Dr. Bhimrao Ambedkar University, Agra

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A Documentary Support

for

Matric No. – 1.1.2

employability/ entrepreneurship/ skill development

under the

Criteria – I

(Curriculum Design and Development)

Key Indicator - 1.1

in

Matric No. – 1.1.2

POST GRADUATE DIPLOMA IN INFORMATION TECNOLOGY

2015

Mapping of course to:

Employability | Entrepreneurship | Skills Development

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DR. BHIMRAO AMBEDKAR UNIVERSITY, AGRA

POST GRADUATE DIPLOMA IN INFORMATION TECHNOLOGY (PGDIT)

ONE YEAR DIPLOMA COURSE

UNIVERSITY COMPUTER CENTRE

SYLLABUS FOR

POST GRADUATE DIPLOMA IN INFORMATION TECHNOLOGY (PGDIT)

First Semester

Paper- 1.1 : Fundamentals of Computer & Information Technology

Paper- 1.2 : PC Packages

Paper -1.3 : Programming Concepts using C

Practical based on one of the above subjects

Second Semester

Paper 2.1 : Database Management System

Paper 2.2 : Basic of Computer Network

Paper 2.3 : Web Designing using HTML and CSS

Practical based on one of the above subjects

Project Work

POST GRADUATE DIPLOMA IN INFORMATION TECHNOLOGY (P.G.D.I.T.)

I SEMESTER

Paper Code	Paper Name	Term Exam Max./Min. Marks	Internal Assessment Max./Min. Marks	Total Max./Min. Marks
Paper-1.1	Fundamentals of Computer & Information Technology	50/20	50/20	100/40
Paper-1.2	PC Packages	50/20	50/20	100/40
Paper-1.3	Programming Concepts using C	50/20	50/20	100/40
Paper-1.4	Practical based on above Papers			100/40
Total marks of I Semester				400/200

POST GRADUATE DIPLOMA IN INFORMATION TECHNOLOGY (P.G.D.I.T.)

II SEMESTER

Paper Code	Paper Name	Term Exam Max./Min. Marks	Internal Assessment Max./Min. Marks	Total Max./Min. Marks
Paper-2.1	Database Management System	50/20	50/20	100/40
Paper-2.2	Basic of Computer Network	50/20	50/20	100/40
Paper-2.3	Web Designing using HTML and CSS	50/20	50/20	100/40
Paper-2.4	Practical based on above Papers			100/40
Paper-2.5	Project Work			200/80
Total marks of II Semester				600/300

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FIRST SEMESTER

Paper-1.1 : Fundamentals Of Computer & Information Technology

Unit –I Brief history of development of computers, Computer system concepts, Computer system characteristics, Capabilities and limitations, Types of computers-Analog, Digital, Hybrid, General. Special Purpose, Micro, Mini, Mainframe, Super, Generations of computers, Personal Computer (PCs) – IBM PCs, Characteristics, of PC/PCXT/PCAT – configurations, Pentium and Newer PCs specifications and main characteristics .

Unit-II Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, Scanners, Digital Camera, MICR, OCR, OMR, Bar-code Reader, Voice Recognition, Light pen, Touch Screen, Monitors – Characteristics and types of monitors – Digital, Analog, Size, Resolution, Refresh Rate, Video Standard – VGA, SVGA, XGA etc. Printers, Various Storage Devices, Floppy Disks (Winchester Disk), Optical Disks, CD, VCD, CD-R, CD-RW, Zip drive.

Unit-III Need, Types of Software – System software, Application software, System Software Operating System, Utility Program, Programming languages, Assemblers, Compilers and Interpreter, Programming languages-Machine, Assembly,, High Level, 4GL, their merits and demerits, Virus working principles, Types of viruses, virus detection and prevention, viruses on network.

Unit-IV Operating System and its Concepts, functions, Batch processing, Multi programming, multitasking, Time sharing, Real Time Systems, multiprocessing, Spooling, Process; process concepts, process scheduling and concepts of towards concepts of BIOS. Introduction, History & versions of DOS.DOS basics – Physical structure of disk drive name, FAT, file & directory structure and naming rules, booting process, DOS system files,

Unit –V Features of windows OS., starting, Windows, controlling programs and documents, starting Windows after technical problems occurs, shutting down windows, Basic elements of windows 7 Interface. Using the mouse, keyboards, Menus, dialog box, task bar, changing and setting properties, working with application.

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FIRST SEMESTER

Paper-1.2 : PC Packages

Unit-I Operating System basics, Booting Process, Multitasking and Multiprocessing, File System, Direct memory Access, Security, Network management, Program management, Devices management, Basic Elements of Operating Systems, Virtual Memory, Command Line and GUI Based OS, Introduction to Microsoft Windows, Directory Structure, Sharing and Security.

Unit-II Microsoft Word Basics, Area of Uses, Toolbars, Navigation, Settings, Working with Texts, Text Formatting, Layouts, Headers and Footers, Mail Merge, Tables, ClipArt, Borders, Objects, Print and Print Preview, Styling, Insert Menu, Symbols, References, Review, Spell Check, Thesaurus, Find and Replace, Graphics.

Unit-III Microsoft Excel basics, Area of Uses, Toolbars, Navigation, Settings, Sheets, Cells and Address, Working with Rows and Columns, Auto-Text, Range, Formulas, Sort and Filters, Views of Worksheets, Auto-Calculations, Printing Options in Microsoft Excel, Charts and Graphics, Import and Export Data, Data Analytics, Lookup and References, Pivot tables, Page and Print Setup.

