JEEVAN CHANAN MAHILA MAHAVIDYALAYA, ASSANDH

DEPARTMENT OF COMPUTER SCIENCE

LESSON PLAN (SESSION 2023-20224)

Name of the Teacher : Ms. Asha Batra

Class: BCA I Sem.

Subject: Logical Organization of Computer

Course Code: B23-CAP-103

Sr. No.	Month	Topics	Academic Activities
1.	**JULY**	**Number Systems:** Binary, Octal, Hexadecimal etc.	Group Discussion
2.	**AUGUST** **(1 Aug- 31 Aug)**	**Conversions from :** one number system to another, BCD Number System **BCD Codes:** Natural Binary Code, Weighted Code, Self Complimenting Code, Cyclic Code. Error Detecting and Correcting Codes. **Character representations:** ASCII, EBCDIC and Unicode. **Number Representations:** Integer numbers 1's & 2's complement representation Real Numbers normalized, floating point representations.	Group Discussion Revision Class Test Peer Teaching
3.	**SEPTEMBER** **(1 Sep -30 Sep)**	**Binary Arithmetic:** Binary Addition, Binary Subtraction Binary representations, Addition and subtraction with BCD representations. Theorems, Boolean Expressions, Boolean Functions, Truth Tables, **Canonical Representation** of Boolean Expressions: **SOP and POS**, Simplification of Boolean Expressions using Boolean Postulates & Theorems **Kaurnaugh-Maps** (upto four variables), Handling Don't Care conditions.	Group Discussion Revision Class Test Peer Teaching Assignment 1
4.	**OCTOBER**	**Logic Gates:** Basic Logic Gates – AND, OR, NOT **Universal Gates**: NAND, NOR, Other Gates – XOR, XNOR etc. Their symbols, truth tables and Boolean expressions.	Group Discussion Revision

	(1 Oct- 31 Oct)	**Combinational Circuits:** Design Procedures, Half Adder, Full Adder, Half Subtractor, Full Subtractor, Multiplexers, Demultiplexers,	Class Test MCQ Assignment 2
5.	**NOVEMBER** **(1 Nov-22 Nov)**	**Sequential Circuits:** Basic Flip- Flops and their working. Synchronous and Asynchronous Flip –Flops, Triggering of Flip-Flops, Clocked RS, D Type, JK, T type and Master-Slave Flip-Flops. Sequential Circuits: Designing registers –Serial-In Serial-Out (SISO), Serial-In Parallel-Out (SIPO), Parallel-In Serial-Out (PISO) Parallel-In Parallel-Out (PIPO) and shift registers	Group Discussion Revision Sessionals

Assignment 1: a.) Difference between Ordinary Algebra and Boolean Algebra.

b.) Theorems and Postulates in Boolean Algebra?

Assignment 2: Explain Logic Gates and Universal gates, generate Universal Gates using Logic Gates.

Name of the Teacher: Ms. Asha Batra

Class: BCA /B.Sc I Sem.

