Govt. College, Ropar

Computer Department (HEIS)

Class B.C.A Sem. 1
(Session 2018-2019)

Week	Lesson scheduled
1st	ਪੰਜਾਬੀ ਧੁਨੀ ਵਿਉਂਤ ਸਵਰ, ਵਿਅੰਜਨ ਧੁਨੀਆਂ ਦਾ ਵਰਗੀਕਰਨ
2nd	ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਤੇ ਗੁਰਮੁਖੀ ਲਿਪੀ ਦਾ ਰਿਸ਼ਤਾ,ਸ਼ਬਦ ਜੋੜਾਂ ਦੇ ਨਿਯਮ
3rd	ਨਿਬੰਧ ਰਚਨਾ
4th	ਬਤਖ ਦੇ ਖੰਭਾ ਜਿਹੇ ਸਫੇਦ ਦਿਨ, ਨਾਵਲ ਪੜਾਉਣਾ
5th	ਬਤਖ ਦੇ ਖੰਭਾ ਜਿਹੇ ਸਫੇਦ ਦਿਨ, ਨਾਵਲ ਪੜਾਉਣਾ
6th	ਬਤਖ ਦੇ ਖੰਭਾ ਜਿਹੇ ਸਫਦ ਦਿਨ, ਨਾਵਲ ਪੜਾਉਣਾ
7th	ਬਤਖ ਦੇ ਖੰਭਾ ਜਿਹੇ ਸਫਦ ਦਿਨ, ਨਾਵਲ ਪੜਾਉਣਾ
8th	➢ MST
9th	➢ MST
10th	ਬਤਖ ਦੇ ਖੰਭਾ ਜਿਹੇ ਸਫੇਦ ਦਿਨ, ਨਾਵਲ ਪੜਾਉਣਾ
11th	ਵਿਸ਼ਾ, ਸਾਰ, ਪਾਤਰ ਚਿਤਰਨ, ਛੋਟੇ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ
12th	ਨਾਂਵ, ਪੜਨਾਂਵ
13th	ਵਿਸ਼ੇਸ਼ਣ, ਕਿਰਿਆ ਵਿਸ਼ੇਸ਼ਣ
14th	ਸਬੰਧਕ, ਯੋਜਕ
15th	ਦੁਹਰਾਈ।
16th	ਦੁਹਰਾਈ।

Gurpreet Kaur
Teacher

H.O.D
12/07/2018

Principal
Govt. College
Ropar

Department of Computer Science (HEIS), Government College. Ropar
(2019-20)
Class BCA Sem. 1ST Subject Fundamental of Information Technology

Week	Topics to be Covered
Week 1	Introduction to Computer Fundamentals - Block diagram of a computer - Characteristics of computers - Generations of computers - Categories of computers
Week 2	Input and Output Devices - Input devices: Keyboard, Mouse, Joystick, Trackball, Touch Screen - Output devices: Monitors, Impact Printers (Dot matrix, Character and Line printer)
Week 3	- Light Pen, Digitizer, Scanners, Speech Recognition Devices - Optical Recognition devices (OMR, OBR, OCR)
Week 4	Computer Memories - Memory Hierarchy - Primary Memory: RAM, ROM, Cache memory - Secondary Storage Devices: Hard Disk, Compact Disk
Week 5	- DVD, Flash memory, - Communications Software - Commonly Used Application Software: Word Processor, Spreadsheet
Week 6	- Types of Software: System Software, Application Software, Firmware, - Minicomputer, Microcomputer - System Software: Operating Systems, Language Translators, Utility Programs
Week 7	- Types of Computers: Supercomputer, Mainframe computer
Week 8	MST
Week 9	MST
Week 10	- Database, Education, Entertainment Software - Computer Languages: Machine language, Assembly language
Week 11	- High-level language, 4GL
Week 12	- Non-positional and positional number systems - Base conversion
Week 13	- Concept of Bit and Byte - Binary, decimal, hexadecimal, and octal systems
Week 14	- Conversion between number systems - Binary Arithmetic: Addition, Subtraction
Week 15	- Binary Arithmetic: Multiplication - 1's complement, 2's complement
Week 16	- Subtraction using 1's complement and 2's complement - Computer Codes: Weighted and non-weighted code, BCD, EBCDIC, ASCII, Unicode

16/07/2019

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Department of Computer Science (HEIS), Government College. Ropar

(2018-19)

