

PG Classes Syllabus Unitization & Prescribed Books (Session 2021-2022)

Department of CS & IT

Class – MSc (IT)-I Semester

Pattern of Question Paper - Eight questions of equal marks (Specified in the syllabus), two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Subject - MIT-101: Analysis and Design of Embedded Systems

Month wise Division	Syllabus Unitization
September	SECTION--A Embedded systems and their characteristics, challenges and issues in embedded software development, Hardware and electronics fundamentals for software engineers, categories of different processor, microprocessor and micro controller SECTION--B Study of embedded processors and systems like PIC, AVR, micro controller, 68000-series computer, DSP based controller.
October	SECTION--C Operating system services: different categories of operating system, kernel architecture, and root file system contents, storage device manipulations, setting up boot loader SECTION--D Development tools, preliminary programming, determining the requirement, design the system architecture,
November	SECTION--D system integration, commissioning the system, Hardware software co-design, and case studies in different embedded systems.

Prescribed Book

Book Name – Fundamentals of Embedded System

Author – Pritika Mehra

Publisher – Kalyani Publishers

Subject - : Advanced Computer Organization and Architecture

Month wise Division	Syllabus Unitization
September	<u>SECTION-A</u> Paradigms of Computing: Synchronous – Vector/Array, SIMD, Systolic Asynchronous – MIMD, reduction Paradigm Hardware taxonomy: Flynn’s classification Software taxonomy: Kung’s taxonomy, SPMD. Abstract Parallel Computational Models: Combinational circuits, Sorting Network, PRAM Models, Interconnection RAMs.
October	<u>SECTION-B</u> Parallelism in Uniprocessor Systems: Trends in parallel processing, Basic Uniprocessor Architecture, Parallel Processing Mechanism. Parallel Computer Structures: Pipeline Computers, Array Computers, Multiprocessor Systems Architectural Classification Schemes: Multiplicity of Instruction-Data Streams, Serial versus Parallel Processing, Parallelism versus Pipelining. <u>SECTION-C</u> Pipelining : An overlapped Parallelism, Principles of Linear Pipelining, Classification of Pipeline Processors, General Pipelines and Reservation Tables Principles of Designing Pipelined Processors: Instruction Prefetch and Branch Handling, Data Buffering and Busing Structures, Internal Forwarding and Register Tagging, Hazard Detection and Resolution
November	<u>SECTION-D</u> Superscalar and Superpipeline Design: Superscalar Pipeline Design, Superpipelined Design Structures and Algorithms for Array Processors: SIMD Array Processors, SIMD Computer Organizations, Masking and Data Routing Mechanisms, Inter-PE Communications

Prescribed Book

Book Name – Advanced Computer Organization

Author – Dr. Ikvinderpal Singh

Publisher – Khanna Publishers

MIT-105 Computational Problem Solving Using Python

Month wise Division	Syllabus Unitization
September	<u>SECTION-A</u> Introduction: Process of Computational Problem Solving, Python Programming Language Data and Expressions: Literals, Variables and Identifiers, Operators, Expressions and Data Types <u>SECTION-B</u> Lists: List Structures, Lists (Sequences) in Python, Iterating Over Lists (Sequences) in Python
October	<u>SECTION-B</u> Control Structures: Boolean Expressions (Conditions), Selection Control <u>SECTION-C</u> Functions: Fundamental Concepts, Program Routines Objects and Their Use: Software Objects Modular Design: Modules, Top-Down Design, Python Modules
November	<u>SECTION-D</u> Text Files: Using Text Files, String Processing, Exception Handling Recursion: Recursive Functions, Recursive Problem Solving, Iteration vs. Recursion

Prescribed Book

Book Name – Computational Problem Solving Using Python

Author – Sushil Bhardwaj

Publisher – Kalyani Publishers

Subject - Network Operating System

Month wise Division	Syllabus Unitization
September	<u>SECTION-A</u> Introduction of various Network Operating Systems: MySQL, Unix/Linux OR any other OS. Overview of Network Operating System: Introduction, Architecture, Shell, Kernel, File System, Hardware requirements, Active Directory, Clustering & Load Balancing, Storage Management, Editors, Networking and Communication features, Licensing
October	<u>SECTION-B</u> Disk Management: Terminology and Concepts, Managing Disks, Managing Basic and Dynamic Disks, Disk Quotas, Disk Fragmentation, Remote Storage, RAID and Mirroring. Servers: Managing DHCP, IIS, WINS, DNS and Proxy servers. <u>SECTION-C</u> User, Group and Computer Accounts: Creating and Managing user, Group and Computer Accounts, Managing Access Controls, Troubleshooting Accounts. Performance Monitoring and Security: Task Management, System Monitoring, Performance
November	<u>SECTION-D</u> Logs and Alerts, Monitoring Memory, Network and Process Objects, Auditing Security Events, Audit Policy and Event Viewer. Telnet and FTP, Distributed Systems. Case and Comparative Studies of MySQL, Unix/Linux OR any other OS.