Subject: Problem Solving through C

Course Code: B23-CAP-101

Sr. No.	Month	Topics	Academic Activities
1.	**JULY (22 july – 31 July)**	**Overview of C:** History, Importance, Structure of C Program,	Group Discussion
2.	**AUGUST (1 Aug- 31 Aug)**	Character Set, Constants and Variables, Identifiers and Keywords, Data Types, Assignment Statement, Symbolic Constant. **Input/output:** Formatted I/O Function **Input Functions:** scanf(),getch(), getche(), getchar(), gets() **Output function:** printf(), putch(), putchar(), puts().	Group Discussion Revision Class Test Lab Practice
3.	**SEPTEMBER (1 Sep -30 Sep)**	**Operators & Expression:** Arithmetic, Relational, Logical, Bitwise, Unary, Assignment, Conditional Operators and Special Operators **Operator Hierarchy:** Arithmetic Expressions, Evaluation of Arithmetic Expression. Type Casting and Conversion. **Decision making:** if statement, if-else statement, nested if statement, else-if ladder, switch and break statement, goto statement, **Looping Statements:** for, while, and do-while loop, jumps in loops.	Group Discussion Revision Class Test PPT/ Projector Lab Practice Assignment 1
4.	**OCTOBER (1 Oct- 31 Oct)**	**Arrays:** **One Dimensional arrays** - Declaration, Initialization and Memory representation **Two Dimensional arrays -**Declaration, Initialization and Memory representation. **Functions:** definition, prototype, function call, passing arguments to a function: call by value & call by reference, recursive functions. **Strings:** Declaration and Initialization, String I/O, Array of Strings, **String Manipulation Functions:** String Length, Copy, Compare, Concatenate etc., Search for a Substring.	Group Discussion Revision Class Test PPT/ Projector Lab Practice Assignment 2
5.	**NOVEMBER (1 Nov-22 Nov)**	**Pointers in C:** Declaring and initializing pointers, accessing address and value of variables using pointers; Pointers and Arrays. **User defined data types:** **Structures -** Definition, Advantages of Structure, declaring structure variables, accessing structure members, Structure members initialization, Array of Structures; **Unions –** Union definition; difference between Structure and Union.	Group Discussion Revision Lab Practice Sessionals

Assignment 1: a.) Explain various types of Operators available n C language with suitable examples.

b.) Explain types of Control statements with their syntax in C language.

Course: B.C.A. Foundations Of Computer Science (I Semester)

FACULTY

Name of Teacher: Dr. Jagdeep Kaur
Contact: 9996196235 E**mail_id :jagdeepassandh@gmail.com**

ASSESSMENT DETAILS

Total Marks for the course is 100, comprising following components

- **Class Part. 10 , class mid test 10, practical 10**

TEACHING PLAN

dates	Topics Covered/ Assignments/ Test/Presentations
1st august to 31st August 2024	Computer Fundamentals: Evolution of Computers through generations, Characteristics of Computers, Strengths and Limitations of Computers, Classification of Computers, Functional Components of a Computer System.Application of in various fields.
1st sept. to 30 sept.2024	Types of Software: System software, Application software, Utility Software, Shareware, Freeware, Firmware, Free Software. Memory Systems: Concept of bit, byte, word, nibble, storage locations and addresses, measuring units of storage capacity, access time, concept of memory hierarchy. Primary Memory - RAM, ROM PROM, EPROM. Secondary Memory - Types of storage devices, Magnetic Tape, Hard Disk, Optical Disk, Flash Memory.
1st oct. to 31st oct.2024	I/O Ports of a Desk Top Computer, Device Controller, Device Driver. Input Devices: classification and use, keyboard, pointing devices - mouse, touch pad and track ball, joystick, magnetic stripes, scanner, digital camera, and microphone Output Devices: speaker, monitor, printers: classification, laser, ink jet, dot-matrix. Plotter. Introduction to Operating System: Definition, Functions, Features of Operating System, Icon, Folder, File, Start Button, Task Bar, Status Buttons, Folders, Shortcuts, Recycle Bin,

	Desktop, My Computer, My Documents, Windows Explorer, Control Panel.
1st Nov. to 30th Nov.2024	The Internet: Introduction to networks and internet, history, Internet, Intranet & Extranet, Working of Internet, Modes of Connecting to Internet. Electronic Mail: Introduction, advantages and disadvantages, User Ids, Passwords, e-mail addresses, message components, message composition, mailer features. Browsers and search engines. Threats: Physical & non-physical threats, Virus, Worm, Trojan, Spyware, Keylogers, Rootkits, Adware, Cookies, Phishing, Hacking, Cracking. Computer Security Fundamentals: Confidentiality, Integrity, Authentication, Non-Repudiation, Security Mechanisms, Security Awareness, Security Policy, anti-virus software & Firewalls, backup & recovery.