Class BCA Sem. 1st Subject Programming in C- Language

Time Period	Topics to be Covered
Week 1	Programming Process: Problem definition, Algorithm development, Flowchart, Coding, Compilation and debugging.
Week 2	Basic structure of C program: History of C, Structure of a C program, Character set, Identifiers and keywords, constants, variables, data types.
Week 3	Control statements: branching statements (if, if else, switch), loop statements (for, while and do-while), jump statements (break, continue, goto), nested control structures.
Week 4	Functions: Library functions and user defined functions, prototype, definition and call, formal and actual arguments, local and global variables, methods of parameter passing to functions, recursion. I/O functions: formatted & unformatted console I/O functions
Week 5	Storage Classes: automatic, external, static and register variables.
Week 6	Arrays: – One dimensional and two dimensional arrays
Week 7	Declaration, initialization, reading values into an array, displaying array contents Strings: input/output of strings, string handling functions (strlen, strcpy, strcmp, strcat & strrev), table of strings.
Week 8	MST (Mid-Semester Test)
Week 9	MST (Mid-Semester Test)
Week 10	Structures and unions: using structures and unions, comparison of structure with arrays and union.
Week 11	Pointers: pointer data type, pointer declaration, initialization, accessing values using pointers,
Week 12	pointers and arrays.
Week 13	revision
Week 14	Introduction to Files in C: opening and closing files.
Week 15	Basic I/O operation on files.
Week 16	Queries from students

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12/07/18

Department of Computer Science (HEIS), Government College. Ropar
(2018-19)
Class BCA Sem. 1ST Subject Fundamental of Information Technology

Week	Topics to be Covered
Week 1	Introduction to Computer Fundamentals - Block diagram of a computer - Characteristics of computers - Generations of computers - Categories of computers
Week 2	Input and Output Devices - Input devices: Keyboard, Mouse, Joystick, Trackball, Touch Screen - Output devices: Monitors, Impact Printers (Dot matrix, Character and Line printer)
Week 3	- Light Pen, Digitizer, Scanners, Speech Recognition Devices - Optical Recognition devices (OMR, OBR, OCR)
Week 4	Computer Memories - Memory Hierarchy - Primary Memory: RAM, ROM, Cache memory - Secondary Storage Devices: Hard Disk, Compact Disk
Week 5	- DVD, Flash memory, - Communications Software - Commonly Used Application Software: Word Processor, Spreadsheet
Week 6	- Types of Software: System Software, Application Software, Firmware, - Minicomputer, Microcomputer - System Software: Operating Systems, Language Translators, Utility Programs
Week 7	- Types of Computers: Supercomputer, Mainframe computer
Week 8	MST
Week 9	MST
Week 10	- Database, Education, Entertainment Software - Computer Languages: Machine language, Assembly language
Week 11	- High-level language, 4GL
Week 12	- Non-positional and positional number systems - Base conversion
Week 13	- Concept of Bit and Byte - Binary, decimal, hexadecimal, and octal systems
Week 14	- Conversion between number systems - Binary Arithmetic: Addition, Subtraction
Week 15	- Binary Arithmetic: Multiplication - 1's complement, 2's complement
Week 16	- Subtraction using 1's complement and 2's complement - Computer Codes: Weighted and non-weighted code, BCD, EBCDIC, ASCII, Unicode

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Department of Computer Science (IIEIS), Government College, Ropar

(2018-19)

Class : BCA Sem. 2nd Subject :- Data Structure

Time Period	Topics to be Covered
Week 1	Basic concepts and notations: Types of data structures, Data structure operations,
Week 2	Mathematical notations and functions complexity
Week 3	Big 'O' notation, Time and space trade off.
Week 4	Arrays: Linear array, representation of array in memory, traversing linear array, insertion and deletion in an array, Two-dimensional array, row major and column major orders, sparse matrix.
Week 5	Stacks: Representation of stacks in memory (linked and sequential), operations on stacks, Applications of stacks: string reversal, parentheses matching.
Week 6	Queues: Representation of queues in memory (linked and sequential), operations on queues, insertion in rear, deletion from front.
Week 7	Linked list: Representation of linked list using static and dynamic data structures,
Week 8	MST
Week 9	MST
Week 10	insertion and deletion of a node from linked list,
Week 11	searching in link list, searching in sorted link list.
Week 12	Trees: Definition and basic concepts, linked representation and representation in contiguous storage, binary tree
Week 13	binary tree traversal, Binary search tree, searching, insertion and deletion in binary search tree.
Week 14	Searching and sorting algorithms: Linear and binary search, bubble sort, insertion sort,
Week 15	selection sort, quick sort, merge sort.
Week 16	Queries from students

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Class BCA 2nd sem

LESSON PLAN (2018-19)

Subject digital electronics (123)

SESSION	TOPIC	REFERENCES
Week 1	Fundamental Concepts: Introduction to Analog and Digital Systems, Digital Signals, Basic Digital Circuits: AND, OR, NOT, NAND, NOR, XOR and XNOR gates..	
Week 2	Boolean algebra theorems, Characteristics of Digital IC	
Week 3	Number Systems: Positional and Non-positional number systems, Binary, Decimal, Octal and Hexadecimal, Base conversions,.	
Week 4	Binary arithmetic: Addition and Subtraction, 1's complement, 2's complement, subtraction using 1's complement and 2's complement	
Week 5	**Mid semester Test-I**	
Week 6	Combinational Logic Design: SOP and POS Representation of Logic functions,	
Week 7	K-Map representation and simplification up to 4 variable expressions, Don't care condition.	
Week 8	Multiplexers: 4X1, 8X1 and 16X1. De-multiplexers: 1 to 4, 1 to 8 and 1 to 16. BCD to Decimal decoder, Decimal to BCD encoder. Parity generator and Parity checker. Design of Half adder and Full adder	
Week 9	Flip-Flops: Introduction, Latch, Clocked S-R Flip Flop, Preset and Clear signals, D-Flip Flop, J-K Flip Flop, The race-around condition	
Week 10	Master-Slave J-K Flip Flop, D-Flip-Flop, Excitation Tables of Flip Flops, Edge-Triggered Flip Flops.	
Week 11	**Mid semester Test-II**	
Week 12	A/D and D/A Converters: Introduction, Digital to Analog Converters:	
Week 13	Weighted-Register D/A converter, R-2R Ladder D/A converter.	
Week 14	Analog to Digital Converters: Quantization and encoding,	
Week 15	Parallel-comparator A/D converter, Counting A/D converter.	
Week 16	Revision	