Prescribed Book

Book Name – Network Operating System

Author – Gurjeet Singh

Publisher – Kalyani Publications

Subject - MIT-102: Distributed Computing

Month wise Division	Syllabus Unitization
September	<p><u>SECTION-A</u> Introduction: Motivation, objectives, characterization & classification of distributed systems. Distributed system architecture. Hardware & software issues. Communication: Layered protocols, Client server protocols, RPC, group communication.</p> <p><u>SECTION-B</u> Coordination, synchronization & consistency: Logical clocks, Physical clocks, mutual exclusion, election algorithms, atomic broadcast, sequential consistency transaction distributed consensus,</p>
October	<p><u>SECTION-B</u> Threads: Thread synchronization, implementation issues, and threads vs. RPC.</p> <p><u>SECTION-C</u> Models of distributed computing: Client server and RPC, RPC architecture, exceptions, underlying protocols, IDL, marshalling etc. Group models and peer to peer: Groups for service replication/ reliability, groups for parallelism / performance, client/ server vs. peer-to-peer, multicast, atomic broadcast.</p>
November	<p><u>SECTION-D</u> Distributed file system: Security, Naming/ location transparency, R/W semantics, cache coherence, replication. Distributed shared memory: DSM architecture, consistency models and relation to caching, release consistency, comparison with message passing and RPC. Security: Introduction, security techniques, cryptographic algorithms, authentication and access control</p>

Prescribed Book

Book Name – Distributed System

Author – K.P Singh

Publisher – Kalyani Publisher

Class – PGDCA-I Semester

Pattern of Question Paper - Eight questions of equal marks (Specified in the syllabus), two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Subject - PAPER-I: PC COMPUTING-I (MS Office) 2003

Month wise Division	Syllabus Unitization
September	Section–A MS-Word: Introduction to Ms-Office, Ms-Access, Ms Excel. Parts of window of word (Title bar, menu bar, status bar, ruler) , Creation of new documents, opening document ,insert a document into another document. Page setup, margins, gutters, font properties, Alignment, page breaks, header footer deleting ,moving, replace, editing text in document. Saving a document, spell checker, printing a document. Creating a table, entering and editing, Text in tables. Changing format of table, height width of row or column. Editing, deleting Rows, columns in table. Borders, shading, Templates, wizards, Drawing objects, mail merge
October	Section–B MS-Power Point: Introduction to Ms power point. Power point elements (templates wizard Views, color schemes ,Exploring power point menu (opening & closing menus, working With dialogues boxes), adding text, adding title, moving text area, resizing text Boxes, adding pictures. Starting a new slide, saving presentation, printing slides .Views (slide View slide sorter, notes view, outline view) .Formatting & enhancing text formatting, Choosing transitions. Creating a graph, displaying slide show, adding multimedia .Slide transitions. Timing slide display, adding movies & sounds. Using a pick look Wizards to change format. Section–C MS-Excel: Introduction to Worksheet/Spreads, Features of excel. Describe the excel Window, different functions on different data in excel, creation of graphs, editing it and formatting, changing chart type to 2d chart or 3d chart, creation of worksheet, adding, deleting, moving the text in worksheet. linking different sheets, sorting the data, querying the data, filtering the data (auto and advance filters), What-if analysis, printing a worksheet.
November	Section–D MS-Access: Introduction, Understanding Databases. Creating the tables. entering records in table, deleting table, modifying table fields, linking tables, Queries. Forms, formatting forms, relating a form to tables, Reports(building reports, formatting report. displaying the information of table using reports Adding Graphs to your reports.