Name of the Teacher: Ms. Priyanka

Class: BCA (II year, 3rd Sem)

Name of the Course Java OOP Foundations

Course Code B23-CAP-301

S.No	Period	Topics to be Covered	Academic Activity to be Organized
1	22-31 July, 2024	Object Oriented Programming and Java Fundamentals.	Oral Presentations Or Class Test
2	1-15August,2024	Structure of Java programs, Classes and Objects, Data types, Type Casting,	Group Discussion Or Class Test
3	15-31August,2024	Looping Constructs	Group Discussion Or Class Test
4	1-15 September,2024	Interfaces: Interface basics; Defining, implementing and extending interfaces; Implementing multiple inheritance using interfaces	Group Discussion Or Class Test
5	15-30 September,2024	Packages: Basics of packages, Creating and accessing packages, System packages, Creating user defined packages	Oral Presentations Or Class Test
6	1-15 October,2024	Exception handling using the main keywords of exception handling: try, catch, throw, throws and finally; Nested try, multiple catch statements, creating user defined exceptions.	Group Discussion Or Class Test
7	15-31 October,2024	File Handling Byte Stream, Character Stream, File I/O Basics, File Operations, AWT and Event Handling: The AWT class hierarchy, Events, Event sources.	Group Discussion Or Class Test
8	1-15 Novenber,2024	Event classes, Event Listeners, Relationship between Event sources and Listeners, Delegation event model, Creating GUI applications using AWT.	Group Discussion Or Mid Term Exam
9	15-22 November,2024	Revision	MCQ Quiz Or Group Discussion

Name of the teacher : Meenakshi choudhary

Class: BCA 3RD SEM

Subject: LINUX

COURSE CODE:B23-CAP-302

SR.NO	Period	Topics To Be Covered	Academic Activity to be Organized
1	22-31 July 2024	**UNIT-1:** Introduction to linux: linux distribution, overview of Linux operating system, features of Linux, Linux architecture.	Oral test + Discussion
2	1-31 Aug2024	**UNIT-2:** Commands in linux,starting and shutting down system, • General Purpose commands • File oriented commands • Process oriented commands etc. Regular Expression Filters in Linux simple filter via more WC etc	1st Assignment + 1st Test + lab practice

3	1-30 slept 2024	Introduction of regular expression **UNIT-3:** Linux file system, File system coronets , Standard file system, File system types.	2nd Assignment + 1st test + Lab practice
4	1-31 0ct 2024	Process in Linux: • Starting and Stopping processes, • Mechanism of process creation, • Job control in Linux using at catch, corn,&time.	Group Discussion + 2nd test + Lab practice
5	1-22 nov2024	**UNIT-4:** Shell Programming • Vi editor, shell vaiable.contol statement, • Loops, • Sub programs, • Creating and executing shell scripts in Linux	Midterm exam

Name of the Teacher: Ms. Sonia

Class – BCA 3rd Sem.

Subject - Database Technologies

Paper – BCA23-CAP-303

SNo.	Month	Topic	Academic Activity
1.	22nd to 31st July, 2024	Basic Concepts of DBMS, Data, Information, Records, DBMS & its Functions etc.	Group Discussion Class Test
2.	1st to 31st Aug, 2024	Database Users, DBA & its Responsibilities, Database System Architecture, Mappings, Data Independence	Group Discussion Revision Class Test
3.	1st to 30th Sep, 2024	Categories of Data Models, E.R Model, Relationship Constraints	Assignment Revision Class Test
4.	1st to 31st Oct, 2024	Relational Algebra, Relational Calculus SQL Fundamentals, Inbuilt SQL Functions, Queries in SQL, Functional Dependencies- Types of Functional Dependencies	Lab Practice Revision Class Test
5.	1st to 22nd Nov, 2024	Normalization, Normal Forms Based on Primary Keys - 1NF, 2Nf, 3NF, BCMF, Multi-valued Dependencies-Join Dependencies, 4NF, 5NF& Domain Key Normal Forms	Lab Practice Revision Mid Term Exam

