Dr. Bhimrao Ambedkar University, Agra

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A Documentary Support

for

Matric No. – 1.1.1

Programme Outcomes & Course Outcomes

under the

Criteria – I

(Curriculum Design and Development)

Key Indicator - 1.1

in

Matric No. – 1.1.1

POST GRADUATE DIPLOMA IN INFORMATION TECNOLOGY

2015

Mapping:

Local Need *Regional* *National* *Global Need*

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PGDIT

Program Outcomes (PO)

PO1	**Value Education**	The Diploma program provides managerial skills, as well as a variety of expert and general elective options to meet ICT and business demands, particularly in the areas of knowledge management and systems development.
PO2	**Computational information**	Recognise and use mathematical organisation, computation, and domain knowledge to conceptualise computer models free from obvious downsides.
PO3	**Presentation and communication skills**	Knowing excellent documentation and presentations can help students to communicate with the computing society and culture.
PO4	**Technical Knowledge**	The ability to choose modern computing tools, as well as the abilities and methods required for unique software solutions
PO5	**Conduct investigations of complex problems:**	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

Program Specific Outcome (PSO)

PSO1	Identify, formulate and analyze complex problems reaching substantiated conclusions using first principles of mathematics, natural sciences.
PSO2	Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PSO3	Preparing students for various technology areas such as computers applications, computer networks, software development, JAVA, database concepts, programming.
PSO4	In order to enhance programming skills of the students, the concept of project development in using the technologies learnt during the semester has been introduced.
PSO5	Ability to enhance the business and communication skills in order to identify the components and factors for the development and management of business cases

POST GRADUATE DIPLOMA IN INFORMATION TECHNOLOGY (PGDIT)
DETAILED SYLLABUS
1ST & 2ND SEMESTER

S.No.	Name of the Course	Course Code	Course Content	Course Objective
1.	**Fundamentals Of Computer & Information Technology**	1.1	**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 .	**CO1:** ➢ **To understand** the basic knowledge of computer and its different 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.	**CO2:** ➢ To know about different parts of computer i.e. keyboard monitor drives etc .
			UNIT-III Need, Types of Software – System software, Application software, System Software Operating System, Utility Program, Programming languages, Assemblers, Compilers	**CO3:** ➢ Identify the basic concepts of software and its different types

			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,	**CO4:** ➢ **To understand the basic knowledge about Operating system**
			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.	**CO5:** ➢ Obtain the knowledge about windows O.S. and its application
2.	**PC Packages**	**1.2**	**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	**CO1:** ➢ To understand the basic knowledge about Operating system and its security feature

			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.	**CO2:** ➢ Apply knowledge of Microsoft Word Basics.
			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.	**CO3:** ➢ Implement knowledge of Microsoft Excel Basics and different Graphical tools
			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.**	**CO4:** ➢ Implement knowledge of Microsoft **PowerPoint Basics.**
			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.	**CO5:** ➢ Implement knowledge of Microsoft Microsoft Access basics
3.	**Programming Concepts**	**1.3**	**UNIT-I**	**CO1:** ➢ Able to Use and understand the

	using C.		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.	design application of C Programming
			UNIT-II Control Statements: while, do..while, for statements, Nested loops, if..else, switch, break, continue and goto statements.	**CO2:** ➢ Apply decision statement and control statements in the language.
			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)	**CO3:** ➢ Able to Use and understand the array application of C Programming
			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.	**CO4:** ➢ Obtain the knowledge about pointer and functions
			UNIT-V	**CO5:** ➢ Obtain the knowledge about file handling.

			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).	
4.	**Data Base Management System**	**2.1**	**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.	**CO1:** ➢ **To understand** Database System Concepts, Database Users, and Architecture ➢ Apply knowledge of database for real life applications.
			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,	**CO2:** ➢ Identify the basic concepts and various data model used in database design ER modelling concepts and architecture use and design queries using SQL.
			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.	**CO3:** ➢ Apply relational database theory and be able to describe relational algebra expression, tuple and domain relation expression queries
			Unit-IV Functional Dependencies, Normalization : First, Second, Third & BCNF Normal Forms,	**CO4:** ➢ Identify and solve the redundancy problem in database tables using normalization.
			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	**CO5:** ➢ Recognize/ identify the purpose of query processing and optimization and also demonstrate the basic of query evaluation.

			Creating queries in SQL use of MS-Access Package.	
5.	**Basics of Computer Network**	2.2	**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.	**CO1:** ➢ Obtain the knowledge about basic computer network terminologies.
			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 .	**CO2:** ➢ Understand computer network basics, and topologies. network architecture, TCP/IP and OSI reference models.
			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.	**CO3:** ➢ Obtain the knowledge about guided and unguided media
			UNIT-IV Connection oriented and Connectionless networks, Asynchronous and Synchronous communication. Introduction to ISO/OSI reference Model in brief.	**CO4:** ➢ To get knowledge about basic data communication Terminologies.
			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.	**CO5:** ➢ To get basic understanding of basic transmission medium connection devices and comparisons.
6.	**Web Designing using HTML and CSS**	2.3	**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.	**CO1:** ➢ To get knowledge about basic HTML tags and elements.
			Unit-II HTML Forms, Form Elements, Styling Forms, HTML	**CO2:**

			5 New Elements, Symantics, Migration.	➢ To Understand HTML Forms and semantics
			Unit-III Introduction to Cascading, Syntax, Colors, Backgrounds, Margins and Paddings, Heights, Box Model, Outlines, Fonts, Links, Lists, tables, Display, Position, Overflow, Float.	**CO3:** ➢ To get knowledge about Cascading style sheet.
			Unit-IV Inline-Block, Align, Combinators, Pseudo Classes, Opacity, Navigation, Rounded Corners, Border radius, Gradients, Shadows, Transitions, Animation, Box-Sizing, Flex-Box.	**CO4:** ➢ Obtain the knowledge about Animation, Box-Sizing, Flex-Box.
			Unit-V Media Queries, Responsive Web Design, Grid View, Frameworks, Templates.	**CO5:** ➢ To Understand Grid View, Frameworks.