Prescribed Book

Book Name – Programming using C Language

Author – Mandeep Handa

Publisher – ABS Publications

Subject - PAPER-IV: DATABASE MANAGEMENT SYSTEM THROUGH

ORACLE-10g & SYSTEM ANALYSIS & DESIGN

Month wise Division	Syllabus Unitization
September	Section-A Basic Concepts: An overview of Database Management, (database, database system, why database, data independence). An architecture for a database system (levels of the architecture, mapping, DBA), Introduction to Relational database systems. Relational Model: Domain and relations, Relational data integrity
October	Section-B System Analysis and Design: System development life cycle, System development tools. ORACLE 10g: SQL. *PLUS Introduction to Oracle 10g SQL- DOL, DML, DCL Section-C ORACLE 10g: SQL. *PLUS Join methods & Sub query, Union, Intersection, Minus, Tree Walking, Built in Functions, Views, Security amongst users, Sequences, Indexing, Object Oriented Features of Oracle 10g 1. Concepts of vector graphics. 2. Color palate, Pasteboard, & Print Page
November	Section-D PL/SQL Introduction to PL/SQL Cursors- Implicit & Explicit Procedures, Functions & Packages Database Triggers

Prescribed Book

Book Name – Database Management System

Author – Anshuman Sharma

Publisher – Lakhanpal Publishers

Subject – PC COMPUTING–II (Professional DTP)

Month wise Division	Syllabus Unitization
September	<u>SECTION–A</u> Photoshop 5.5 1. Introduction to Graphics, Vector Graphics & Bitmaps 2. Understanding Image Size & resolution 3. Relation between resolution, File sizes & output 4. Using menu & Palettes. 5. Concept of Path (Segment, Anchor, Curved, Closed, Open, Subpath) Information Representation, Basic Computer Design
October	<u>SECTION–B</u> Photoshop Tools, Acquiring &. Importing Images, , Concept of Layres Channels & Path, Using navigator & Photo Shop plugins Corel Draw-9 1. Concepts of vector graphics. 2. Color palate, Pasteboard, & Print Page <u>SECTION–C</u> Corel Draw-9 1. Using ruler unit's 2. Corel Tools
November	<u>SECTION–D</u> Corel Draw-9 1. Transformations, Trimming, Welding, Intersection of Objects, Snapping, Using Object Manager. 2. Giving effects, (Envelope, Adding Perspective, Contours, Blending Image.)

Prescribed Book

Book Name – PC COMPUTING–II

Author – Rachhpal Singh

Publisher – Kalyani Publishers

Subject - Fundamentals of Computer & Operating Systems

Month wise Division	Syllabus Unitization
September	<p><u>SECTION-A</u> Fundamentals of Computer: Introduction, Applications, Components, Input-output devices Secondary storage devices Types of software, Translators, data communication and network.</p> <p>Windows Vista: Parts of window screen start menu, Taskbar settings, application & document window, anatomy of a Window explorer About desktop icons folder, shortcut creation, setting of screen saver, color settings, wallpaper, changing window appearance.</p> <p><u>SECTION-B</u> Disk Operating System: Meaning of operating system, its functions, batch systems, real systems, multi programming, multitasking, single, multi user systems.</p>
October	<p><u>SECTION-B</u> Define dos, Structure of Ms-Dos , hot & cold booting Internal command, External commands of DOS</p> <p><u>SECTION-C</u> Introduction to Unix: Explain the features of Unix system. Structure of Unix (Kernel, shell), Unix file system (data blocks, list, superblock, bootblock), Types of files (ordinary files, directory, special files), types of users (0-2), Simple commands (cat, ls, ln, chmod, mail, who, who am I, cal, pwd, date, ps, mkdir, cd , rmdir, rm , tput, clear).</p>
November	<p><u>SECTION-D</u> Introduction to Unix: Piping, filters, batch processing, shell programming (Echo, read, case constructs). VI editor (opening it, inserting, modifying, deleting, saving files). Types of shells (bourne, c, r shell. Login & logout of unix session)</p>

Prescribed Book

Book Name – Fundamentals of Computer & Operating Systems

Author – Anshuman Sharma

Publisher –Lakhanpal Publications

Syllabus Unitization & Prescribed Books (Session 2021-2022)

Department of CS & IT

Class – PGD Web Designing-I Semester

Pattern of Question Paper - Eight questions of equal marks (Specified in the syllabus), two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Subject - Paper – II: Web Designing Tools