Name of the Teacher: Ms. Priyanka

Class: BCA (II year, 3rd Sem)

Name of the Course- Data science using Excel(Minor)

Course code-B23-CAP-304

S.No	Period	Topics to be Covered	Academic Activity to be Organized
1	22-31 July, 2024	Manage Workbook Options and Settings: Create Worksheets and Workbooks. Navigate in Worksheets and Workbooks, Format Worksheets and Workbooks.	Oral Presentations
2	1-15August,2024	Customize Options and Views for Worksheets and Workbooks, Configure Worksheets and Workbooks for Distribution. Apply Custom Data Formats and Layouts: Apply Custom Data Formats and Validation.	Oral Presentations Or Class Test
3	15-31August,2024	Apply Advanced Conditional Formatting and Filtering, Create and Modify Custom Workbook Elements.	Oral Presentations Or Class Test
4	1-15 September,2024	Create Tables: Create and Manage Tables, Manage Table Styles and Options, Filter and Sort a Table. Perform Operations with Formulas and Functions: Summarize Data by using Functions.	Oral Presentations Or Class Test
5	15-30 September,2024	Perform Conditional Operations by using Functions, Format and Modify Text by using Functions.	Oral Presentations Or Class Test
6	1-15 October,2024	Create Charts and Objects: Create Charts, Format Charts, Insert and Format Objects. Manage Workbook Options and Settings: Manage Workbooks, Manage Workbook Review Restrict editing.	Oral Presentations Or Class Test
7	15-31 October,2024	Create Advanced Formulas: Apply Functions in Formulas, Look up data by using Functions Apply Advanced Date	Oral Presentations Or Class Test

		and Time Functions, Perform Data Analysis and Business Intelligence, Define Named Ranges and Objects.	
8	**1-15 Novenber,2024**	**Create Advanced Charts and Tables: Create and Manage PivotTables, Create and Manage Pivot Charts.**	**Group Discussion Or Mid Term Exam**
9	**15-22 November,2024**	**Revision**	**MCQ Quiz Or Group Discussion**

Class-BA/BCA/B.Sc 5th Sem

Subject – Web Designing

Paper II – BA/B.Sc

BCA - 351

SNo.	Month	Topic	Academic Activity
1.	22nd to 31st July,2024	Introduction to Internet & WWW,Evolution &History of WWW, Web Browsers, Web Servers	Group Discussion Class Test
2.	1st to 31st Aug,2024	HTTP, URLs, Web Casting Techniques, Search Engines & Search Tools, Steps for Developing Website	Group Discussion Revision Class Test
3.	1st to 30th Sep,2024	Domain Names, Internet Service Provider, Planning & Designing Web Site, Web Publishing, Web Hosting, Introduction to HTML	Revision Class Test
4.	1st to 31st Oct,2024	Html Document Features, HTML Tags – HEADING, Title, Body, Paragraph, Creating Links, Text Colors & Background, Formatting Text, Page Layout, Insertion of Text, Marquee Tag Insertion of Image,Movement of Image	Lab Practice Revision Class Test
5.	1st to 22nd Nov, 2024	Ordered & Unordered List, Insert Table, Table Handling Functions- Rows, Columns, Width, Colors etc., Frame Creation &Layouts, Working with Forms & Menus, Working with Buttons like Radio, Check Box etc	Lab Practice Revision Mid Term Exam

