BABASAHEB BHIMRAO AMBEDKAR UNIVERSITY

LUCKNOW

प्रज्ञा शील करुणा

ESTABLISHED 1996

बाबासाहेब भीमराव अम्बेडकर विश्वविद्यालय

विद्या विहार, रायबरेली रोड, लखनऊ -२२६०२५

BABASAHEB BHIMRAO AMBEDKAR UNIVERITY

(A Central University)

Vidya Vihar, Rae Bareli Road, Lucknow-226025, India

Letter No.: 874/DIT/BBAU/2020

Date: 23/11/2020

NOTICE

This is to inform to all concerned that the Department of Information Technology is offering the following 02 (Two) optional papers under Open Elective Course in 1st semester. Any one of these can be opted by any student under the Choice Based Credit System (CBCS) being followed by the University. For any other details you may contact to course coordinators:

M.Sc (Information Technology): Dr Raj Shree, Coordinator

M.Tech (Software Engineering) : Dr Alka, Coordinator

Course Code	Course Title	Maximum Marks				Credit
		End Semester	Sessional			
			Comp -I	Comp -II	Comp -III	
M.Sc. (IT) MIT101	Introduction to Information Technology	70	10	10	10	04
M.Tech. (SE) MTSE 101	Advanced Software Engineering	70	10	10	10	04

Head, IT

Copy to:-

1. A.R. to V C Office
2. Dean, SIST
3. Dean (Academic)
4. All Dean/HoD's
5. Registrar, BBAU
6. S.O. to CoE, BBAU
7. Notice Board, SIST
8. I/C University Website for its uploading on university website

Head, IT

Course Name	M.Sc (Information Technology)
Course Title	INTRODUCTION TO INFORMATION TECHNOLOGY
Course Code	MIT 101
Credit	4

SEMESTER I

MIT101-INTRODUCTION TO INFORMATION TECHNOLOGY

UNIT-1 **FUNDAMENTAL CONCEPT OF INFORMATION**

Definition of information, Data Vs Information, Introduction to Information representation in Digital Media, Text, image, graphics, Animation, Audio, Video etc., Need, Value and Quality of information, Concept of Information Entropy. MPEG, RTF, TIFF JPEG, MPEG.

Unit-2 **CONCEPTS IN COMPUTER & PROGRAMMING**

Definition of Computer, History, Generations, Characteristic and Application of Computers, Classification of Computers, RAM/ROM, Computer Hardware, CPU, Various I/O devices, Peripherals, Storage Media, Role and Categories. Computer Languages, Generation of Languages, Translators-Interpreters, Compiler/Interpreters, Compilers, Flow, Charts, Dataflow Diagram, Assemblers, Introduction to 4GLs, Software Development Methodology, Life Cycles.

UNIT-3 **DIGITAL DEVICES AND BASIC NETWORK CONCEPTS**

Decimal, binary, hexa decimal conversion, floating numbers, gates, flip flops, adder, multiplexes, need for Data Transmission over distances, Types of Data Transmission, Media for Data Transmission, AM, FM, Digital Modulation, Concepts in Computer Networks, Networking of computers- Introduction of LAN & WAN. Network Topologies.

UNIT-4 **INTERNET AND WEB TECHNOLOGIES**

Hypertext Markup Language, DHTML, WWW, Gopher, FTP, Telnet, Web Browsers, Net Surfing, Search Engines, Email, ISP, EDI, E-Commerce, Public Key Private Key, Safety of Business Transaction on web. Elementary Concepts of E-Commerce, Electronic Token, Security Threats, Electronic Payment Systems, Digital Signatures, Network, Security, Firewall, Introduction to Web Technologies.

UNIT-5 **CONCEPTS IN OPERATING SYSTEM & DATA MANAGEMENT**

Elementary Concepts in Operating System, textual Vs GUI Interface, Introduction to DOS, MS Windows, MS office Tools, MS WORD, MS EXCEL, MS Power Point, Basics of Database management system, Introduction to basic Commands of Dbase, SQL Etc.

TEXT BOOK(S)

1. D S Yadav, "**Foundations of IT**", New Age, Delhi

REFERENCE BOOKS

1. Curtin, "**Information Technology : Breaking News**", TMH
2. Rajaraman, "**Introduction to Computers**", PHI
3. Peter Nortans "**Introduction to Computers**", TMH.
4. Leon & leon "**Fundamental of information Technology**", Vikas

Course Name	M.Tech (Software Engineering)
Course Title	Advanced Software Engineering
Course Code	MTSE 101
Credit	4

SEMESTER -1

MTSE 101: ADVANCED SOFTWARE ENGINEERING

Introduction: Life cycle models, Requirement Analysis and specification, Formal requirements specification.

Fundamental issues in software design: Goodness of design, cohesions, coupling. Function-oriented design: structured analysis and design.

Overview of object –oriented concepts. Unified Modeling Language (UML). Unified design process. User interface design. Coding standards and guidelines. Code walkthrough and reviews.

Unit testing. Black box and white box testing. Integration and system testing. Software quality and reliability. SEI CMM and ISO 9001.

PSP and Six Sigma. Clean room technique. Software maintenance issues and techniques. Software reuse. Client-Server software development.

Reference:

1. Ian Sommeriele, "Software Engineering", Addison Wesley.
2. C.Easteal and G.Davis, Software Engineering Analysis and Design, Tata McGraw Hill. 3. Pressman, Software Engineering –A Practitioner's Approach.
3. Richard Fairley, Software Engineeering Concepts, Tata Mcgraw Hill.
4. Pankaj Jalote , An Integrated Approach to Software engineering, Narosa Publication.