Subject - PAPER- I: Fundamentals of Computer & Operating Systems

Month wise Division	Syllabus Unitization
September	Section–A Fundamentals of Computer: Introduction to computer, Applications of computer, Components of computers Input-output devices (key boards, mouse, track ball, light pen, cards, printers, plotters, scanners), Secondary storage devices (floppy disk, magnetic disk, Winchester disk, optical disk) Types of software, Translators (compiler, interpreter, assembler), Introduction to data communication and network.
October	Section–B Introduction to Windows Vista: Parts of window screen (Desktop, window, icons), start menu, Taskbar settings, application & document window, anatomy of a window (Title bar, minimize, maximize button, control box, scroll bars, scroll buttons, scroll boxes), Window explorer (expansion, collapsing of directory tree, copying, moving, deleting files, folder, creating folders), About desktop icons (recycle bin, my computer, network neighborhood, briefcase), folder, shortcut creation, setting of screen saver, color settings, wallpaper, changing window appearance. Section–C Operating System: Meaning of operating system, its functions, batch systems, real systems, multi programming, multitasking, single, multi user systems. Define dos, Structure of Ms-Dos (description of booting files, steps to boot the system), hot & cold booting internal command (cls, dir, date, time, vol, ver, copy con, type, ren, del, md, rd, d, path, prompt), external commands edit, attrib, backup, restore, chkdsk, diskcopy, dskcomp, deltree, edit, format, fdisk, find, label, more, xcopy, move, print, scandisk, sort, sys, doskey, tree) .
November	Section–D Introduction to Unix: Explain the features of Unix system. Structure of Unix (Kernel, shell), Unix file system (data blocks, list, superblock, bootblock), Types of files (ordinary files, directory, special files), types of users (0-2), simple commands (cat, ls, ln, chmod, mail, who, who am I, cal, pwd, date, ps, mkdir, cd, rmdir, rm, tput, clear). Piping, filters, batch processing, shell programming (Echo, read, case constructs). VI editor (opening it, inserting, modifying, deleting, saving files). Types of shells (bourne, c, r shell. Login & logout of unix session.

Prescribed Book

Book Name – Fundamentals of Computer & Operating Systems

Author – Anshuman Sharma

Publisher –Lakhanpal Publications

Subject - Paper – II: Web Designing Tools

Month wise Division	Syllabus Unitization
September	Section–A Front Page 2000: Introduction to Front page 2000: Frontpage window, various toolbar of frontpage. Creating a web page using wizard, creating a web page, using template. Section–B Themes: Creating your own theme, Selecting a color scheme, selecting graphics, selecting text.
October	Section–C Forms: Creating form using wizard, adding text boxes, adding radio buttons, adding check box, adding drop-down menus, adding pushbutton & pictures. Section–D Web page designing: Adding shared borders to the page, Giving title to a page, selecting a background for page
November	Section–D adding text to page, Hyperlink, turing text to heading, adding picture to the page, adding a clipart, adding navigation bars, Publishing your web page, making your web page searcheable.

Prescribed Book

Book Name – Learning Front Page 2000

Author – Ramesh Bangia

Publisher – Khanna Book Publishing

Subject - PAPER-III: Introduction to Scripting Languages, Web Designing

Month wise Division	Syllabus Unitization
September	Section–A Introduction to HTML, DHTML Introduction to the concept of Hypertext and Hypermedia. HTML Tools. HTML Tags, Hypertext and Anchors. Section–B Different Image Formats and their creation. Tables – Table based tags, Adding image within tables.
October	Section–C Forms and Form Controls, Processing of Forms. Frames – Formatting of Frames, Nested Frames, In-line Frames. Section–D Style Sheets – Combining with HTML documents, Properties of Style Sheet.
November	Section–D Multimedia – Adding GIF, Sound and Videos Publishing a Web-site

Prescribed Book

Book Name – Web-designing & Scripting Languages

Author – Manohar Singh

Publisher – AP Publishers

Subject - PAPER-IV: Programming in VB.NET

Month wise Division	Syllabus Unitization
September	Section–A Introduction to .NET What is .NET, Introduction to .NET Framework, Basic Functionality of CLR, MSIL, Platform Independence, language Interoperability VB.NET Language Features of VB.Net, Writing Programs in VB.Net, Compiling and Execution from Command Prompt Data Types, Expressions and Operators Option Statements, Type Casting, Built-in Functions in VB.Net, Sub Programs and Working with Arrays Windows Applications Basic Controls and Event Driven Programming, Programming with Advanced Controls
October	Section–B Error Handling Error Handling, Error Categories, Debug and Trace Classes, Code Optimization, Testing Phases and Strategies Data Access with ADO.NET Section–C Introduction to Access Libraries DAO,RDO,ADO, Limitation of ADO, ADO.Net Objects and Usage, ADO.Net Managed Providers, Data Reader, Data Adapter and DataSet, Data Relation and DataSet, Data Binding, Connected and Disconnected Recordsets, Connection Pooling, ADO.Net Exceptions, Using Stored Procedures, N-Tier Database Application, ADO.Net and XML,
November	Section–D File Stream Crystal Reports Setup and Deployment

Prescribed Book

Book Name – Visual Basic .NET Programming Black Book

Author – Steven Holzner

Publisher – Dreamtech Press