI	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
115	5077	POOJA KUMARI	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
116	5079	PREETI	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
117	5080	PRIYA GOSWAMI	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
118	5081	PRIYANSHU	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
119	5082	RAMANDEEP KAUR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
120	5083	RAMANDEEP KAUR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
121	5084	RASHMI	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
122	5085	RAVINDER SINGH	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
123	5088	RIYA SAINI	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL



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No. 1547

Date 23/06/2023

			CONTROL
124	5089	ROHIT KUMAR KHATTI	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
125	5090	SAKSHI	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
126	5092	SANGEETA KUMARI	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
127	5093	SANJNA	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
128	5094	SANTOSH	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
129	5096	SATWANT SINGH	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
130	5097	SHARAD VERMA	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
131	5098	SIMRAN	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
132	5099	SIMRANJEET KAUR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
133	5100	SIMRANJEET KAUR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
134	5101	SIMRANJIT SINGH	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
135	5104	SOURAV	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
136	5106	STUTI JAIN	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
137	5107	SUNAINA	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
138	5110	TAMANNA	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
139	5112	TARANJEET SINGH	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
140	5114	TRIAMBIKA	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
141	5115	VANSHIKA	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
142	5118	HARPREET SINGH	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
143	5119	SOURAV SHIVRAM PANDE	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
144	5121	KAVYA SHARMA	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL



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No. 1577

Date 23/06/2022

145	5125	JASVEEN KAUR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
146	5126	TAJINDER KAUR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
147	2016	AMANPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
148	2014	AMARDEEP SINGH	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
149	2028	ANCHAL DHIMAN	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
150	2031	ANMOLPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
151	2033	ANSHIKA	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
152	2040	ARSHPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
153	2043	ASHPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
154	2047	BALJIT SINGH	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
155	2057	CHETNA RANI	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
156	2061	DAMANPREET SINGH	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
157	2063	DIKSHA CHOUDHARY	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
158	2064	DIKSHA SHARMA	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
159	2070	DIYA RANI	DRUG ABUSE PREVENTION MANAGEMENT AND CONTROL
160	2084	GURPREET KAUR	CAUSES AND CONSEQUENCES OF DRUG ABUSE
161	2085	GURPREET SINGH	CAUSES AND CONSEQUENCES OF DRUG ABUSE
162	2089	GURSHARAN KAUR	CAUSES AND CONSEQUENCES OF DRUG ABUSE
163	2090	GURSIMRAN SINGH	CAUSES AND CONSEQUENCES OF DRUG ABUSE
164	2091	GURSIMRAN SINGH	DRUG ABUSE
165	2095	GURVIR SINGH	MANAGEMENT OF DRUG ABUSE
166	2096	GURWINDER SINGH	DRUG ABUSE
167	2100	HARJEET KAUR	PREVENTION AND MANAGEMENT OF DRUG



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No. 1547

Date 23/06/2023

			ABUSE
168	2101	HARJEET SINGH	PREVENTION AND MANAGEMENT OF DRUG ABUSE
169	2103	HARJIDNER SINGH	PREVENTION AND MANAGEMENT OF DRUG ABUSE
170	2105	HARJIT SINGH	PREVENTION AND MANAGEMENT OF DRUG ABUSE
171	2108	HARJOT KAUR	DRUG ABUSE PREVENTION AND MANAGEMENT
172	2110	HARMANJOT KAUR	DRUG ABUSE
173	2111	HARMANPREET KAUR	CAUSES, SIGN AND CONSEQUENCES OF DRUG ABUSE
174	2113	HARPREET KAUR	CAUSES AND CONSEQUENCES OF DRUG ABUSE
175	2114	HARPREET KAUR	DRUG ABUSE ADDICTION, CAUSES AND RESULT (IMPACT)
176	2116	HARPREET SINGH	MANAGEMENT AND PREVENTION OF DRUG ABUSE
177	2119	HARSHPREET KAUR	MANAGEMENT AND PREVENTION OF DRUG ABUSE
178	2120	HARSHPREET SINGH	MANAGEMENT AND PREVENTION OF DRUG ABUSE
179	2124	HARWINDER SINGH	DRUG ABUSE
180	2126	HIMANSHI	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
181	2128	INDERJEET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
182	2132	INDERPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
183	2133	INDERPREET SINGH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
184	2134	ISHA MALHOTRA	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
185	2135	ISHIKA	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
186	2137	JAGNOOR SINGH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
187	2138	JAGPREET SINGH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
188	2140	JASDEEP SINGH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
189	2141	JASHANDEEP KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE



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No. 1547

Date 23/06/2023.

190	2144	JASHANDEEP SINGH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
191	2146	JASHANPREET SINGH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
192	2149	JASKARAN SINGH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
193	2150	JASKARAN SINGH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
194	2151	JASLEEN KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
195	2152	JASPREET CHOUDHARY	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
196	2153	JASPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
197	2154	JASPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
198	2155	JASPREET SINGH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
199	2156	JASPREET SINGH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
200	2157	JASPREET SINGH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
201	2162	KAMALPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
202	2171	KARINA	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
203	2175	KHUSHPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
204	2176	KIRAN DEVI	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
205	2178	KIRANPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
206	2179	KOMAL	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
207	2180	KOMAL DEVI	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
208	2181	KOMALJOT KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
209	2186	KULWINDER SINGH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
210	2189	LATA DEVI	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
211	2190	LOVEPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF



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No. 1547

Date 23/06/2023

			DRUG ABUSE
212	2191	LOVEPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
213	2194	MAHESH KUMAR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
214	2195	MANJEET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
215	2196	MANJOT KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
216	2200	MANPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
217	2242	NISHA	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
218	2243	NISHA RANI	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
219	2254	PARTH SHARMA	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
220	2256	PAWANPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
221	2259	PINKI	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
222	2260	POOJA RANI	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
223	2261	POONAM RANI	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
224	2268	PRATHAM VOHRA	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
225	2274	RAHIL MASIH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
226	2278	RAJO	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
227	2282	RAJWANT KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
228	2283	RAJWINDER KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
229	2287	RAMANDEEP KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
230	2289	RAMANPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
231	2290	RAMANPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
232	2291	RAMIT KUMAR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE



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Date 23/06/23

233	2293	RASHPAL KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
234	2294	RAVEENA	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
235	2295	REENA	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
236	2298	RITIKA	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
237	2298	RIYA	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
238	2300	RIYA RANI	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
239	2304	RUPINDERKAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
240	2306	SAKSHI	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
241	2308	SANDEEP	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
242	2309	SANDEEP KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
243	2314	SANIA	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
244	2320	SEEMA DEVI	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
245	2328	SIMRAN KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
246	2329	SIMRAN KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
247	2330	SIMRANDEEP KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
248	2331	SIMRANJEET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
249	2332	SIMRANJEET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
250	2337	SIMRANJIT KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
251	2340	SIMRANPREET	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
252	2346	SUHANI RANI	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
253	2350	SUKHJIT SINGH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
254	2361	SUNITA	DRUG ABUSE PREVENTION MANAGEMENT OF



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No. 1547

Date 23/06/23

			DRUG ABUSE
255	2366	TANIYA	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
256	2368	TARANJIT KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
257	2369	TARANPREET SINGH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
258	2371	USHA RANI	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
259	2380	ALISHBA	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
260	2388	ASHAMJOT KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
261	2392	BAWANPREET KAUR	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
262	2393	BHAWNA JOSHI	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
263	2408	GURPREET SINGH	DRUG ABUSE PREVENTION MANAGEMENT OF DRUG ABUSE
264	2422	JAGDEEP SINGH	DRUG ABUSE PREVENTION AND MANAGEMENT
265	2433	JASWINDER SINGH	CONSEQUENCES OF ADDICTION
266	2436	JORAWAR SINGH	MANAGEMENT AND PREVENTION OF DRUG ABUSE
267	2437	KOMALPREET KAUR	DRUG ABUSE
268	2440	KUNAL SHARMA	DRUG ABUSE TYPES AND SYMPTOMS
269	2447	MANPREET KAUR	DRUG ABUSE
270	2454	NAVJOT KAUR	MANAGEMENT AND PREVENTION OF DRUG ABUSE
271	2456	NEETU	MANAGEMENT OF DRUG ABUSE
272	2470	RAMANPREET KAUR	MANAGEMENT AND PREVENTION OF DRUG ABUSE
273	2483	SHARANDEEP SINGH	MANAGEMENT AND PREVENTION OF DRUG ABUSE
274	2495	YASHPREET KAUR	MANAGEMENT AND PREVENTION OF DRUG ABUSE
275	2498	BALJIT KAUR	MANAGEMENT AND PREVENTION OF DRUG ABUSE
276	2500	DAMANPREET SINGH	DRUG ABUSE CAUSE AND IMPACT
277	2505	HARPREET KAUR	DRUG ABUSE PREVENTION AND MANAGEMENT
278	2513	VISHAL SINGH	DRUG ABUSE PREVENTION AND MANAGEMENT
279	2519	LAKHVIR SINGH	DRUG ABUSE PREVENTION



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No. 1547

Date 23/06/23

280	2523	NAVJOT	DRUG ABUSE MANAGEMENT
281	2525	BALJINDER KAUR	DRUG ABUSE PREVENTION AND MANAGEMENT
282	2526	JANAT	DRUG ABUSE MANAGEMENT
283	2532	PRACHI KUMARI	MANAGEMENT OF DRUG ABUSE
284	2537	GURKIRPAL SINGH	DRUG ABUSE PREVENTION AND MANAGEMENT
285	2538	HARMADEEP SINGH	REASON OF DRUG ABUSE
286	2539	HARMANPREET SINGH	CAUSES AND CONSEQUENCES OF DRUG ABUSE
287	2541	HARSHDEEP SINGH	DRUG ABUSE PREVENTION AND MANAGEMENT
288	2549	ROSHANI RANI	MANAGEMENT AND PREVENTION OF DRUG ABUSE
289	2551	SIMRANJEET KAUR	MANAGEMENT AND PREVENTION OF DRUG ABUSE
290	2555	AMARJIT SINGH	DRUG ABUSE PREVENTION AND MANAGEMENT
291	2558	GURJEET SINGH	MANAGEMENT AND PREVENTION OF DRUG ABUSE
292	2567	MANOJ KUMAR	MANAGEMENT AND PREVENTION OF DRUG ABUSE
293	2570	SIMRAN KUMARI	MANAGEMENT AND PREVENTION OF DRUG ABUSE
294	2574	DILPREET KAUR	MANAGEMENT AND PREVENTION OF DRUG ABUSE
295	2580	SUMANJEET KAUR	MANAGEMENT AND PREVENTION OF DRUG ABUSE
296	2589	GURDEEP SINGH	MANAGEMENT AND PREVENTION OF DRUG ABUSE
297	2599	RUBY BHATTI	MANAGEMENT OF DRUG ABUSE
298	2605	KIRANJEET KAUR	MANAGEMENT AND PREVENTION OF DRUG ABUSE
299	2606	LAKHWINDER SINGH	MANAGEMENT AND PREVENTION OF DRUG ABUSE
300	2607	HARMANPREET SINGH	MANAGEMENT AND PREVENTION OF DRUG ABUSE
301	2608	JASKARAN SINGH	MANAGEMENT AND PREVENTION OF DRUG ABUSE
302	2609	JASPREET KAUR	MANAGEMENT AND PREVENTION OF DRUG ABUSE
303	2610	JASHANPREET SINGH	MANAGEMENT AND PREVENTION OF DRUG ABUSE
304	2611	JASHAN SINGH	MANAGEMENT AND PREVENTION OF DRUG ABUSE



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No. 1547

Date 23/06/23

305	2612	KRISH KUMAR	MANAGEMENT AND PREVENTION OF DRUG ABUSE
306	2613	PRABHJOT KAUR	MANAGEMENT AND PREVENTION OF DRUG ABUSE
307	2614	AMIT CHAUDHARY	MANAGEMENT AND PREVENTION OF DRUG ABUSE
308	2615	HARRY	MANAGEMENT AND PREVENTION OF DRUG ABUSE
309	8796	SUNITA KUMARI	CLASSIFICATION AND SYMPTOMS OF DRUGS
310	8747	SIMRANJIT KAUR	CAUSES AND CLASSIFICATION OF DRUG
311	8786	SIMRANJIT KAUR	CAUSES AND CLASSIFICATION OF DRUG
312	8785	SIMRANJEET KAUR	CLASSIFICATION AND PROBLEM OF DRUG ABUSE IN PUNJAB
313	8746	SIMRANJEET KAUR	TYPES OF DRUG ABUSE, EFFECTS AND TREATMENT
314	8745	SIMRANJEET KAUR	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
315	8803	SATWINDERJEET KAUR	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
316	8744	SATVIR KAUR	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
317	8782	RAMANDEEP KAUR	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
318	8781	PRIYA	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
319	8737	PALAK	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
320	8776	NAVJOT KAUR	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
321	8773	MONIKA	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
322	8771	MANPREET KAUR	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
323	8730	KULWINDER KAUR	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
324	8728	KOMALPREET KAUR	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
325	8724	KAJAL SHARMA	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
326	8722	JASPREET KAUR	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
327	8721	JASKARANPREET KAUR	CAUSES, CLASSIFICATION, EFFECTS OF DRUG



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No. 1547

Date 23/06/23

			ABUSE
328	8804	HIMANSHI	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
329	8760	HARPREET KAUR	CLASSIFICATION AND SYMPTOMS OF DRUGS
330	8757	GURJOT KAUR	CLASSIFICATION AND SYMPTOMS OF DRUGS
331	8714	GAGAN KAUR	CLASSIFICATION AND SYMPTOMS OF DRUGS
332	8711	DAMANPREET KAUR	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
333	8710	BEENA	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
334	8790	AMANPREET KAUR	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
335	8789	ZAHID KHAN	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
336	8788	TARUN KAUSHAL	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
337	8749	SUNNY KUMAR	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
338	8787	SUNIL KUMAR	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
339	8748	SUKWINDER SINGH	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
340	8783	SANDEEP SINGH	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
341	8742	RAJVEER SINGH	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
342	8741	RAHUL	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
343	8778	PARAS	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
344	8733	MANAV CHOUHAN	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
345	8732	MAILMINDER SINGH	CAUSES, CLASSIFICATION, EFFECTS OF DRUG ABUSE
346	8797	KRISHAN SINGH	CLASSIFICATION AND SYMPTOMS OF DRUGS
347	8768	JATIIN THAKUR	CLASSIFICATION AND SYMPTOMS OF DRUGS
348	8718	GURKIRAT SINGH	CLASSIFICATION AND SYMPTOMS OF DRUGS
349	8756	FARDIN KHAN	CLASSIFICATION AND SYMPTOMS OF DRUGS
350	8755	EKAMDEEP SINGH	CLASSIFICATION AND SYMPTOMS OF DRUGS
351	8754	DILSHAN SINGH	CLASSIFICATION AND SYMPTOMS OF DRUGS
352	8713	DILPREET SINGH	CLASSIFICATION AND SYMPTOMS OF DRUGS



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No. 1547

Date 23/06/23

353	8712	DAVINDER KUMAR	CLASSIFICATION AND SYMPTOMS OF DRUGS
354	8707	ARSHPREET SINGH	CLASSIFICATION AND SYMPTOMS OF DRUGS
355	8704	AMRINDER SINGH	CLASSIFICATION AND SYMPTOMS OF DRUGS
356	8801	AMANPREET SINGH	CLASSIFICATION AND SYMPTOMS OF DRUGS
357	8758	GURPREET SINGH	CLASSIFICATION AND SYMPTOMS OF DRUGS

Harjot
Teacher Incharge

Jatinder
Principal

Govt. College, Ropar

Principal
Govt. College, ROPAR



Government College, Ropar



A

REPORT

ON

DRUG DE- ADDICTION CENTRE

Submitted to

Prof. Shikha Chaudhary

Submitted by

Name – Gagan Kumar

Roll No. - 6506

This is certified that this work entitled Drug De- addiction Centre is a bonafide recor of work done by Gagan Kumar, Roll No. 6506 , Govt. College, Ropar under the supervision of Prof. Shikha Chaudhary during the session 2022-2023.