Name of the teacher: Meenakshi choudhary

Class: BCA 5TH SEM+B.SC 3RD SEM

SUBJECT : Operating System

COURSE CODE:BCA-352

Reno	*Period*	*Topics to be covered*	*Academic Activity to be Organized*
1	22-31 july,2024	**UNIT-1:** INTRODUCTORY CONCEPTS: Operating system functions and characteristics, historical evolution of operating system, Real time systems, distributed systems.	Oral tat
2	1-31 Aug,2024	Methodologies for implementation of O/S service system calls, system programs. **UNIT-2:** Process management: Process concept, process states and PCB. CPU Scheduling: Scheduling criteria, levels of scheduling, scheduling algorithms, multiple process scheduling. DEADLOCKS: Deadlock	1st Assignment + 1st test

		characterization, deadlock presentation and avoidance, deadlock detection and recovery.	
3	1-30 Sept,2024	**UNIT-3:** CONCURRENT PROCESSES: Critical section problem, semaphores, classica process o-ordination problems and third solutions, inter process communications. Storage management: memory management of single user and multi user operating system,portioning,swapping,paging, and segementation,virtual memory.	2nd assignment + 2nd test
4	1-31 oct,2024	Page replacement algorithms,Thrashimg. **UNIT-4:** DEVICE AND FILE MANAGEMENT: Disk scheduling, disk structure, disk movement, FILE SYSTEM: Functions of the systems, fle access and allocation methods.	Midterm exam
5	1-22 Nov,2024	Directory systems: structured Organizations, directory ad file protection mechanisms.	Test of complete course

Name of the teacher: KIRAN TANEJA

CLASS:B.C.A 5TH SEM

SUBJECT :ARTIFICAL INTELLIGENCE

COURSE CODE :BCA-353

Reno	Period	Topics To be covered	Academic activity to be covered
1	22-31 July 2024	**UNIT-1:** Artificial Intelligence : Intelligence, AI Concepts, Various definitions of AI, Knowledge, Knowledge Pyramid, People and Computers: What computers can do better that people, what people can do better than computers.	Oral test
2	1-31 Aug 2024	Characteristics of AI Problems, Problem Representation in AI, Components of AI, AI Evolution, Application Areas of AI, History of AI, The Turing Test, The Revised Turing Test **UNIT – 2:** Expert System: Components of Expert System: Knowledge Base, Inference Engine, User Interface, Features of Expert System, Expert System Life Cycle, Categories of Expert System, Rule Based vs. Model Based Expert Systems, Advantages/Limitations of Expert System, Developing an Expert System: Identification, Conceptualization, Formalization, Implementation,	1st assignment + 1st test + Group discussion.
3	1-30 Sept	Testing, Using an Expert System, Application Areas of Expert System	2nd assignment

	2024	UNIT-3: AI and Search Process: Brute Force Search – Depth First/Breadth First Search, Heuristic Search: Hill Climbing, Constraint Satisfaction, Mean End Analysis, Best First Search, A* Algorithm, AO* Algorithm, Beam Search	+ Group discussion.
4	1-31 cot 2024	UNIT –4: Natural Language Processing: Introduction, Need, Goal, Fundamental Problems in Natural Language Understanding, How People overcome Natural Language Problems, Speech Recognition: Introduction, Advantages and Approaches,	Midterm exam
	1-22 Nov 2024	Introduction to Robotics: Parts of a Robot, Controlling a Robot, Intelligent Robots, Mobile Robots.	Test of complete course

Subject - Computer Networks

Paper – BCA-354

SNo.	Month	Topic	Academic Activity
1.	22nd to 31stJuly, 2024	Introduction to Data Communication, Transmission Modes, Uses of Computer Networks, Network Topologies	Group Discussion Class Test
2.	1st to 31st Aug, 2024	Network Hardware Components, Network Design Issues & Protocols, Connection-Oriented & Connectionless Services, OSI Model, Networking Models	Group Discussion Revision Class Test
3.	1st to 30th Sep, 2024	Analog & Digital Data & Signals, Transmission Media & its Types, Switching, Multiplexing, Modulation Techniques, ADSL & Cable Modems	Assignment Revision Class Test
4.	1st to 31st Oct, 2024	Data Link Layer Design Issues- Error Detection &Correction Codes, Sliding Window Protocols-One-bit, Go Back N & Selective Repeat, MAC Sub layer, CSMA,CSMA/CD, Introduction to LAN Technologies, IEEE Standards for LAN, Bluetooth, VLANs	Group Discussion Revision Class Test
5.	1st to 22nd Nov, 2024	Routing Algorithms-Shortest Path Routing, Distance Vector Routing, Link State Routing, Hierarchical Routing, Congestion Control Algorithms, Elements of Transport Protocols, Network Security Issues, Security Attacks &Threats, Encryption Method , Digital Certificate, Digital Signature	Revision Mid Term Exam