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H.O.D 16/09/2018

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LESSON PLAN (2019-20)

Class BCA 2nd sem

Subject digital electronics (123)

SESSION	TOPIC	REFERENCES
Week 1	Fundamental Concepts: Introduction to Analog and Digital Systems, Digital Signals, Basic Digital Circuits: AND, OR, NOT, NAND, NOR, XOR and XNOR gates..	
Week 2	Boolean algebra theorems, Characteristics of Digital IC	
Week 3	Number Systems: Positional and Non-positional number systems, Binary, Decimal, Octal and Hexadecimal, Base conversions,.	
Week 4	Binary arithmetic: Addition and Subtraction, 1's complement, 2's complement, subtraction using 1's complement and 2's complement	
Week 5	Mid semester Test-I	
Week 6	Combinational Logic Design: SOP and POS Representation of Logic functions,	
Week 7	K-Map representation and simplification up to 4 variable expressions, Don't care condition.	
Week 8	Multiplexers: 4X1, 8X1 and 16X1. De-multiplexers: 1 to 4, 1 to 8 and 1 to 16. BCD to Decimal decoder, Decimal to BCD encoder. Parity generator and Parity checker. Design of Half adder and Full adder	
Week 9	Flip-Flops: Introduction, Latch, Clocked S-R Flip Flop, Preset and Clear signals, D-Flip Flop, J-K Flip Flop, The race-around condition	
Week 10	Master Slave J-K Flip Flop, D-Flip-Flop, Excitation Tables of Flip Flops. Edge-Triggered Flip Flops.	
Week 11	Mid semester Test-II	
Week 12	A/D and D/A Converters: Introduction, Digital to Analog Converters:	
Week 13	Weighted-Register D/A converter, R-2R Ladder D/A converter.	
Week 14	Analog to Digital Converters: Quantization and encoding,	
Week 15	Parallel-comparator A/D converter, Counting A/D converter.	
Week 16	Revision	

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H.O.D 16/07/2019

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Govt. College, Ropar

Computer Department (HEIS)

Class B.C.A Sem. II

(Session 2018-2019)

Week	Lesson scheduled
1st	ਵਪਾਰਕ ਪੱਤਰ
2nd	ਸ਼ਬਦ ਬਣਤਰ ਤੇ ਸ਼ਬਦ ਰਚਨਾ
3rd	ਸ਼ਬਦ ਰਚਨਾ *ਪਰਿਭਾਸ਼ਾ ਮੁੱਢਲੇ ਸੰਕਲਪ*
4th	ਚੋਣਵੇਂ ਪੰਜਾਬੀ ਨਿਬੰਧ (1,2) ਨਿਬੰਧ
5th	ਚੋਣਵੇਂ ਪੰਜਾਬੀ ਨਿਬੰਧ (3,4) ਨਿਬੰਧ
6th	*ਚੋਣਵੇਂ ਪੰਜਾਬੀ ਨਿਬੰਧ (5,6) ਨਿਬੰਧ*
7th	ਚੋਣਵੇਂ ਪੰਜਾਬੀ ਨਿਬੰਧ (7,8) ਨਿਬੰਧ
8th	➢ **MST**
9th	➢ **MST**
10th	ਚੋਣਵੇਂ ਪੰਜਾਬੀ ਨਿਬੰਧ (9, 10) ਨਿਬੰਧ
11th	ਚੋਣਵੇਂ ਪੰਜਾਬੀ ਨਿਬੰਧ (11, 12) ਨਿਬੰਧ
12th	ਚੋਣਵੇਂ ਪੰਜਾਬੀ ਨਿਬੰਧ (13, 14) ਨਿਬੰਧ
13th	ਚੋਣਵੇਂ ਪੰਜਾਬੀ ਨਿਬੰਧ (15) ਨਿਬੰਧ
14th	ਭਾਸ਼ਾ ਅਤੇ ਉਪਭਾਸ਼ਾ ਅੰਤਰ ਸਬੰਧ
15th	ਦੁਹਰਾਈ।
16th	ਦੁਹਰਾਈ।

Gurpreet Kaur
Teacher

H.O.D 12/07/2019

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