Introduction:

A de-addiction center serves as a crucial facility for individuals struggling with various forms of substance abuse, including drugs and alcohol. The primary goal of such centers is to provide comprehensive treatment, support, and rehabilitation to help individuals overcome their addiction and lead healthier, more fulfilling lives.

Objectives:

The objectives of a de-addiction center include:

1. Detoxification: Assisting individuals in safely withdrawing from addictive substances under medical supervision to manage withdrawal symptoms.

2. Counseling and Therapy:

Offering individual and group counseling sessions to address the psychological and emotional aspects of addiction.



3. Education:

Providing information about the harmful effects of substance abuse and creating awareness about the importance of a drug-free lifestyle.

4. Rehabilitation:

Equipping individuals with life skills, coping mechanisms, and strategies to prevent relapse and reintegrate into society.



Components of a De-Addiction Center:

1. Medical Care:

Qualified medical professionals monitor and manage the physical effects of withdrawal, ensuring the safety and well-being of patients.

2. Counseling Services:

Trained counselors conduct one-on-one and group therapy sessions to address the underlying causes of addiction, boost self-esteem, and promote mental health.

3. Support Groups:

Group sessions allow individuals to share their experiences, build a sense of community, and learn from others' journeys.

4. Family Involvement:

Family plays a crucial role in the recovery process. Family counseling sessions help mend relationships and create a supportive environment at home.

5. Psychological Treatment:

Therapies such as cognitive-behavioral therapy (CBT) help individuals recognize and modify thought patterns and behaviors contributing to addiction.

6. Holistic Approaches:

Centers often incorporate activities like yoga, meditation, and art therapy to enhance overall well-being and stress management.



7. Aftercare Planning:

Developing a personalized aftercare plan helps individuals transition back into society while maintaining their sobriety. This may involve continued therapy, support group participation, and regular check-ins.

Impact:

De-addiction centers have a profound impact on individuals, families, and communities:

1. Individual Transformation:

Individuals experience improved physical health, emotional well-being, and a renewed sense of purpose.

2. Family Healing:

Relationships heal as families learn to communicate effectively, rebuild trust, and support each other.

3. Community Welfare:

Reduced substance abuse contributes to safer communities, lower crime rates, and improved overall public health.



De-addiction centers play a vital role in helping individuals break free from the cycle of substance abuse. By offering a range of services tailored to each individual's needs, these centers empower people to reclaim their lives, heal relationships, and contribute positively to society. The dedication of medical professionals, counselors, and support staff in these centers is instrumental in guiding individuals towards a brighter, addiction-free future.

De Addiction Center in Chandigarh for Beating Addiction

Every person is different, and how bad their addiction is can vary too. When someone gets dependent on drugs, they end up taking them again and again even when bad things happen as a result. Sometimes, addiction comes along with other mental troubles, and other times, it makes those troubles worse. No matter which happens first, things tend to get worse over time. The programs at rehab centers in Chandigarh are designed to help people deal with both addiction and these other problems together.

These centers use different methods, like talking therapies and the right medicines, to help people who are stuck with addiction and also going through mental problems. They offer ongoing support, conversations with therapists, special therapies that reflect the local culture, and spiritual guidance. When someone you care about goes through treatment at a place for alcohol and drug rehab in Chandigarh, they learn how to live a better and stronger life.

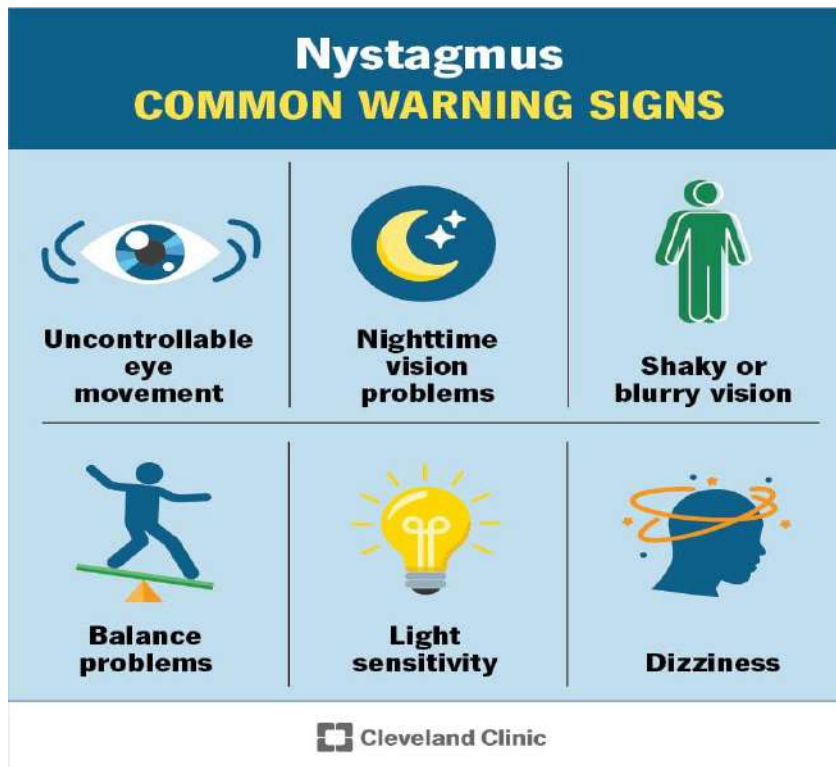
Spotting Signs of Drug Addiction

You can often see signs when someone is having trouble with drugs or alcohol, even though sometimes these signs only show up after they've been struggling for a while. If you notice these signs early and quickly get help from a rehab center in Chandigarh, it makes getting better much easier.

Here are some usual signs that someone might have a problem with drugs:

1. They keep using drugs even though it's causing them problems.
2. They do worse at school or work and start missing a lot.
3. They have fights with family and friends, especially when people talk to them about their drug use.
4. They look really different and stop taking care of themselves.
5. They feel sick when they don't take drugs.
6. They can't control how much they take.
7. They stop enjoying things they used to like, like hobbies or spending time with family.
8. They take big risks to get drugs.

Seeing these signs and getting help fast can make a big difference in getting back on track.

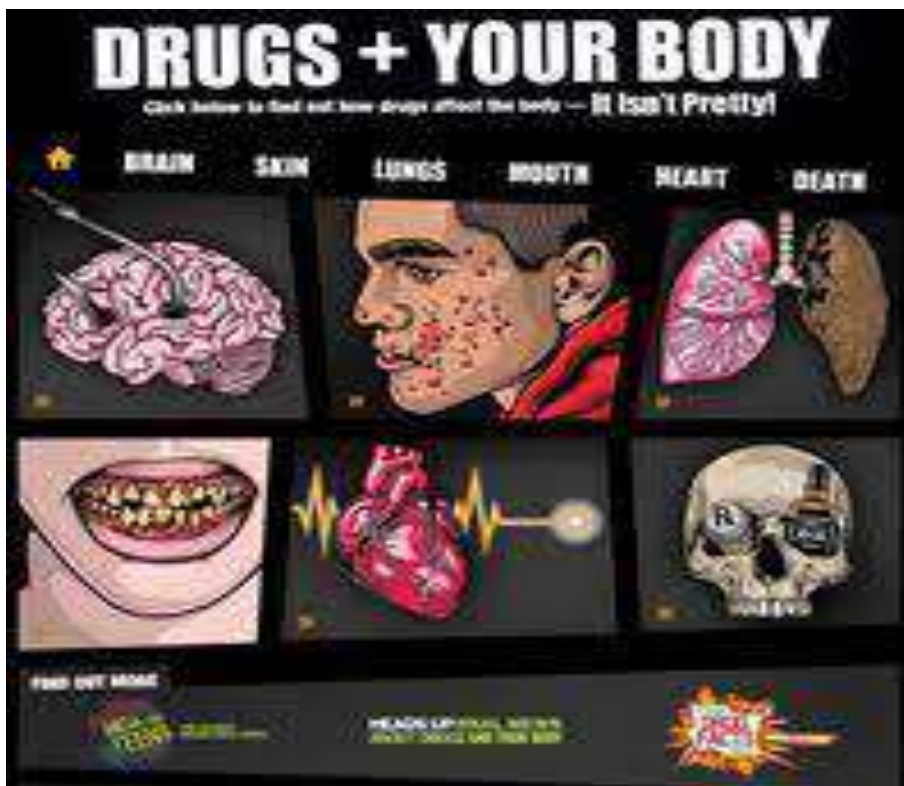


Effects of Drug Addiction on Body

Drug addiction can adversely affect each organ of the body, deteriorating one's health. The medical effects include:

1. Hepatitis or other illness
2. Respiratory problems and cancer
3. Liver and kidney damage
4. Change in body temperature, sleeping pattern, and appetite, Pancreatitis, Malnutrition
5. Cardiovascular Problems - Irregularities in heart rate, heart attack
6. Diarrhea, constipation, vomiting, abdominal problems
7. Brain damage, stroke, seizures

Stroke



8. Gastrointestinal disorders
9. Sleep disorders and insomnia

Commonly used Drugs

Drug addiction witnessed by govt rehabilitation centre in Chandigarh commonly include:

- Cocaine



- Bath salts
- Ecstasy
- LSD
- Heroin



- Methamphetamine
- Methadone
- Marijuana
- Mushroom that cause hallucinations

Individuals of all age groups are also seen addicted to prescription drugs legally obtained and combined with alcohol. These include:

- Benzodiazepines
- Antidepressants
- Mood stabilizers
- Opioid painkillers



- Stimulants
- Anti-Obsessive agents

Drug abuse is a big problem affecting many people. SimranShri, known as a top Nasha Mukti Kendra, is there to help, no matter how serious the addiction is. Our goal is to help everyone live a happy life without drugs or other mental obstacles. That's why we offer treatment to quit using substances and support them on a healthy journey forward. Our treatments use both medicines and talk therapies customized for each person. Medicine helps reduce discomfort from stopping drugs and lessens the urge to use. Our skilled therapists offer the Best Counselling for Drug Addiction to help with bad behavior and things that make people want to use drugs. We treat every person using a scientific method that encourages natural healing and supports a life without drugs.

- Alcohol Addiction Treatment: Helping people stop drinking and stay sober.
- Drug Addiction Treatment: Assisting in quitting drugs and staying clean.
- Withdrawal Management: Supporting people through the tough phase when they stop using drugs.
- Detoxification Services: Helping remove drugs safely from the body.
- 12 Step Programs: Guiding people through a proven plan for staying drug-free.
- Psychotherapy: Talk therapy to understand and cope with feelings and thoughts.
- Group Therapy: Talking with others facing similar challenges.
- Family Therapy: Involving family to help the person recover.
- Depression Counselling: Providing support for managing depression.



- Just For Today Sessions: Focusing on one day at a time.
- Dance Sessions: Using dance as a positive outlet.
- Yoga and Meditation Sessions: Teaching techniques to stay calm and focused.
- Life Management Sessions: Helping people handle life's challenges.
- Values and Morals Sessions: Guiding individuals in making better choices.

A
REPORT

ON

Introduction of drugs of abuse short term: long term: effects and withdrawal symptoms

Submitted to

Prof. Kuldeep Kaur

Government College, Ropar

Submitted by

Name Janvi

Roll No. 5030

This is certified that this work entitled

Introduction: of drug abuse: Short & long term and withdrawal symptoms

is a bonafide record of work done by Janvi Roll No.

5030 of Department of Commerce, Govt. College, Ropar under the supervision of Prof. Kuldeep Kaur

during the session 2022-2023.

Janvi

Introduction to Drug Abuse:

Headlines like these are not uncommon nowadays and very often we find news like these in the newspapers and magazines. Drug abuse is a problem that has been increasing alarmingly in our society today. Drug abuse has become a big problem not only in India but throughout the world. Each year more and more people become addicted to the drugs. With the passage of time this problem is becoming more serious even though the government spend lot of amount on drug control.

The effects of drug addiction can be seen on the health and behaviours of the person. Drug abuse deteriorates the human health. Individuals abusing drugs leads to lose their appetites and mood, they have impaired judgements, sleeping problems, and they are confused and depressed.

Meaning of Drug

The word Drug was Derived from the Dutch word "Droog" meaning "to Dry". It probably came into use because most early drugs were made from dried plant tissue. Drug has been interpreted in different ways.

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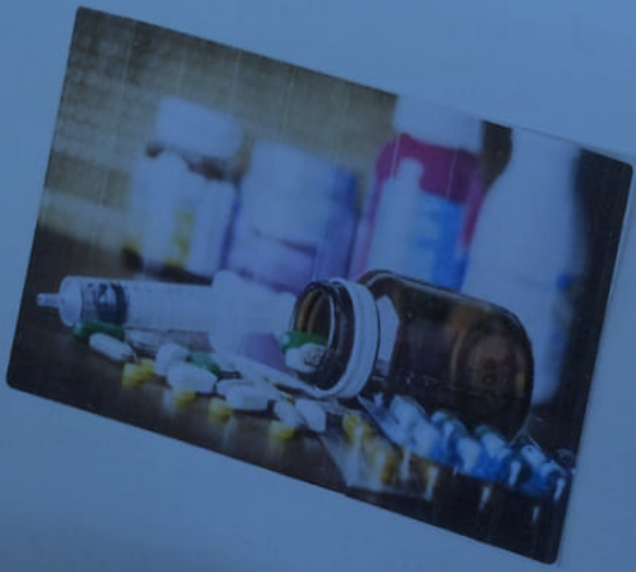
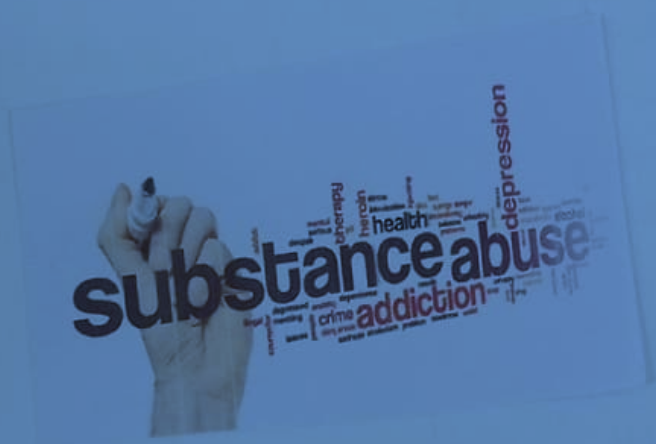
Definition of Drug.