Unit-IV Microsoft PowerPoint Basics, Area of Uses, Toolbars, Slides, Presentations, Working with Slides, Using Wizards, Slides and its Views, Handouts, Columns and Lists, PowerPoint Objects, Themes and Animation, Timed Animation, Import and Export.

Unit-V Microsoft Access basics, Area of Uses, Toolbars, Table Design, Datatypes, Primary Keys, Queries, Tables, Merging, Using Criteria, Operators, and Wildcards, Introduction to Controls and Formatting Forms, Parameter Queries, Relationships and Joins, Creating Calculated Expressions.

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FIRST SEMESTER

Paper-1.3: Programming Concepts using C.

Unit-I History of C, Concept of variables and constants, structure of a C program. Operators & Expressions: Arithmetic, Unary, Logical, Bit-wise, Assignment & Conditional Operators, Library Functions, Hierarchy of operaters, control instructions, input output statements.

Unit-II Control Statements: while, do..while, for statements, Nested loops, if..else, switch, break, continue and goto statements.

Unit-III Functions: Defining & Accessing : Passing arguments, Function Prototype, Recursion, Use of Library, Functions, Storage Classes: Automatic, External and Static Variables (Register), Arrays: Defining & Processing, Passing to a function, Multidimensional Arrays. String: Operations of Strings (String handling through built-in & UDF: Length, Compare Concatenate, Reverse, Copy, Character Search using array)

Unit-IV Pointers: Declarations, Passing to a function, Operations on Pointers, Pointers & Arrays, Array of Pointer and functions – call by value and call by function, Pointer to structure, Pointer to functions, Function returning pointers, Dynamic Memory Allocations.

Unit-V Structures: Defining & Processing, Passing to a function, Unions (Array within structure, structure, Nesting of structure, Passing structure and its pointer to UDF, Introduction to Unions and its Utilities) Data Files: Open, Close, Create, Process Unformatted Data Files. (Formatted Console I/O functions, Unformatted Console I/O functions, Modes Of Files, Use Of fopen(), fclose(), fgetc(), fputc(), fgets(), fprintf(), fscanf(), fread(), fwrite(), Command Line Arguments).

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SECOND SEMESTER

Paper 2.1 : Database Management System

Unit-I Operational data, Purpose of database system, Views of data, Data models: Relational, Network, Hierarchical, Schemas, Data Dictionary, Types of Database language : DDL, DML, Structures of a DBMS, Advantages & Disadvantages of a DBMS.

Unit-II Entity Relationship Model as a tool of conceptual design : Entities & Entity set, Relationship & Relationship set, Attributes, Mapping, Constraints, Keys, Entities-Relationship diagram (E-R diagram) : Strong & weak entities,

Unit-III Relations, Domains, Attributes, Tuple, Concepts of Keys : Candidate key, Primary Key, Alternate Key, Super Key, Foreign Key, Entity integrity, Referential integrity, Relational Algebra : Select, Project, Cross product, Different types of joins i.e. theta join, equi join, natural join, outer join.

Unit-IV Functional Dependencies, Normalization : First, Second, Third & BCNF Normal Forms,

Unit-V Basic concepts of SQL (Structure Query Language) Example based on creating query in SQL. Use of MS-Access Package. Basic Concepts of SQL (Structured Query Language) Enable based on Creating queries in SQL use of MS-Access Package.

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SECOND SEMESTER

Paper 2.2: Basics of Computer Network

Unit –I Needs and Advantages of Network. Structure of the communication Network. Types of Network: LAN, MAN, WAN Protocols. Simplex, Half duplex and Full duplex transmission modes.

UNIT –II Multipoint and point to point line configuration Types of topologies; mesh, Star, Ring, Bus, Tree and Hybrid. Peer to Peer network. Primary Secondary Networks. Concepts of client server computing. Types of servers .

UNIT-III Basic concepts of guided and unguided media. Media Coaxial Cable Twisted pair cable, Untwisted pair cable, optic Fiber cable Wireless Communications. Serial and Parallel transmissions.

UNIT-IV Connection oriented and Connectionless networks, Asynchronous and Synchronous communication. Introduction to ISO/OSI reference Model in brief.

UNIT-V Networking and Internetworking devices and related terms Switch, Hub, Bridge, Router, Gateway. Broadband and Base band Networks TCP/IP Protocol, Wi-Fi network, Wi-max.

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SECOND SEMESTER

Paper 2.3 : Web Designing using HTML and CSS

Unit-I HTML, Text Editors, Tags, Elements, Attributes, Paragraphs, Headings, Links, Images, Lists, Images, tables, Forms, Span and DIVs, Abbreviations, Quotations, Defenitions, Comments, Styling, Classes and ID, IFrames.

Unit-II HTML Forms, Form Elements, Styling Forms, HTML 5 New Elements, Symantics, Migration.

Unit-III Introduction to Cascading, Syntax, Colors, Backgrounds, Margins and Paddings, Heights, Box Model, Outlines, Fonts, Links, Lists, tables, Display, Position, Overflow, Float.

Unit-IV Inline-Block, Align, Combinators, Pseudo Classes, Opacity, Navigation, Rounded Corners, Border radius, Gradients, Shadows, Transitions, Animation, Box-Sizing, Flex-Box.

Unit-V Media Queries, Responsive Web Design, Grid View, Frameworks, Templates.

Employability Entrepreneurship Skill Development