Name of the Teacher: Ms. Priyanka

Class: BCA (III year, 5th Sem)

Nomenclature:- Programming Using Visual Basic

COURSE CODE:BCA-355

S.No	Period	Topics to be Covered	Academic Activity to be Organized
1	22-31 July, 2024	Visual & Non-Visual programming, Procedural, Object-Based Programming Languages Event-Driven Programming Languages, VB as Even-Driven and Object-Based Language Menu bar, Toolbar, Project explorer, Toolbox, Properties Window.	Oral Presentations
2	1-15August,2024	Form Layout, Immediate window, Default Controls in Tool Box Visual Development Event Driven programming, Variables: Declaring Variables, Types of variables.	Group Discussion Or Class Test
3	15-31August,2024	User Defined Data Types, Forcing Variable Declaration, Scope & Lifetime of Variables Constants: Named & Intrinsic, Operators: Arithmetic, Relational & Logical operators.	Group Discussion Or Class Test
4	1-15 September,2024	Input/output in VB: Various Controls for I/O, Message box, Input Box, Print statement.	Group Discussion Or Class Test
5	15-30 September,2024	Decision Statement and Looping Structure in Visual Basic, Nested Control Structure.	Oral Presentations Or Class Test
6	1-15 October,2024	Arrays: Declaring and using Arrays, One-dimensional, Two- dimensional and Multi-dimensional Arrays Static and Dynamic arrays, Array of Arrays	Group Discussion Or Class Test
7	15-31 October,2024	General & Event Procedures, Subroutines, Functions, Calling Procedures Arguments-Passing Mechanisms, Optional Arguments, Named Arguments, Functions Returning Custom Data Types	Group Discussion Or Class Test
8	1-15 Novenber,2024	Optional Arguments, Named Arguments, Functions Returning Custom Data Types .	Group Discussion Or Mid Term Exam
9	15-22 November,2024	Revision	MCQ Quiz Or Group Discussion

Name of Teacher: Meenakshi choudhary

Class: BCA 5TH SEM

Subject:Multimedia

COURSE CODE:BCA-356

Sr.No	Period	Topics to be Coverd	Academic Activity to be Organized
1	22-31 july,2024	**UNIT-1:** MULTIMEDIA:Basic concept,components&applications of multimedia;hypermedia and multimedia Hardware and Software;software tools;Presention Tools.	Oral test
2	1-31 aug,2024	Multimedia Authoring:Introduction,Features ,Types of Authoring Tools: Icon based, Time based ,object oriented,VRML. **UNIT-2:** IMAGES: GRAPHICS data types ,file format;color models in images and video:introduction,typesAnalog and digital Video; Analog Video standards ,Digital Video standards.	1st assignment + 1st test

3	1-30 sept,2024	**UNIT-3:** DIGITAL AUDIO: Basic concept ,Analog vs Digital Audio ,Digitations of sound ;digital Audio file format, MIDI Quantization and Transmission of audio: coding of audio: pulse code modulation;Differntial coding of audio: predictive coding:DPCM;DM;ADPAM	2nd Assignment + 2nd Test
4	1-31 oct,2024	**UNIT-4:** COMPRESSION TECHNIQUES: Introduction, Types of data compression, run length coding, variable lengthcoding,dictionary based coding, transform coding image and video compression Techniques.	Mid term exam
5	1-22 nov,2024	JPEG standard for image impression; JPEG mode, video compression techniques:H,261,H.263,MPEG	Test of complete course