A drug is a substance other than food intended to affect the structure or function of physiological system such as the human body. In the broadest terms, a drug is any substance which changes way the body functions, mentally, physically or emotionally."

This definition does not discriminate between:

- Alcohol
- Tobacco
- Caffeine
- Solvents
- Over the counter drugs
- Prescribed drugs

→ As explained by MC Mohan, "Drugs refer to those mind-altering substances whose sale without prescription is illegal."

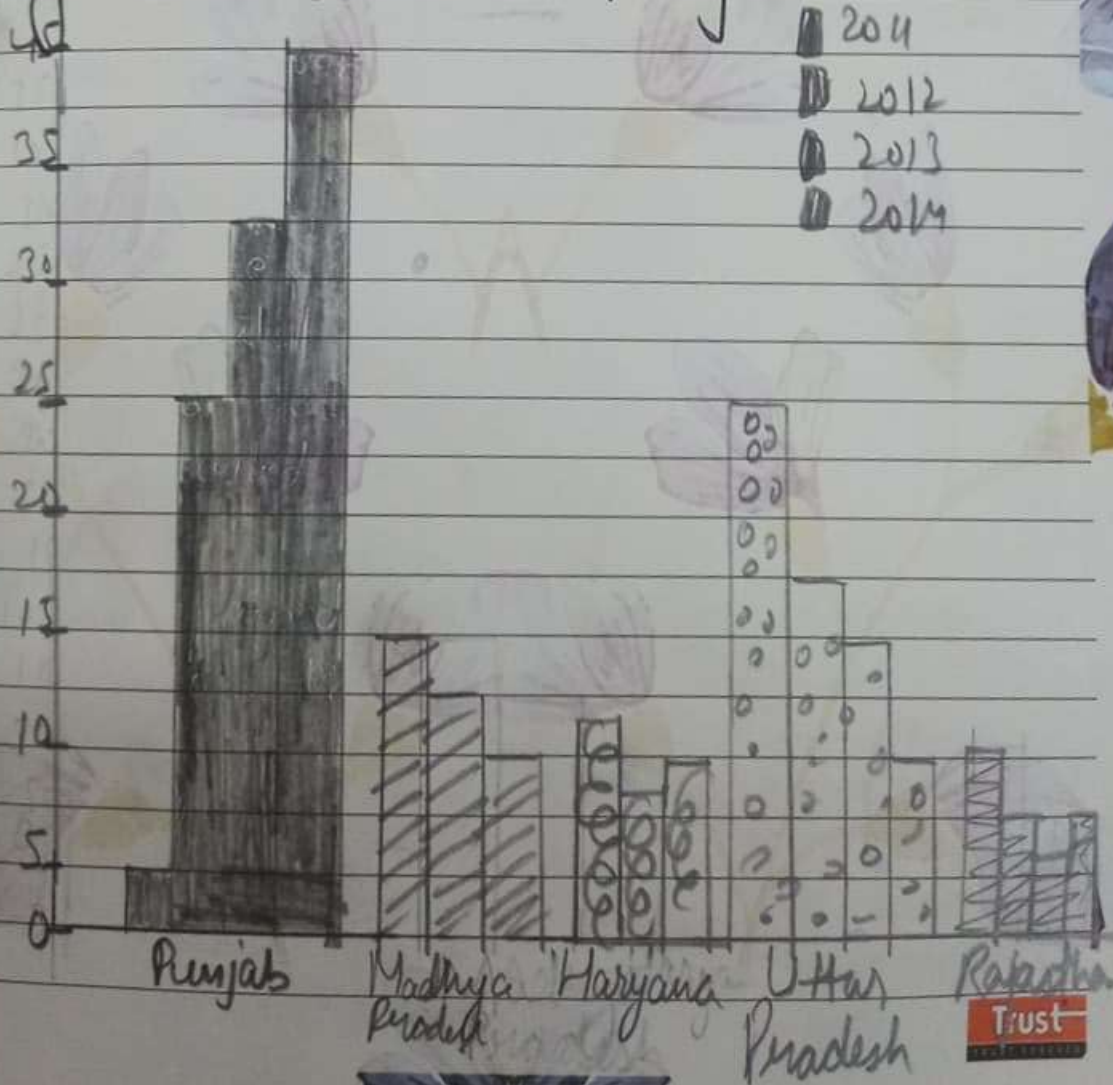


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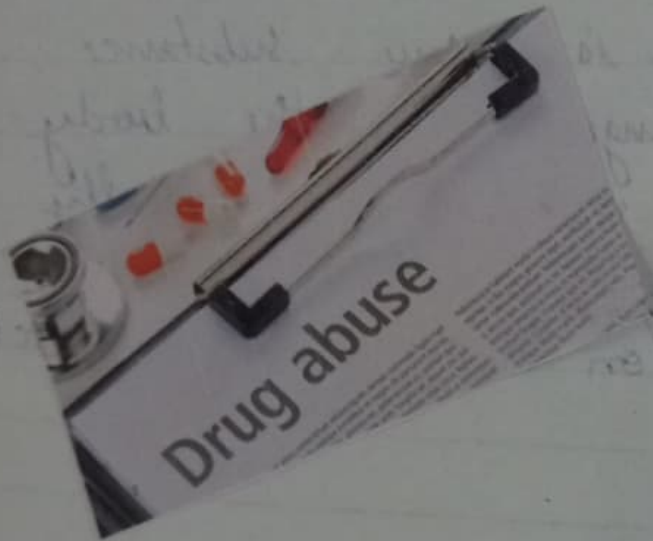
Drug Abuse

According to Choudhury "Drug abuse, is the excessive consumption of drugs regardless of whether an individual is truly dependent on it. It also denotes the repeated use over a certain span of time of any drug that affects the central Nervous system in a manner that the individual's normal behaviour and his occupational functioning is affected."

Drug Abuse Scenario in Punjab

Definition of Drug

A drug is a substance which is intended to affect the biological system such as the human body. In the broadest sense, a drug is any substance which changes the functions, activities or characteristics of the body.



- Alcohol
- Tobacco
- Caffeine
- Stimulants

- Over the counter drugs
- Prescribed drugs

As explained by Mc Mann, "Drugs" refers to those mind-altering substances which are sold without prescription. Illegal drugs are those which are sold without prescription.

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Short Term and Long Term Effects of Drug

Drugs are chemicals, because of their chemical structures, can affect the body in different ways. In fact, some drugs can even change a person's body and brain in ways that last long after the person has stopped taking drugs, maybe even permanently.

Short term Effects of Drug

Different substances affect the body in different ways, but all psychoactive drugs have chemical effects in the brain. The short-term effects that occur in drug users depend on the amount used, the potency or purity of the drug, and whether it is mixed with any other mind-altering substances.



1. Alcohol - A few factors impact the speed at which alcohol's effects are felt. If someone consumes alcohol on an empty stomach, he or she will feel the effects far quicker than someone drinking after a large meal.

- Mood swings
- Impaired judgement
- Coordination Issues
- Trouble concentrating
- Memory Problem
- Slurred speech.

2. Hallucinogens - Hallucinogens such as DMT, LSD, Peyote, may all differ slightly in short-term effects and intensity of intoxication, but overall most of the effects are same. Possible short-term effects of hallucinogens include:

- Hallucinations
- Dilated pupils
- Blurred vision
- Excessive sweating
- Tremors
- Paranoia
- Impaired motor control.
- Intensified Perceptions
- Increased heart rate

3. Opiates - Using opiates, such as heroin or prescription painkillers, like Vicodin, Percocet etc. can be particularly dangerous because it often leads to respiratory depression. Heroin is usually injected or snorted (and

Topic

Date

sometimes smoked).

- Nausea
- Vomiting
- Drowsiness
- Itching skin
- Slurred speech
- Memory impairments.

→ Drowsiness experienced by an opiate user is often called "being on the nod."

4. Barbiturates - Barbiturates are prescription sedatives that depress the central nervous system and induce sleep or reduce anxiety.

- Mood swings
- Poor Judgements
- Confusion
- Drowsiness
- Sedation
- Slurred Speech

5. Inhalants - Inhalants are everyday household products, such as cleaning fluids, spray paint, glue and markers. Users typically inhale the chemical in through the mouth or nose.

- Euphoria
- Apathy
- Dizziness
- Nausea or Vomiting
- Delusions
- Hallucinations
- Tremors
- Slurred Speech
- Blurred visions

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Long-term Effects of Drugs

Long-term drug and alcohol abuse can have disastrous physical and mental health consequences. As the body adapts to the presence of a substance, it requires increasing amounts of it to experience the desired results, a process known as tolerance.

1. Alcohol - Alcohol use is widespread and has become almost inextricably linked with a number of social, cultural, and religious events. Some of the potential long-term effects of alcohol abuse or addiction include:

- Liver cancer
- Pancreatitis
- Stroke
- High blood pressure
- Breast cancer
- Irritability
- Mouth and throat cancer.

2. Hallucinogens - Individuals who use hallucinogens can develop tolerance to their specific drug of choice, as well as cross-tolerance to other types of similar hallucinogens. There is limited research available as to long-term health effects of hallucinogens:

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Date _____

- Persistent memory impairments
- Psychological dysfunction.
- Sleep problems
- White matter damage in the brain

3. Opiates - In addition to physical dependence and addiction, opiate abuse can cause brain damage to respiratory depression. When the brain is injured as a consequence of being deprived of oxygen. Additional long-term effects of opiate use include-

- Sexual dysfunction
- Irregular menses in women
- Intravenous consequences
- Nasal bleeding
- Intra-nasal effects
- Tuberculosis
- Irritation of nasal lining
- Abscesses

4. Barbiturates - The long-term consequences of barbiturates abuse resemble those of alcoholism. Both results in disinhibited behaviours, which can result in poor decision-making.

- Physical injury resulting from accidents.
- Assaults or fights
- Irritability
- Legal Problems
- Slowed pulse
- Memory loss

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- Change in alertness • Lower blood pressure
- Decreased respiratory rate

5. Inhalants - The chemical in inhalants can be toxic or poisonous to the human body and can lead to many severe health problems. Inhalants may also contain a variety of chemicals. The long-term effects may include:

- Liver Damage
- Kidney Damage
- Hearing loss
- Anxiety
- Brain Damage
- Tuberculosis
- Asthma
- Depression
- Limb spasms
- Bone marrow Damage
- Loss of Coordination
- Sinus infection

Withdrawal Symptom

Withdrawal Management refers to the medical and psychological care of patients who are experiencing withdrawal symptoms as a result of ceasing or reducing use of their drug of dependence.

People who are not dependent on drugs will not experience withdrawal

Topic

Date

and hence do not need withdrawal management.

Syptoms of Withdrawal

The symptoms of withdrawal from substances may be different depending on the substance used. Common symptoms of withdrawal may include:

- Trembling and Tremors
- Muscle Pain or aches
- Fatigue
- Sweating
- Depression
- Anxiety
- Nausea
- Vomiting
- Confusion
- Insomnia
- Seizures
- Dilated pupils.
- Hunger or loss of appetite.

• Limited memory impairment
 • Psychological dysfunction
 • Sleep problems
 • Little or no change in the brain

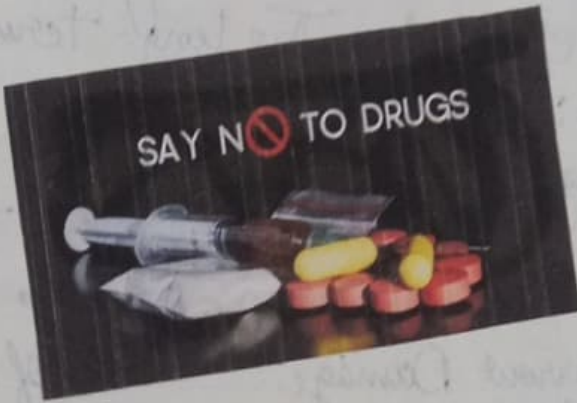
3. Opoids - In addition to physical dependence and withdrawal, opoids also contribute to respiratory depression



• respiratory depression
 • decreased heart rate
 • decreased blood pressure
 • decreased reflexes
 • decreased consciousness
 • decreased respiratory rate
 • decreased body temperature

4. Anticholinergics - The long-term consequences of anticholinergic abuse

• memory loss
 • decreased attention
 • decreased learning
 • decreased motor skills
 • decreased coordination
 • decreased reflexes
 • decreased heart rate
 • decreased blood pressure
 • decreased body temperature
 • decreased respiratory rate
 • decreased respiratory volume
 • decreased respiratory depth
 • decreased respiratory frequency



Withdrawal Symptoms

Withdrawal symptoms refer to the physical and psychological effects that occur when someone stops using a substance after regular use. These symptoms are caused by the body's dependence on the substance. People who are not dependent on a substance will not experience withdrawal symptoms.

A
REPORT
ON

Causes and consequences of
Drug abuse

Submitted to

Prof. Kuldeep Kaur
Government College, Ropar

Submitted by

Name Gurpreet Kaur

Roll No. 5017

This is certified that this work entitled

Causes and consequences of Drug abuse

is a bonafide record of work done by Gurpreet Kaur Roll No.
5017 of Department of Commerce Govt. College, Ropar under the
supervision of Prof. Kuldeep Kaur
during the session 2022-2023.

G. Saini

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Drug :-

Any substance (other than food) that is used to prevent, diagnose, treat, or relieve symptoms of a disease or abnormal condition.

Drugs can also affect how the brain and the rest of the body work and causes changes in mood, awareness, thoughts, feelings or behaviours.

A drug is characterized in pharmacology as a substance that includes changes in that brain's psychology or physiology when ingested.

Some types of drugs, such as opioids, may be abused or lead to addiction. Drug abuse may lead to social, physical, emotional, and job-related problems.

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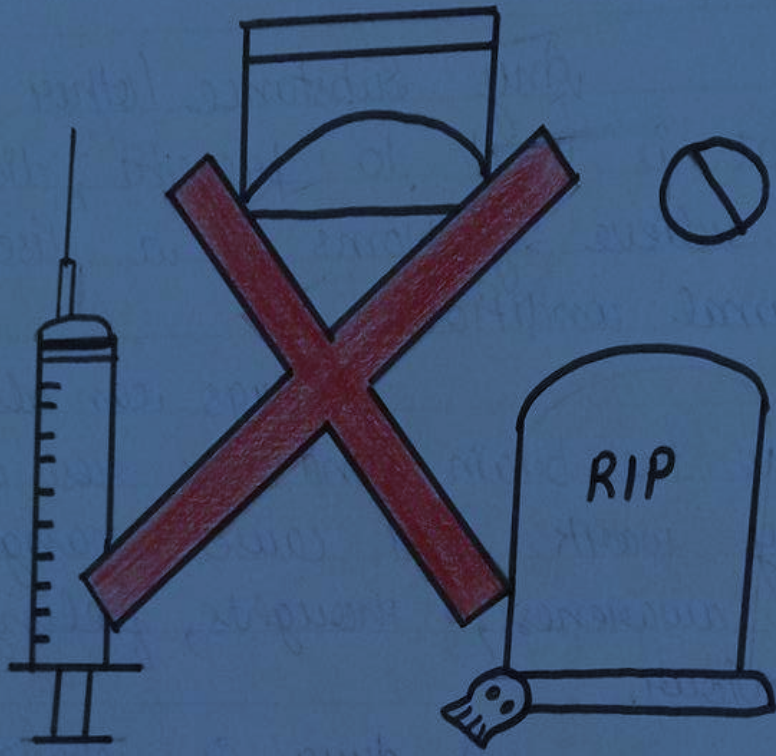
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Drug categories:-

Drugs can be categorised by the way in which they affects our bodies:-

- depressants:- slow down the function of the central nervous system.
- hallucinogens:- affect your senses and change the way you see, hear, taste, smell and feel things.
- stimulants :- speed up the function of the central nervous system.

Some drugs affects the body in many ways and can fall into more than one category. For example, cannabis appears in all 3 categories.



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Depressants :-

Depressants slow down the messages between the brain and the body - they don't necessarily make you feel depressed. The slower messages affect:

- your concentration and coordination
- your ability to respond to what's happening around you.

Small doses of depressants can make you feel relaxed, calm and less inhibited.

larger doses can cause sleepiness, vomiting and nausea, unconsciousness and even death.

Examples include:

- alcohol
- benzodiazepines
- cannabis
- GHB (gamma-hydroxybutyrate)
- ketamine



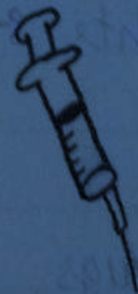
Alcohol



Benzodiazepine



Cannabis



Anabolic Steroids

Topic

Date.....

Hallucinogens:-

Hallucinogens change your sense of relating - you can have hallucinations. Your senses are distorted and the way you see, hear, taste, smell or feel things is different.

Small doses can cause a feeling of floating, numbness, confusion, disorientation or dizziness.

Larger doses may cause hallucinations, memory loss, distress, anxiety, increased heart rate, paranoia, panic and aggression.

Examples including:-

- Cannabis
- Ketamine
- LSD (lysergic acid diethylamide)
- psilocybin (magic mushrooms)
- PCP (phencyclidine)



magic mushrooms



acid



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Stimulants:-

Stimulants speed up the messages between the brain and the body. This can cause:

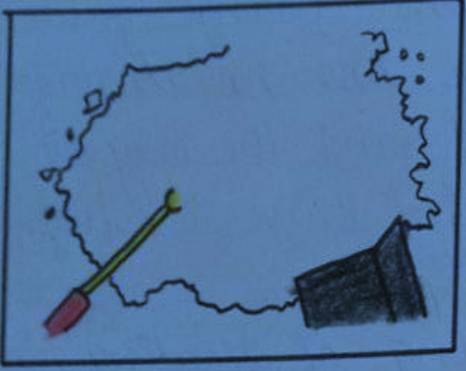
- your heart to beat faster
- your blood pressure to go up
- your body temperature to go up - leading to heat exhaustion or even heat stroke
- reduce appetite
- agitation
- sleeplessness

you can feel more awake, alert, confident or energetic.

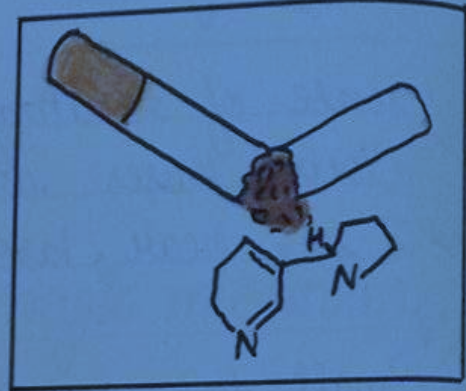
larger doses can cause anxiety, panic, seizures, stomach cramps and paranoia.

Example include:-

- amphetamines (speed and ice)
- caffeine
- cocaine
- ecstasy and nicotine (tobacco)

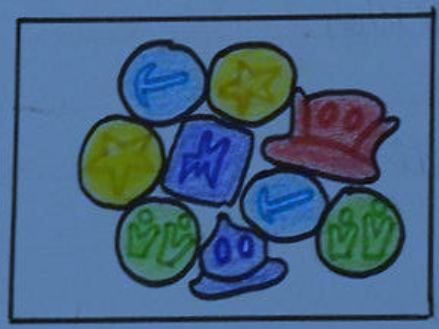


Cocaine



Nicotine

STIMULANTS



Amphetamine

Topic

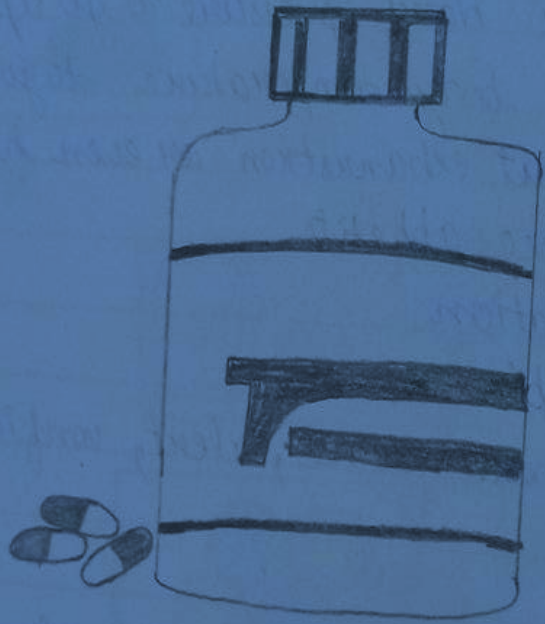
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Causes of drug abuse

The cause of drug abuse is not fully known but likely include genetic predisposition, co-occurring conditions and environmental circumstances. Drug use and experimentation is common in pre-adolescence and adolescents, but only a small percentage of those users will go on to drug abuse.

Genetics as a cause of drug abuse

While many people use drugs, only a small percentage abuse drugs, but it has been noted drug abuse often runs in families, suggesting genetics is one of the causes of drug abuse while having parents that abuse drugs puts a child at risk, it is possible for the child to grow up without drug abuse problems. It is also possible to abuse drugs without having any other drug abusers in the family.



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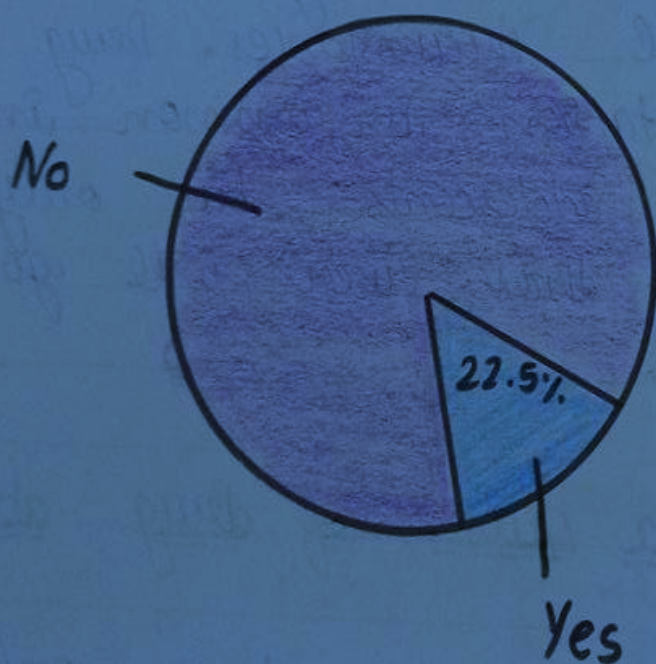
Co-occurring conditions as drug abuse causes

Drug abuse often occurs alongside other conditions like mental illness. While mental illness itself is not thought to cause drug abuse, one condition may indicate, and be complicated by, the other. One of the causes of drug abuse may be the attempt to manage the symptoms of an underlying mental illness.

Environmental causes of drug abuse

There are certain life circumstances, particularly among younger users, that are risk factors for, rather than the direct cause of, drug abuse. Parental abuse and neglect are commonly seen as part of the cause of drug abuse. An adolescent or pre-adolescent may be trying to gain attention from an inattentive parent or escape an abusive one by using drugs. Prolonged attempts through drug use can be a course of drug abuse.

WORKPLACE SUBSTANCE ABUSE



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Combination of causes of drug abuse

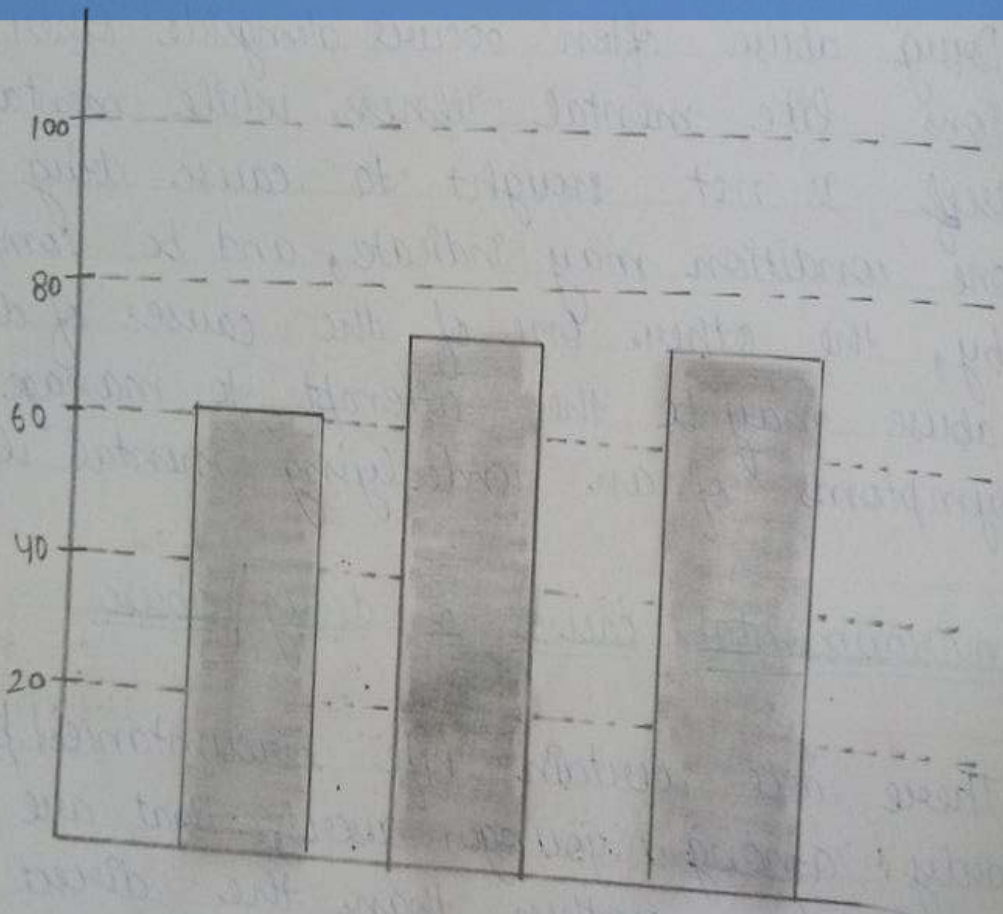
While genetic, environmental and psychological causes of drug abuse are possible, it is likely that a combination of these factors is truly the cause of drug abuse. If a person has a genetic predisposition to drug, that likely indicates one of the parents abuse drugs.

CONSEQUENCES OF DRUG ABUSE

Drug abuse is a serious public health problem that affects many communities and families in some way. Each year drug abuse causes millions of serious illnesses and injuries among Americans. Examples of drugs abused includes:-

- Methamphetamine
- Anabolic steroids
- Cocaine
- Heroin
- Inhalants
- Marijuana
- Prescription drugs

COMPARISON OF RELAPSE RATES BETWEEN SUBSTANCES USE DISORDER AND OTHER CHRONIC



Topic

Date.....

How it affects the family

When a person has a drug problem, they have a disease that can hurt the family.

When a family member take drugs:-

- You generally can't on them to do what they say they will do.
- they may forget or get distracted because their focus is on getting and taking drugs.
- they might lie or steal money to buy drugs.
- they might get fired from their jobs.
- they might not come home at night.
- they may do bad things would never do if they weren't abusing drugs.

Some people who are addicted don't believe that they are sick and out of control, so they don't look for treatment. They don't see the problems they are causing themselves and those around them.

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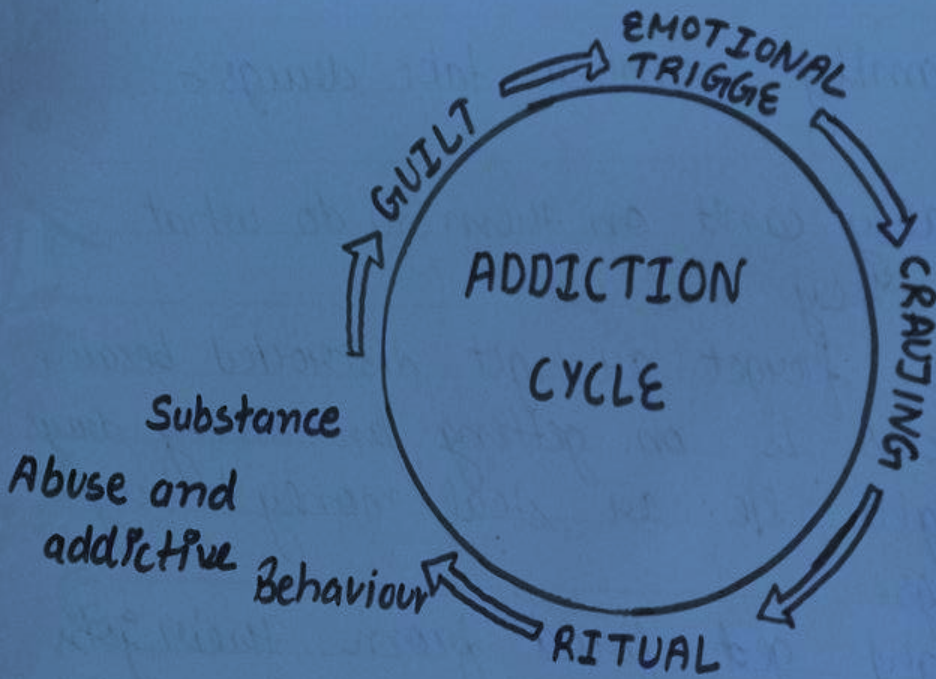
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Social Consequences

Socially, drug abusers can see a variety of consequences from drug abuse. Relationships can suffer. Additionally, when a loved one abused drugs, they significantly affect their families. This is especially true if it goes on for an extended period. A person that abuse drugs may have trouble holding a job, which can lead to financial issues.

Spiritual Consequences

The spiritual consequences of addiction happen to anyone, whether they are religious, agnostic, or atheist. These types of consequences including feeling, helplessness, lonely, scared, guilty, ashamed, dishonest, perpetually unhappy, and restless for no apparent reason. As with the mental consequences, spiritual disconnection becomes more apparent after drug use has stopped.





- Do not
- Marijuana
- Prescription
- Drugs

- Methamphetamine
- Anabolic Steroids
- Cocaine
- Heroin



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PRINCIPAL GOVERNMENT COLLEGE RUPNAGAR**
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Tel. : 01881-222263 | E.mail : principal.gc.ropar@gmail.com

No. 1547

Date 23/06/2023

**B.A. 2nd YEAR PHILOSOPHY NUMBER OF STUDENTS UNDERTAKING PROJECT WORK
(2022-2023)**

SR. NO.	ROLL NO.	NAME OF STUDENT	TITLE OF PROJECT WORK
1	3001	AMRITPAL SINGH	AGRICULTURE ETHICS
2	3020	RANJANA DEVI	AGRICULTURE ETHICS
3	3031	POOJA RANI	AGRICULTURE ETHICS
4	3045	SAKSHAM SHARMA	AGRICULTURE ETHICS
5	3047	MANVIR KAUR	AGRICULTURE ETHICS
6	3051	AMANDEEP SINGH	AGRICULTURE ETHICS
7	3057	MANISHA VERMA	AGRICULTURE ETHICS
8	3059	MONIKA	AGRICULTURE ETHICS
9	3066	MOHIT VERMA	AGRICULTURE ETHICS
10	3073	SATNAM SINGH	AGRICULTURE ETHICS
11	3080	SIMRANPREET KAUR	AGRICULTURE ETHICS
12	3108	SANDEEP KAUR	AGRICULTURE ETHICS
13	3114	GURPREET KAUR	AGRICULTURE ETHICS
14	3117	SAHIL	AGRICULTURE ETHICS
15	3123	AANCHAL	AGRICULTURE ETHICS
16	3124	TAJBIR SINGH GILL	AGRICULTURE ETHICS
17	3125	DAVINDER SINGH	AGRICULTURE ETHICS
18	3128	GAURAVPREET SINGH	AGRICULTURE ETHICS
19	3157	JORAVER SINGH	AGRICULTURE ETHICS
20	3161	SARABJOT SINGH	AGRICULTURE ETHICS
21	3163	NITIN KUMAR	ETHICAL ISSUES IN ADVERTISING
22	3173	ARUN KUMAR	ETHICAL ISSUES IN ADVERTISING
23	3183	SUKHJEET SINGH	ETHICAL ISSUES IN ADVERTISING
24	3208	HARPREET SINGH	ETHICAL ISSUES IN ADVERTISING
25	3211	KANCHAN ARYA	ETHICAL ISSUES IN ADVERTISING
26	3217	GURSHARAN KAUR	ETHICAL ISSUES IN ADVERTISING
27	3224	PRIYANKA KUMARI	ETHICAL ISSUES IN ADVERTISING
28	3243	KAMALJEET SINGH	ETHICAL ISSUES IN ADVERTISING
29	3245	MANPREET SINGH	ETHICAL ISSUES IN ADVERTISING
30	3257	LOVEPREET SINGH	ETHICAL ISSUES IN ADVERTISING
31	3260	GURVINDER SINGH	ETHICAL ISSUES IN ADVERTISING
32	3273	NARINDER SINGH	ETHICAL ISSUES IN ADVERTISING
33	3280	JASHAN SINGH	ETHICAL ISSUES IN ADVERTISING
34	3291	MANPREET KAUR	ETHICAL ISSUES IN ADVERTISING
35	3292	SIMRANJIT KAUR	ETHICAL ISSUES IN ADVERTISING
36	3303	GAGANDEEP SINGH	ETHICAL ISSUES IN ADVERTISING
37	3311	HARPREET SINGH	ETHICAL ISSUES IN ADVERTISING



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No. _____

Date _____

38	3317	GURPREET SINGH	ETHICAL ISSUES IN ADVERTISING
39	3319	HARSH	ETHICAL ISSUES IN ADVERTISING
40	3329	GURWINDER SINGH	ETHICAL ISSUES IN ADVERTISING
41	3340	KARANDEEP SINGH	WATER POLLUTION
42	3346	GURWINDER SINGH	WATER POLLUTION
43	3348	SIMRANJEET KAUR	WATER POLLUTION
44	3350	VISHAL	WATER POLLUTION
45	3352	GURWINDER SINGH	WATER POLLUTION
46	3359	HANISH SINGH	WATER POLLUTION
47	3371	GAUTAM KUMAR	WATER POLLUTION
48	3390	BALWINDER SINGH	WATER POLLUTION
49	3402	AMRITPAL SINGH	WATER POLLUTION
50	3427	NILESH KUMAR	WATER POLLUTION
51	3428	GURSEVAK SINGH	WATER POLLUTION
52	3433	HARMANPREET SINGH	WATER POLLUTION
53	3435	MANPREET KAUR	WATER POLLUTION
54	3442	NEERAJ KUMAR	WATER POLLUTION
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Head

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A
PROJECT REPORT
ON
ETHICAL ISSUES IN ADVERTISING

Submitted to

Dr. Anu Shrama

Submitted by

Jashan Singh

ROLL NO - 3280

This is certified that this work entitled **Ethical issues in Advertising** is a bonafide record of work done by **Jashan Singh**, Roll No.3280 Department of Philosophy , Govt. College, Ropar under the supervision of **Dr. Anu Shrama** during the session 2022-2023.



Government College, Ropar



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ETHICAL ISSUES IN ADVERTISING

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Content of Ethical issues of Advertising

- Definition of Advertising and Ethical advertising
- Significance of Advertising
- Importance of Accurate and Truthful Advertising
- Examples of Misleading Claims
- Stereotyping and Discrimination in Advertising
- Examinations of real World Examples of Stereotyping and it's implications
- Exploitation of Vulnerable Audience
- Case studies
- Ethical guidelines for Advertising
- Strategies to address and prevent Ethical concerns
- Outcomes and Conclusio

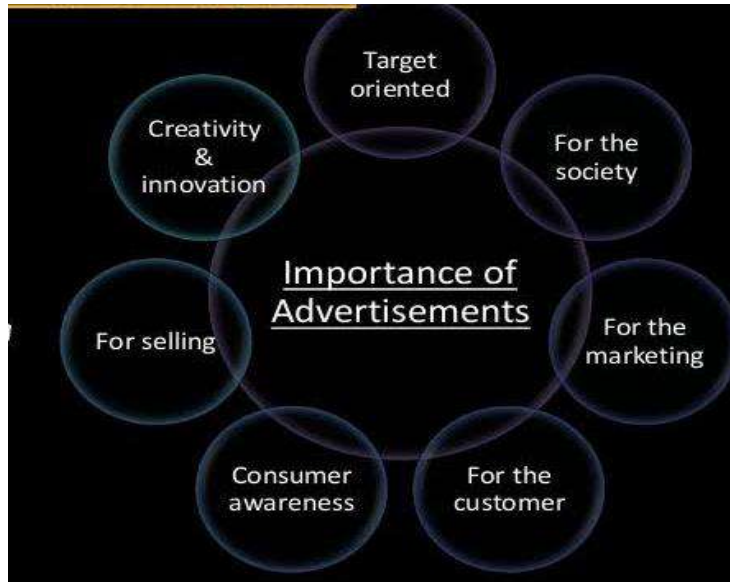
Definition of Advertising:

Advertising refers to the strategic communication and promotion of products, services, ideas, or brands to a target audience through various media channels. Its primary objective is to capture attention, create awareness, and influence consumer behavior, ultimately driving them to take specific actions, such as making a purchase, visiting a website, or adopting a particular viewpoint.

**Definition of Advertising Ethics–**

Advertising ethics is the way in which a company or a brand conducts itself and communicates with customers or buyers by following set principles and a governed manner. There are different ethical concerns which advertisers have to take care of because they are the ones responsible for communication and messaging, from the company to the world

Significance of Advertising:



1. Market Visibility:

Advertising helps products and services gain visibility in a crowded marketplace, making consumers aware of available options.

2. Brand Building:

Through consistent advertising, brands establish a distinct identity, personality, and reputation, fostering consumer loyalty.

3. Consumer Information:

Advertisements provide essential information about features, benefits, and usage of products, enabling consumers to make informed choices.

4. Revenue Generation:

Effective advertising campaigns lead to increased sales, driving revenue growth for businesses.

5. Influencing Behavior:

Advertising has the power to influence consumer behavior by shaping preferences, attitudes, and purchase decisions.

6. Creating Demand:

By highlighting the need or desire for a product, advertising stimulates demand and consumption.

7. Social Impact:

Advertising can address societal issues, raise awareness about causes, and drive positive change.

8. Economic Stimulus:

Advertising contributes to economic growth by generating employment opportunities in the advertising industry and related sectors.

9. Media Revenue: Media outlets rely on advertising revenue to sustain operations, enabling the production of quality content.

10. Global Reach:

With the advent of digital platforms, advertising can reach a global audience, transcending geographical boundaries.

Brief overview of the role of advertising in shaping consumer behavior



The role of advertising in shaping consumer behavior is significant and multifaceted. Advertising exerts a profound influence on how consumers perceive, think, and make purchasing decisions.

1. Awareness Creation:

Advertising introduces consumers to new products, services, or brands. It raises awareness by presenting information about features, benefits, and solutions that these offerings provide.

2. Information Dissemination:

Advertisements provide vital information about products, helping consumers understand their utility, specifications, and unique selling points. This information aids informed decision-making.

3. Attitude Formation:

Advertising shapes consumers' attitudes and opinions towards products. By presenting a product in a certain light, it influences how consumers perceive its value, quality, and relevance to their needs.

4. Brand Building:

Advertising plays a pivotal role in establishing and nurturing brand identity. Consistent and well-crafted advertising campaigns create a distinct brand personality that consumers can relate to.

5. Behavior Reinforcement:

Advertising reinforces desired consumer behaviors. For instance, it reminds consumers about product benefits, encourages repeat purchases, and fosters brand loyalty.

6. Purchase Intent and Decision:

Through persuasive messaging and visual cues, advertising prompts consumers to consider purchasing a product. It shapes their purchase intent and guides them towards making decisions aligned with the advertiser's objectives.

7. Influencing Emotions:

Emotional appeal in advertising connects with consumers on an emotional level, influencing their perceptions and preferences. Positive emotions associated with a brand can lead to stronger loyalty.

8. Social Norms and Trends:

Advertising often showcases products in social contexts, influencing consumers to align with trends and social norms. It creates a sense of belonging and encourages conformity.

9. Creating Need and Desire:

Advertising can create or enhance consumer needs and desires by presenting products as solutions to problems or sources of pleasure. It fosters a sense of necessity or aspiration.

10. Societal Impact:

Advertising reflects and shapes cultural norms, values, and ideals. It can challenge stereotypes, promote diversity, and address societal issues, impacting broader perspectives.

In essence, advertising acts as a bridge between businesses and consumers, informing, persuading, and guiding purchasing decisions. It is a dynamic force that not only drives economic activities but also influences how individuals perceive themselves, others, and the world around them.



Truthfulness and Honesty in Advertising

Importance of Accurate and Truthful Advertising:

Accurate and truthful advertising is essential for maintaining consumer trust and ethical business practices. When advertisements provide accurate information about products and services, consumers can make informed decisions based on their needs and preferences. Truthful advertising builds a foundation of trust between businesses and consumers, leading to long-term relationships and repeat business. On the contrary, dishonest or misleading advertising erodes trust, damages brand reputation, and can even result in legal consequences.



Examples of Misleading Claims and Their Impact on Consumer Trust:

1. False Health Claims:

An example would be a dietary supplement claiming to provide instant weight loss results without any scientific evidence. Consumers who purchase such products based on false claims may not see the promised results, leading to disappointment and loss of trust in the brand.



2. Hidden Fees:

Online retailers that advertise low prices but add hidden fees during the checkout process can create a negative experience for consumers. This tactic can lead to frustration, abandonment of the purchase, and reluctance to shop from the same retailer in the future.

3. Exaggerated Benefits:

An advertisement for a skincare product promising to eliminate all signs of aging within a week can mislead consumers into expecting unrealistic results. When these results aren't achieved, consumers may feel deceived and lose trust in the brand.



4. Selective Information:

A car dealership advertising a low monthly payment for a lease without disclosing high down payment requirements can lead to disappointed customers who weren't aware of the full financial commitment.

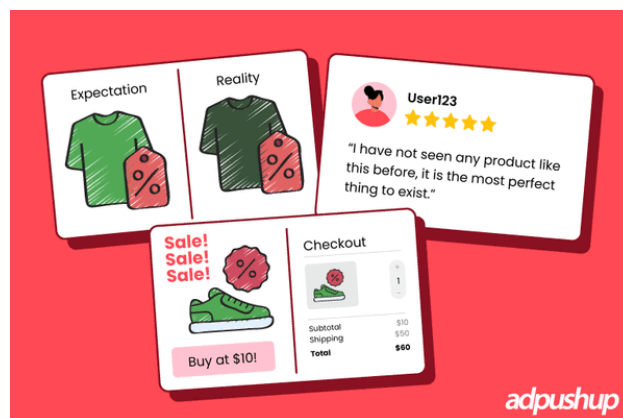
5. Before-and-After Imagery:

An advertisement using digitally altered images to show dramatic transformations from using a product can create false expectations among consumers. When the actual results fall short, consumer trust in the brand diminishes.



6. Testimonials and Reviews:

If a company fabricates customer reviews or testimonials to boost their credibility, consumers who rely on these reviews for making purchase decisions may feel betrayed when they discover the deception.



7. Misleading Statistics:

An advertisement claiming "9 out of 10 dentists recommend our toothpaste" without disclosing the sample size or criteria for selection can be misleading. Consumers may doubt the authenticity of such claims.

Stereotyping and Discrimination in Advertising

How Advertising Can Perpetuate Stereotypes and Biases:

Advertising has the power to reinforce and perpetuate stereotypes and biases by portraying certain groups in narrow, often inaccurate ways. This can occur through visuals, messaging, and the roles assigned to individuals. When advertising relies on clichés and oversimplified representations, it reinforces societal biases and can contribute to discrimination. This perpetuation of stereotypes in advertising not only reflects but also shapes cultural attitudes and perceptions.



Examination of Real-World Examples of Stereotyping and Its Implications:

1. Gender Roles:

Traditional gender roles are often perpetuated in advertising. For instance, ads portraying women primarily as homemakers and men as breadwinners reinforce gender norms and may limit people's aspirations.

2. Racial and Ethnic Stereotypes:

Some ads depict racial and ethnic groups using offensive stereotypes, reinforcing prejudices and promoting discrimination. Such portrayals can contribute to bias and perpetuate harmful stereotypes.

3. Beauty Standards:

Advertisements that promote a narrow definition of beauty can impact body image and self-esteem, leading to societal pressure to conform to unrealistic standards.



4. Ageism:

Advertising that exclusively features youthful models can marginalize older individuals, reinforcing age-related biases and undervaluing the contributions of older generations.

Implications of Stereotyping in Advertising:

1. Reinforcement of Bias:

Stereotyping in advertising reinforces biases that already exist in society, making it challenging to overcome deeply rooted prejudices.

2. Social Exclusion:

Stereotypical representations can lead to the exclusion of marginalized groups from social, economic, and political spheres.

3. Normalization of Discrimination:

By normalizing stereotypes, advertising can perpetuate discriminatory attitudes and behaviors.

4. Impact on Self-Perception:

People who identify with stereotyped groups may internalize these portrayals, affecting their self-esteem and self-worth.

5. Reduced Diversity and Inclusion: Stereotypical representations hinder efforts to create diverse and inclusive spaces, both in advertising and society at large.

Exploitation of Vulnerable Audiences

Explanation of Vulnerable Target Audiences:

Vulnerable target audiences in advertising include children and the elderly. These groups are considered vulnerable due to factors such as limited decision-making capacity, susceptibility to manipulation, and potential difficulties in understanding complex messaging.

Children:

Children lack the cognitive and emotional development to critically evaluate advertising messages. They are often drawn to colorful and animated content, making them susceptible to persuasive tactics.

Elderly:

The elderly may face cognitive decline, making it challenging for them to process complex information and recognize manipulative advertising techniques. They may also be more trusting, making them targets for scams.

Ethical Considerations When Targeting Vulnerable Groups:

1. Transparency:

Advertisers must be transparent and honest in their messaging when targeting vulnerable groups. Any claims made in advertising should be accurate and easily understood by the audience.

2. Avoiding Manipulation:

Advertisers should avoid using manipulative tactics that exploit vulnerabilities. Messages should be straightforward, respectful, and not intended to deceive or pressure.

3. Respecting Autonomy:

When targeting the elderly, advertisers should respect their autonomy and not take advantage of their potential cognitive limitations. Avoiding high-pressure sales tactics is crucial.

4. Parental Consent:

When targeting children, obtaining parental consent is important, especially for collecting personal data. Advertisers should ensure that their interactions with children are age-appropriate and do not infringe on their privacy.

5. Promoting Positive Values: Advertisers should prioritize promoting positive values, education, and responsible consumption when targeting vulnerable groups. Messages should align with the well-being of these audiences.

Case Study 1:

Fairness Cream Advertisements

Ethical Dilemma: Many fairness cream advertisements in India have been criticized for promoting harmful stereotypes and promoting the idea that fair skin is superior. These ads have faced backlash for perpetuating colorism and eroding self-esteem.

Ethical Handling:

Advertisers could have taken an ethical approach by promoting skin health rather than skin color. They could focus on skincare solutions without associating them with social status or beauty standards. Messages about confidence, self-acceptance, and embracing natural beauty could be more ethical.

Case Study 2:

Misleading Health Claims

Ethical Dilemma:

Some health and wellness products claim miraculous benefits without scientific evidence. This can mislead consumers into purchasing ineffective or even harmful products based on false promises.

Ethical Handling:

Advertisers should ensure that health claims are supported by credible scientific research and provide transparent information about the limitations and potential risks of the product. Clear disclaimers can communicate that results vary and that a balanced lifestyle is crucial.

Case Study 3:

Gender Stereotyping in Ads

Ethical Dilemma: Advertisements that reinforce traditional gender roles and stereotypes can contribute to inequality and discrimination. Such ads may depict women in domestic roles or portray men as aggressive.

Ethical Handling:

Advertisers should create content that breaks free from gender stereotypes. Representing diverse gender roles and showing individuals in empowered, non-stereotypical situations can promote inclusivity and challenge harmful norms.

Ethical Guidelines for Advertisers:



1. Honesty and Truthfulness:

Advertisers should ensure that all claims made in advertisements are accurate, supported by evidence, and do not mislead consumers.

2. Respect for Diversity:

Advertisements should avoid stereotypes, cultural appropriation, and insensitivity, while promoting inclusivity and diverse representation.

3. Transparency:

Advertisers should clearly disclose paid endorsements, partnerships, and any alterations to images or videos.

4. Informed Consent:

Advertisers should obtain genuine consent from individuals featured in their campaigns, ensuring they understand how their images or stories will be used.

5. Avoiding Exploitation:

Advertisers should refrain from targeting vulnerable audiences, such as children and the elderly, and should never exploit their emotions, insecurities, or lack of knowledge.

6. Social Responsibility:

Advertisers should consider the potential societal impact of their campaigns and refrain from promoting harmful behaviors or perpetuating negative stereotypes.

7. Environmental Responsibility:

Advertisers should avoid greenwashing and provide accurate information about their environmental practices.

Strategies to Address and Prevent Ethical Concerns:



1. Comprehensive Review:

Advertisers should establish a thorough review process to ensure that advertisements meet ethical guidelines before release.

2. Ethics Training:

Advertisers and marketers should undergo regular ethics training to enhance their understanding of potential ethical concerns and how to address them.

3. Diverse Teams:

Creating diverse teams with individuals from different backgrounds can help identify potential ethical pitfalls and ensure more culturally sensitive and inclusive campaigns.

4. Consultation with Stakeholders:

Consulting with relevant stakeholders, including consumers, advocacy groups, and experts, can provide valuable insights and prevent unintended ethical breaches.

5. Ethics Hotline:

Establishing an ethics hotline or platform where employees and consumers can report concerns can help address ethical violations promptly.

6. Public Accountability:

Advertisers should openly acknowledge and address any ethical concerns raised by the public, showing a commitment to rectifying mistakes.

7. Monitoring and Feedback:

Regularly monitoring consumer feedback and response to advertisements can help advertisers identify ethical concerns and make necessary adjustments.

8. Collaboration with Regulatory Bodies:

Advertisers should work closely with advertising regulatory bodies to ensure compliance with ethical standards and legal requirements.

9. Educational Initiatives:

Brands can use their platforms to educate consumers about advertising tactics, encouraging critical thinking and empowering them to make informed decisions.

10. Prioritizing Purposeful Advertising:

Advertisers should focus on creating campaigns that have a positive impact on society, addressing real issues and promoting positive change.

By implementing these ethical guidelines and strategies, advertisers can uphold their responsibility to promote respectful, transparent, and ethical advertising practices that benefit both consumers and society as a whole.

Outcomes and Conclusion:

In this project, we delved into various ethical issues prevalent in advertising and their implications for both consumers and society. We explored the significance of responsible advertising in maintaining consumer trust, promoting positive societal values, and upholding ethical standards.

Key ethical concerns such as truthfulness and honesty, deceptive advertising, stereotyping, exploitation of vulnerable audiences, privacy and data collection, emotional manipulation, and cultural sensitivity were thoroughly examined. Through case studies, we highlighted instances where ethical boundaries were crossed and discussed how they could have been handled more ethically.

We emphasized the need for advertisers to adopt ethical guidelines that prioritize honesty, transparency, diversity, and respect for consumer well-being. Strategies to address and prevent ethical concerns, such as comprehensive review processes, diversity in teams, ethics training, and public accountability, were proposed.

Ultimately, responsible advertising serves as a cornerstone for fostering consumer trust, promoting positive social values, and contributing to a more ethical and equitable society. Advertisers play a crucial role in shaping perceptions, attitudes, and behaviors, and by adhering to ethical standards, they can drive positive change while building lasting relationships with their audiences.

PROJECT FILES PHILOSOPHY



Government College, Ropar



A
PROJECT REPORT
ON
WATER POLLUTION



Submitted to

Dr. Anu Shrama

Submitted by

Name – Nilesh Kumar

Roll No. - 3427

This is certified that this work entitled **Water Pollution** is a bonafide recor of work done by **Nilesh Kumar**, Roll No. **3427** Department of Philosophy , Govt. College, Ropar under the supervision of **Dr. Anu Shrama** during the session 2022-2023.



Government College, Ropar



**A
PROJECT REPORT
ON
AGRICULTURE ETHICS**

Submitted to

Dr. ANU SHRAMA

Government College, Ropar

Submitted by

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Roll No. - 3001

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Acknowledgment

I would like to express my sincere gratitude to all those who have contributed to the successful completion of this project on agricultural ethics. Their support, guidance, and encouragement have been invaluable throughout the journey.

I extend my heartfelt thanks to my Dr. Anu Sharma for their insightful guidance, expert advice, and unwavering support in shaping the direction of this project. Their valuable feedback and encouragement motivated me to delve deeper into the ethical dimensions of agriculture.

I am also thankful to my peers and classmates for engaging in thought-provoking discussions and sharing their perspectives on the topic, which greatly enriched my understanding and analysis.

I would like to acknowledge the authors, researchers, and scholars whose works have formed the foundation of this project. Their contributions have provided a robust basis for the discussions and insights presented in this report.

Lastly, I express my appreciation to my family and friends for their patience, encouragement, and understanding during the time devoted to researching, compiling, and crafting this project.

Without the collective support of these individuals, this project would not have been possible. Thank you all for being an integral part of this endeavor.

Content

- Introduction - Agriculture Ethics
- Objectives
- Ethical principles in Agriculture
- Environmental impact of Farming and ethical implications
- Real World Examples of Ethical Success
- Ethical challenges
- Outcomes

Introduction to Agricultural Ethics:

Agricultural ethics, at its core, revolves around the moral considerations and principles guiding the interactions between humans, nature, and the food production process. As modern farming practices continue to evolve, the ethical implications of these practices have gained increasing attention. Ethical decision-making in agriculture involves balancing the need to produce food efficiently with the responsibility to protect the environment, ensure animal welfare, and uphold the well-being of farm workers and local communities.

In an era where issues such as environmental degradation, food security, and equitable resource distribution are pressing concerns, the ethical dimension of agriculture becomes crucial. This field of study delves into questions of sustainability, fairness, and the consequences of our farming choices on ecosystems, animal lives, and human societies.

Agricultural ethics prompts us to critically examine practices that may compromise the health of the planet, the well-being of animals, and the livelihoods of those involved in food production. By exploring the ethical considerations embedded in farming methods, technological advancements, labor practices, and resource management, we gain insights into how to navigate the complex web of relationships that shape the food we consume.

This project aims to delve into the heart of agricultural ethics, shedding light on the key principles that guide responsible farming practices. By understanding these principles, we can pave the way for a more sustainable and morally conscious approach to agriculture, ensuring that the food we grow, produce, and consume aligns with our shared values of environmental stewardship, fairness, and compassion.



Objectives: Agricultural Ethics

1. To Understand Ethical Principles in Agriculture:

Explore and explain the fundamental ethical principles that guide responsible agricultural practices, including sustainability, fairness, and respect for all stakeholders.

2. To Analyze Environmental Impact:

Investigate the ethical implications of various agricultural practices on the environment, examining issues like soil health, water conservation, and pesticide use.

3. To Evaluate Animal Welfare Concerns:

Examine and assess the ethical treatment of animals in agriculture, considering aspects such as confinement, humane treatment, and the impact of industrial farming.

4. To Examine Fair Trade and Labor Practices:

Investigate the ethical dimensions of fair trade, labor conditions, and workers' rights within the agricultural industry.

5. To Explore Cultural and Indigenous Perspectives:

Understand the ethical considerations related to how agricultural practices intersect with indigenous traditions, cultural values, and land use.

6. To Present Case Studies:

Showcase real-world examples of both successful ethical practices and challenges faced in the agricultural sector, illustrating the impact of ethical decisions.

7. To Discuss Consumer Influence:

Discuss the role of consumers in influencing ethical agricultural practices through their purchasing decisions and demand for sustainable products.

8. To Propose Future Directions:

Speculate on the evolving landscape of agricultural ethics, considering potential changes in farming practices, technology, policy, and consumer behavior.

By accomplishing these objectives, the project aims to provide a comprehensive understanding of the ethical dimensions within agriculture and encourage a thoughtful exploration of the principles that can guide more responsible and sustainable farming practices.

Ethical Principles in Agriculture

Ethical principles are the moral guidelines that help individuals and societies determine what is right and wrong. In the context of agriculture, these principles provide a framework for making responsible choices that balance the needs of food production with environmental sustainability, animal welfare, and social justice. Here are some fundamental ethical principles relevant to farming practices:

1. Sustainability:

Agricultural practices should prioritize the long-term health and viability of ecosystems, soil, and water resources. This principle encourages methods that minimize negative impacts on the environment, prevent resource depletion, and maintain ecological balance for the benefit of current and future generations.

2. Respect for Life:

This principle emphasizes the inherent value of all living beings. It extends to both plants and animals involved in the agricultural process. Ethical farming involves treating animals with care and minimizing their suffering, while also ensuring that plant life is utilized responsibly.

3. Fairness and Justice:

Ethical agriculture requires equitable distribution of resources, benefits, and burdens among various stakeholders including farmers, workers, communities, and consumers. Fair labor practices, access to land, and opportunities for all involved in the agricultural value chain are essential considerations.

4. Biodiversity:

This principle emphasizes the importance of maintaining diverse ecosystems. Ethical farming practices aim to preserve genetic diversity in crops and livestock, which contributes to resilience against disease, climate change, and other challenges.



5. Transparency:

Ethical farmers and agricultural systems promote transparency in processes, practices, and labeling. Consumers have the right to know how their food is produced, allowing them to make informed choices aligned with their values.

6. Minimization of Harm:

This principle underscores the need to minimize negative impacts on the environment, human health, and animal welfare. Ethical farming seeks to reduce the use of harmful chemicals, prevent pollution, and avoid practices that harm ecosystems.

7. Responsibility:

Farmers have a responsibility to manage land, resources, and animals in a way that ensures the well-being of both present and future generations. This includes responsible land use, waste management, and sustainable practices that maintain the health of ecosystems.

8. Collaboration:

Ethical farming often involves collaboration with local communities, scientists, and experts to make informed decisions that consider diverse perspectives and the collective good.

These ethical principles collectively guide responsible agricultural choices by encouraging practices that contribute to the well-being of the environment, animals, workers, and society as a whole. By adhering to these principles, farmers can contribute to a more sustainable and ethical food production system.



Environmental Impact of Farming and Ethical Implications

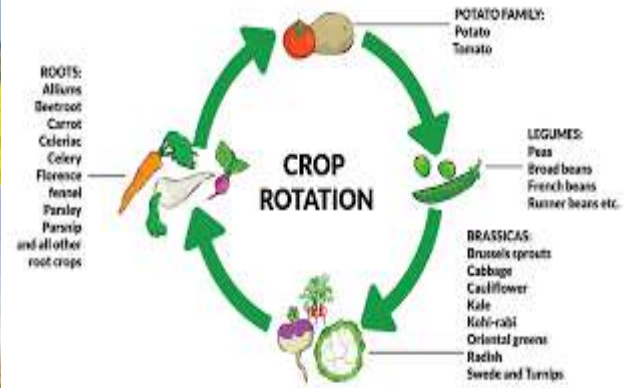
Farming practices have a significant impact on the environment, and these impacts carry ethical considerations that revolve around our responsibility to safeguard natural resources, ecosystems, and future generations. The ethical implications of farming on the environment are reflected in how our choices affect soil, water, air quality, biodiversity, and overall ecosystem health.

Sustainable Practices:



1. Crop Rotation:

Ethical farming involves practicing crop rotation, which helps maintain soil fertility and reduces the need for chemical fertilizers by alternating crops that have different nutrient requirements.



2. Agroforestry:

Planting trees alongside crops can prevent soil erosion, improve biodiversity, and contribute to carbon sequestration, aligning with ethical principles of environmental stewardship.



3. Organic Farming:

Avoiding synthetic pesticides and fertilizers in organic farming reduces water pollution, protects beneficial insects, and maintains soil health.



4. Precision Agriculture:

Using technology to precisely target irrigation and fertilization minimizes resource waste, conserves water, and reduces nutrient runoff into water bodies.

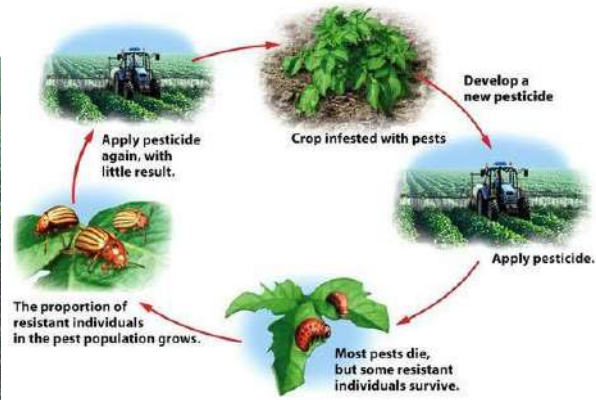
5. Cover Crops:

Planting cover crops during fallow periods prevents soil erosion, adds organic matter, and enhances soil structure.

Unsustainable Practices:

1. Monocropping:

Planting the same crop year after year depletes soil nutrients, increases vulnerability to pests, and disrupts natural biodiversity.



2. Overuse of Chemicals:

Excessive use of synthetic fertilizers and pesticides can contaminate soil, water, and harm non-target organisms, disrupting ecosystems.



3. Deforestation for Agriculture:

Clearing forests for farming contributes to loss of biodiversity, habitat destruction, and carbon emissions.



4. Overgrazing:

Allowing livestock to overgraze can degrade grasslands, leading to soil erosion, desertification, and habitat loss.



5. Excessive Water Usage:

Over-irrigation can deplete water sources, lead to water scarcity, and harm aquatic ecosystems through nutrient runoff.

Understanding the ethical implications of these practices is vital for making responsible choices in agriculture. By adopting sustainable practices that minimize negative impacts and promote environmental well-being, farmers contribute to the

ethical imperative of preserving our planet's health and ensuring a balanced coexistence between humans, nature, and the food production process.



Real-World Examples of Ethical Successes and Challenges in Indian Agriculture

Ethical Success:

Example 1 - Amul Dairy Cooperative:

Amul, a renowned dairy cooperative in India, has been a success story in promoting ethical practices. It empowers farmers by providing them fair prices for their milk, reducing the dependency on middlemen. This model ensures that the benefits of milk production reach the farmers directly, improving their socio-economic conditions and promoting sustainable dairy farming practices.



Example 2 - Zero Budget Natural Farming (ZBNF):

ZBNF, pioneered by Subhash Palekar, promotes ethical and sustainable farming practices. It minimizes the use of external inputs, pesticides, and synthetic fertilizers, promoting natural approaches. ZBNF emphasizes farmer empowerment, reduced production costs, and improved soil health, contributing to ethical and environmentally friendly agriculture.

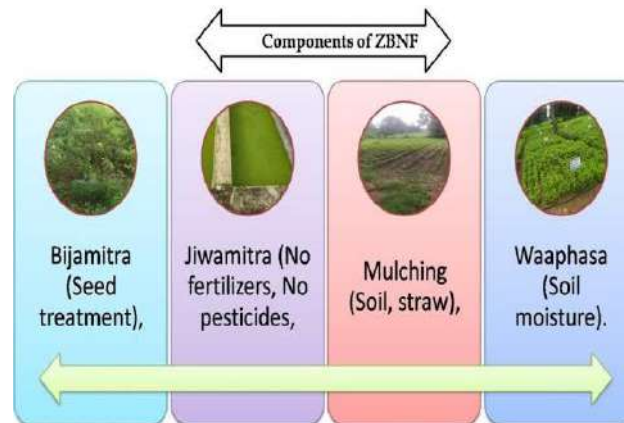


Figure1: Different components of Zero Budget Natural Farming

Ethical Challenges:

Example 1 - Child Labor in Cotton Farming:

Cotton farming in India has faced ethical challenges due to the prevalence of child labor in some regions. The use of child labor contradicts ethical principles and human rights standards, prompting calls for stricter regulations and improved labor practices.

Example 2 - Pesticide Misuse in Vegetable Farming:

The excessive use of pesticides in vegetable farming has ethical implications for both human health and the environment. Farmers sometimes misuse pesticides due to lack of awareness or improper training, leading to contamination of produce and harmful effects on consumers and ecosystems.

Impact of Ethical Decisions on Farming Outcomes:

Positive Impact:

1. Sustainability:

Ethical decisions lead to more sustainable farming practices that enhance soil fertility, conserve water, and protect biodiversity. This contributes to long-term farm viability.

2. Quality and Safety:

Ethical choices improve the quality and safety of produce, ensuring consumers receive nutritious and safe food while also reducing health risks.

3. Economic Growth:

Fair trade and ethical labor practices can lead to improved livelihoods for farmers and workers, contributing to local economic growth and reducing poverty.

Challenges:

1. Initial Costs:

Implementing ethical practices might involve initial costs, such as investing in organic certification or transitioning to more sustainable methods. These costs can be a barrier for some farmers.

2. Short-Term Yield:

Some ethical practices may lead to lower short-term yields compared to conventional methods. Farmers need to balance long-term benefits with immediate productivity.

3. Consumer Demand:

Meeting ethical standards can be challenging if consumer demand for ethically produced products is not widespread or if price premiums are not sufficient to cover additional costs.

4. Behavioral Change: Encouraging farmers to adopt new ethical practices requires education, training, and a shift in mindset, which can be met with resistance.

- Outcome:

This challenge involves finding a balance between meeting the demand for affordable meat while also addressing ethical concerns about animal welfare. The ethical decision here revolves around developing more humane and sustainable livestock practices.

Impact of Ethical Decisions on Farming Outcomes:

1. Environmental Sustainability:

Ethical decisions such as practicing agroecological farming, reducing chemical use, and promoting biodiversity lead to healthier ecosystems, improved soil fertility, and reduced environmental degradation.

2. Consumer Demand:

Ethical choices, like supporting organic or fair trade products, influence market trends, encouraging sustainable practices and rewarding responsible farmers.

3. Food Security: Ethical choices in seed preservation, crop diversity, and local food systems contribute to long-term food security by reducing vulnerability to pests, disease, and climate change.

4. Economic Viability:

Ethical farming practices often improve long-term economic stability by preserving soil health, reducing input costs, and creating niche markets for ethically produced goods.

5. Community Well-Being:

Ethical decisions that prioritize fair wages, safe working conditions, and community engagement improve the quality of life for farm workers and local communities.

6. Reputation and Branding:

Ethical farming practices enhance a farm's reputation, attracting consumers who value sustainability, transparency, and ethical treatment of workers and animals.

In these examples, ethical decisions have the power to shape not only the immediate farming practices but also broader outcomes that impact the environment, society, and the agricultural industry as a whole.



Government College, Ropar



**A
PROJECT REPORT
ON
WATER POLLUTION**



Submitted to

Dr. Anu Shrama

Submitted by

Name – Nilesh Kumar

Roll No. - 3427

This is certified that this work entitled **Water Pollution** is a bonafide recor of work done by **Nilesh Kumar**, Roll No. **3427** Department of Philosophy , Govt. College, Ropar under the supervision of **Dr. Anu Shrama** during the session 2022-2023.

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I want to express my deepest gratitude to Dr. Anu Sharma, my dedicated professor from the Philosophy Department at Government College Ropar. Her profound expertise, unwavering support, and insightful guidance were pivotal in shaping and refining my project on water pollution for the "Applied Ethics" course during the 2022-23 academic session.

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I am equally thankful to my fellow classmates, whose engaging discussions and resource-sharing transformed the project into a collaborative learning experience.

I am indebted to the college administration for providing access to essential resources, a conducive learning atmosphere, and the opportunity to engage in meaningful academic pursuits.

Lastly, heartfelt appreciation goes to my family and friends for their unwavering support, patience, and encouragement, which sustained me through the challenges of this endeavor.

With sincere appreciation,

Nilesh Kumar

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I. Introduction

Water, the lifeblood of our planet, sustains not only the existence of every living creature but also the delicate balance of ecosystems that thrive within it. However, this invaluable resource faces a perilous threat in the form of water pollution. The contamination of our water bodies by pollutants and harmful substances has far-reaching consequences that extend beyond the immediate environment to impact human health, economies, and the future well-being of our planet. In this discourse, we delve into the various facets of water pollution, its sources, effects, and the imperative need for a united front of individuals, communities, and governments to combat this crisis. By understanding the gravity of the situation and the potential solutions at hand, we embark on a journey to preserve our most precious resource—clean water—for the benefit of all life forms and generations to come.

Objective

The objective is to raise awareness about the critical issue of water pollution and inspire collaborative efforts to prevent, mitigate, and ultimately eliminate its harmful effects. By fostering a sense of responsibility among individuals, communities, and governments, we aim to ensure the availability of clean and safe water for present and future generations. This objective includes advocating for stronger

regulatory measures, promoting sustainable practices, advancing technological innovations, and encouraging public engagement in the fight against water pollution. Through these collective actions, we strive to preserve the integrity of our water ecosystems, protect public health, and uphold the ecological and economic balance that hinges on the availability of clean water.

Definition

Water pollution: This term refers to the introduction of pollutants into water bodies, including rivers, lakes, oceans, and groundwater. Pollutants can be chemicals, pathogens, or physical agents that degrade water quality and make it unsafe for various uses.

Importance of clean water:

Clean water is a fundamental requirement for human survival. It is essential for drinking, cooking, and personal hygiene. Additionally, agriculture relies on water for irrigation, while industries need it for processes and cooling.

- Ecological balance:

Aquatic ecosystems are intricately connected. When water bodies are polluted, it disrupts the delicate balance of these ecosystems. Contaminants can harm aquatic plants, fish, and other organisms, leading to a ripple effect on the entire food chain.

- Public health:

Consuming polluted water can lead to various waterborne diseases like cholera, dysentery, and giardiasis. Proper water treatment and sanitation are crucial to prevent these health risks and protect human well-being.

- Environmental health:

Beyond human health, water pollution also harms the environment. Pollutants can lead to eutrophication, where excessive nutrients cause algal blooms that deplete oxygen levels and suffocate aquatic life. Additionally, toxic chemicals can accumulate in organisms, posing risks to both aquatic and terrestrial animals.

-Sustainability:

To ensure a sustainable future, we must address water pollution. Implementing effective waste management systems, improving agricultural practices to reduce runoff, and enforcing stricter industrial regulations are all steps toward mitigating water pollution and safeguarding our natural resources.

- Conservation efforts:

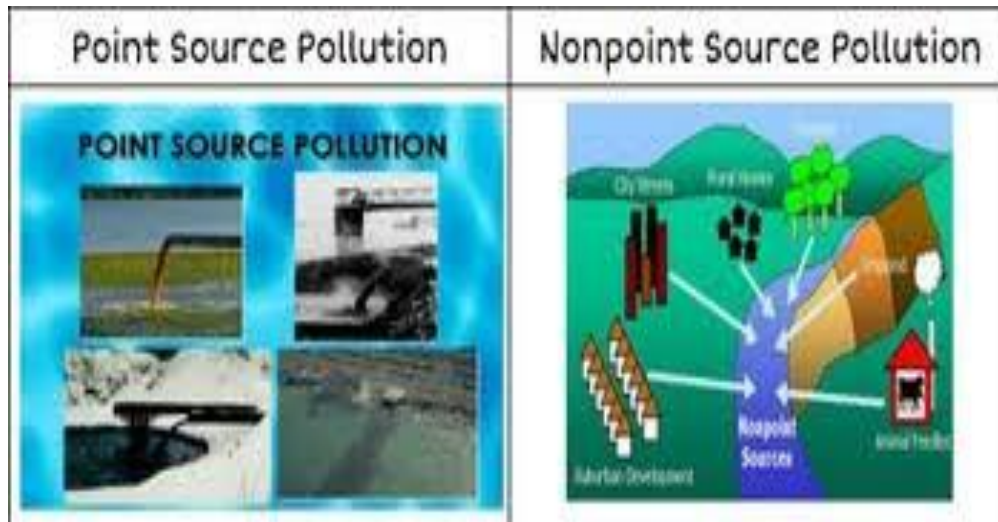
Governments, organizations, and individuals play roles in tackling water pollution. Laws and regulations can limit the discharge of pollutants into water bodies. Wastewater treatment plants help remove

contaminants from sewage before it's released. Education and awareness campaigns encourage responsible water use and pollution prevention.

II Types of Water Pollutants

A. Point-source pollutants

B. Non-point-source pollutants



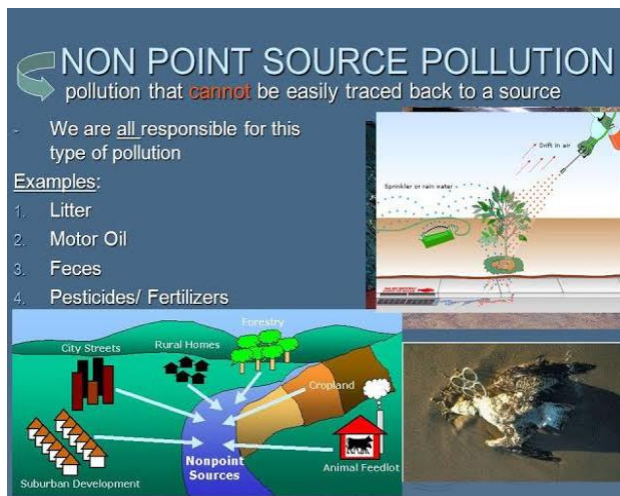
Point-source pollutants:

These are pollutants that enter water bodies from specific, identifiable sources. These sources include industrial facilities, sewage treatment plants, and oil spills. Point-source pollution is easier to track and manage because the origin is clear, allowing for targeted mitigation efforts and regulatory control.



Non-point-source pollutants:

Unlike point-source pollutants, non-point-source pollutants originate from diffuse and widespread sources. These can include agricultural runoff carrying pesticides and fertilizers, urban stormwater runoff containing pollutants from roads and buildings, and erosion from construction sites. Non-point-source pollution is harder to pinpoint and control due to its dispersed nature, making it a challenging issue to address effectively.



III. Sources of Water Pollution

- A. Industrial sources
- B. Agricultural runoff

C. Municipal wastewater

D. Stormwater runoff

E. Oil spills and leaks



A. Industrial sources:

Industries release a variety of pollutants into water bodies through their processes. These can include chemicals, heavy metals, and toxic substances. If not properly treated, industrial wastewater can contaminate waterways and harm aquatic life



B. Agricultural runoff:

Agricultural activities involve the use of fertilizers, pesticides, and herbicides. When it rains, these chemicals can be washed off fields into nearby rivers and streams, leading to water pollution. Animal manure and sediment erosion from plowed fields also contribute to this type of pollution.



C. Municipal wastewater:

Wastewater from households, businesses, and institutions is collected and treated at municipal sewage treatment plants. However, if these plants are overloaded or not functioning properly, untreated or partially treated sewage can be discharged into water bodies, introducing harmful bacteria and pathogens.



D. Stormwater runoff:

When it rains, water flows over streets, parking lots, and other impervious surfaces, picking up pollutants like oil, chemicals, and debris along the way. This polluted stormwater runoff can flow directly into water bodies, causing contamination.



E. Oil spills and leaks:

Accidental spills of oil from ships, pipelines, or storage facilities can have catastrophic effects on water quality. Oil is toxic to aquatic life and can cause long-term damage to ecosystems. Even small leaks from vehicles and equipment can accumulate and pollute water bodies over time.



IV. Effects of Water Pollution

- A. Impact on aquatic life
- B. Threat to human health
- C. Disruption of ecosystems
- D. Economic consequences

A. Impact on aquatic life:

Water pollution can harm aquatic organisms in various ways. Pollutants like heavy metals and chemicals can accumulate in the tissues of fish and other organisms, leading to health issues and reduced reproduction. Oxygen-depleting substances from pollution can cause dead zones where aquatic life cannot survive. Changes in water temperature and pH levels due to pollution can also negatively affect aquatic ecosystems.



B. Threat to human health:

Polluted water poses significant risks to human health. Waterborne diseases, caused by pathogens in contaminated water, can lead to illnesses like cholera, dysentery, and hepatitis. Additionally, exposure to toxic chemicals in polluted water can result in long-term health problems, including cancer, neurological disorders, and reproductive issues.



Diarrhea



Vomiting



Typhoid



Diphtheria



Hepatitis



Kidney Damage



Nerve Disorders



Skin Lesions

C. Disruption of ecosystems:

Water pollution can disrupt entire ecosystems. The introduction of pollutants can lead to imbalances in populations of aquatic organisms, causing some species to thrive while others decline. This disrupts the food chain and can lead to cascading effects throughout the ecosystem, affecting both aquatic and terrestrial life.



D. Economic consequences:

Water pollution has economic repercussions. Contaminated water affects industries such as fishing, tourism, and agriculture. Fishery resources can decline due to polluted habitats, harming fishing economies. Polluted water bodies are unattractive for tourism, leading to losses in revenue. Moreover, the costs of water treatment and healthcare due to waterborne diseases can place a burden on communities and governments



V. Common Water Pollutants

A. Chemical pollutants

B. Biological pollutants

C. Physical pollutants

A. Chemical pollutants:

1. Heavy metals:

Toxic heavy metals like lead, mercury, and cadmium can enter water bodies from industrial discharges and agricultural runoff. They accumulate in aquatic organisms and can lead to health problems when consumed by humans.



2. Pesticides and herbicides:

Agricultural chemicals used to control pests and weeds can wash into water bodies, contaminating them. These chemicals can harm aquatic life and disrupt ecosystems.



3. Industrial chemicals:

Various chemicals from industrial processes, such as solvents, plastics, and dyes, can find their way into water bodies. These pollutants can be harmful to both aquatic life and human health.

4. Petroleum products: Oil and petroleum products, often from spills or leaks, can coat the water surface, suffocate aquatic life, and disrupt ecosystems. They are particularly harmful due to their persistence and toxicity.

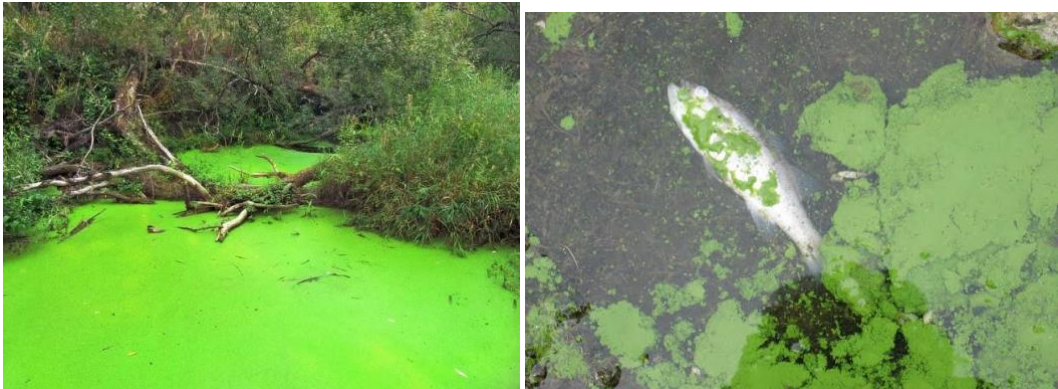
B. Biological pollutants:

1. Pathogens:

Bacteria, viruses, and parasites present in human and animal waste can contaminate water bodies, leading to waterborne diseases. Common examples include E. coli, Giardia, and Hepatitis A.

2. Algal blooms:

Excessive nutrient pollution, often from agricultural runoff or untreated sewage, can lead to algal blooms. These blooms can produce toxins harmful to aquatic life, humans, and pets.



3. Invasive species:

Non-native species introduced into water bodies can disrupt native ecosystems by outcompeting native species or causing imbalances in food chains.



C. Physical pollutants:

1. Sediment:

Soil erosion from construction sites, agricultural fields, and deforested areas can result in sediment runoff. Sediment can cloud water, block sunlight, and smother aquatic habitats.

2. Trash and debris:

Plastics, litter, and other debris can accumulate in water bodies, posing dangers to aquatic life that might ingest or get entangled in them.

3. Heat:

Discharge of heated water from industrial processes or power plants can raise water temperatures, negatively impacting aquatic ecosystems and the organisms that depend on them.

VI. Prevention and Solutions

A. Regulatory measures and laws

B. Water treatment and filtration

C. Public awareness and education

D. Sustainable practices in agriculture and industry

Certainly, let's explore the prevention and solutions for water pollution:

A. Regulatory measures and laws:

1. Environmental regulations:

Governments can enforce laws that set limits on pollutant discharges from industries and wastewater treatment plants, ensuring they meet specific water quality standards.

2. Zoning and land use regulations:

Proper zoning and land use planning can help prevent pollution by controlling where industries, urban development, and agriculture are located to minimize their impact on water bodies.



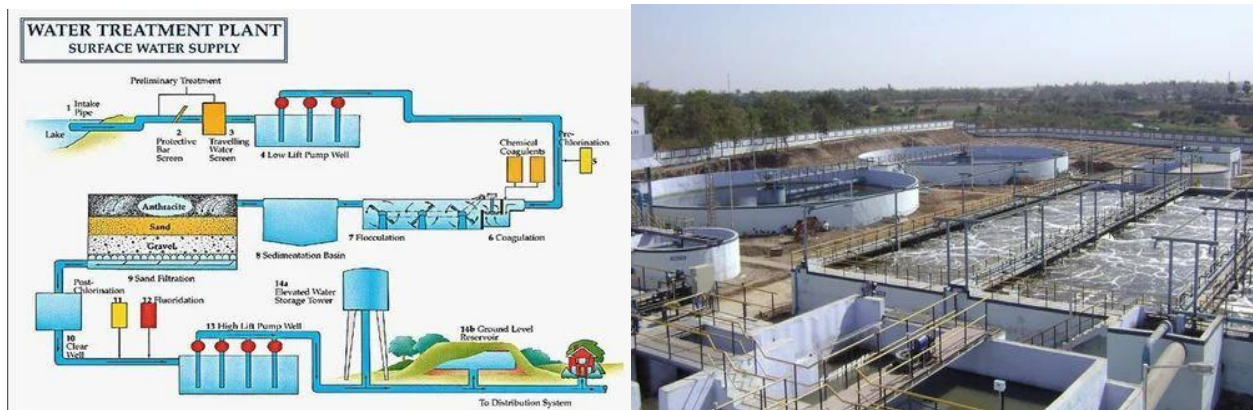
B. Water treatment and filtration:

1. Wastewater treatment:

Effective treatment of sewage and industrial wastewater before it's released into water bodies is crucial to remove contaminants and pollutants.

2. Advanced treatment technologies:

Advanced methods like reverse osmosis and UV disinfection can be employed to further purify water and remove specific contaminants.



C. Public awareness and education:

1. Water conservation:

Educating the public about responsible water use can reduce strain on water resources and minimize pollution from excessive runoff.

2. Proper waste disposal:

Encouraging proper disposal of waste, including chemicals and plastics, can prevent these materials from entering water bodies.



D. Sustainable practices in agriculture and industry:

1. Integrated pest management:

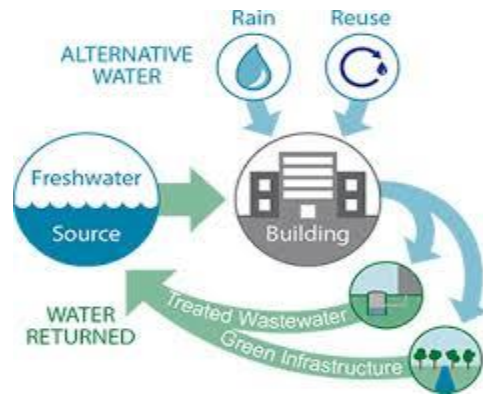
Promoting the use of natural predators, crop rotation, and targeted pesticide use in agriculture can reduce chemical runoff.

2. Reducing nutrient runoff:

Employing practices like cover cropping and buffer zones can help prevent excessive nutrient runoff from fertilized fields.

3. Green infrastructure:

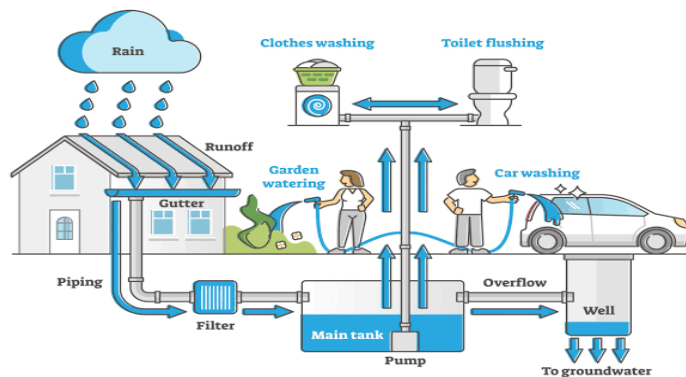
Incorporating green roofs, permeable pavement, and constructed wetlands in urban planning can mitigate stormwater runoff and pollution.



4. Efficient resource use:

Industries can adopt practices that minimize water consumption, reduce chemical use, and properly manage waste to prevent pollution.

RAINWATER HARVESTING



VII. Conclusion

A. Importance of addressing water pollution

B. Call to action for individuals, communities, and governments

A. Importance of addressing water pollution:

Water pollution poses a grave threat to our environment, public health, and economic stability. The health of our ecosystems, aquatic life, and human populations is intimately linked to the quality of our water resources. Failing to address water pollution not only jeopardizes the delicate balance of nature but also undermines our ability to meet basic needs and ensure a sustainable future. Clean water is not a luxury; it is a fundamental necessity that demands immediate attention.

B. Call to action for individuals, communities, and governments:

The responsibility to combat water pollution falls upon each of us—individuals, communities, and governments alike. We must adopt sustainable practices in our daily lives, conserve water, reduce waste, and raise awareness about the importance of clean water. Communities can organize cleanup initiatives and advocate for responsible development. Governments should enact and enforce stringent regulations, invest in modern infrastructure, and support research that drives innovative solutions.

It is within our power to reverse the damage caused by water pollution. By joining forces, we can ensure that future generations inherit a world where clean water flows freely, sustaining life and nourishing the planet. Let's take action today to safeguard this invaluable resource and secure a healthier, more prosperous future for all.

Positive Outcomes of Addressing Water Pollution:

1. Healthier Ecosystems:

By reducing pollution, aquatic ecosystems can recover and thrive. Biodiversity increases, leading to more resilient and balanced ecosystems.

2. Safe Drinking Water:

Effective pollution control ensures safer and cleaner drinking water sources, reducing the risk of waterborne diseases and promoting public health.

3. Sustainable Fisheries:

Less pollution leads to healthier fish populations and improved fisheries, benefiting both local economies and global food security.

4. Preserved Biodiversity

Controlling water pollution helps protect the habitats of numerous plant and animal species, contributing to the preservation of biodiversity.

5. Improved Tourism: Cleaner water bodies become attractive tourist destinations, benefiting local economies and encouraging the conservation of natural areas.

6. Economic Growth: Industries reliant on clean water, such as agriculture and manufacturing, can thrive without the burden of cleanup costs or negative environmental impacts.

7. Enhanced Quality of Life: Cleaner waterways provide recreational opportunities like swimming and boating, contributing to improved quality of life for local communities.

8. Long-Term Sustainability:

Addressing water pollution ensures the availability of clean water for future generations, promoting long-term sustainability.

9. Climate Resilience

Healthy water bodies can play a role in mitigating climate change impacts by acting as carbon sinks and supporting resilient ecosystems.

10. Global Cooperation:

Collaborative efforts to combat water pollution foster international cooperation and partnerships, transcending political boundaries.

11. Scientific Advancements:

The pursuit of pollution solutions drives technological innovation and scientific advancements in water treatment and monitoring.