DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY

CIRCULAR NO. SU/Sci./B.Sc. Syllabi/100/2016

It is hereby notified for information to all concerned that, on the recommendation of the Ad-hoc Board in Computer Science and I.T. the **Academic Council at its meeting held on 01 & 02 June, 2016** has accepted the following revised syllabi as mentioned against their names under the Faculty of Science :-

Sr. No.	B.Sc. III Year Revised Syllabus		Semester
[1]	B.Sc. Computer Science	Degree Course	V & VI
[2]	B.Sc. Information Technology	Degree Course	V & VI
[3]	B.C.A. Science	Degree Course	V & VI
[4]	B.Sc. Animation	Degree Course	V & VI
[5]	B.Sc. Computer Science	Optional	V & VI
[6]	B.Sc. Information Technology	Optional	V & VI
[7]	B.C.A. Science	Optional	V & VI
[8]	B.Sc. Computer Maintenance	Optional	V & VI

This is effective from the **Academic Year 2016-2017** and onwards.

These **syllabi are also available on the University Website www.bamu.ac.in**

All concerned are requested to note the contents of this circular and bring the notice to the students, teachers and staff for their information and necessary action.

University Campus,
Aurangabad-431 004.
REF.NO.SU/B.Sc./2016/2389-639
A.C.M.A.I.No.10

Date:- 07-06-2016.

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Director,
Board of College and
University Development.

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Copy forwarded with compliments to :-

1] The Principals, affiliated concerned Colleges,
Dr. Babasaheb Ambedkar Marathwada University.

Copy to :-

1] The Controller of Examinations,

2] The Section Officer, [B.Sc. Unit],

3] The Section Officer, [B.C.S. Unit],

4] The Programmer [Computer Unit-1] Examinations,

5] The Programmer [Computer Unit-2] Examinations,

6] The In-Charge, E-Suvidha Kendra, [Professional Unit], Rajarshi Shahu Maharaj Pariksha Bhavan, Dr. Babasaheb Ambedkar Marathwada University,

7] The Record Keeper,
Dr. Babasaheb Ambedkar Marathwada University.

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DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURAIMGABAD

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Revised SYLLABUS

B.Sc. Computer Maintenance

(OPTIONAL)

{Effective from 2016-2017 }

B.Sc. Computer Maintenance (Optional) Course Structure

B-Sc/Third Year

Semester	Course Code	Paper Number	Title of Paper	Marks

V	CM-501	Paper-XVII	PC Trouble Shooting	5	0
	CM-502	Paper-XVIII	Network Security -I	5	0
	CM-503	Paper- XIX	Practicals on Paper - XVII	5	0
	CM-504	Paper-XX	Practicals on Paper - XVIII	5	0
VI	CM-601	Paper-XXI	Installation of Softwares	5	0
	CM-602	Paper-XXII	Network Security -II	5	0
	CM-603	Paper-XXIII	Practicals on Paper - XXI	5	0
	CM-604	Paper-XXIV	Practicals on Paper - XXII	5	0

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B.Sc. **Computer Maintenance**

Fifth Semester

Course: CM- 501 Paper-XVII

PC TROUBLE SHOOTING

Sr. No	Topic	No. ofLect.

1. THE IBM PC: **9**

The structure of the PC system, inside the system unit, video and sound, mass storage, system configuration.

2. IBM PC OPETATONS: • **12**

The basic parts of the IBM PC, chip location scheme, central processing unit, memory design, the IBM PC bus structure, input and output, the power supply.

3. BASIC TROUBLE SHOOTING: **12**

Introduction to the trouble shooting, component recognition, component failures, disk drives fail, displays fail, repair generated failures, localize failures, safety precautions during trouble shooting and repair.

4. SPECIFIC TROUBLE SHOOTING AND REPAIR: **12**

Trouble shooting in index, start up problem, run problem, display problems, color monitor &adapter card ,keyboard problems, I/O problems.

Reference: Repairing AndUpgrading Of IBM PC: Miller (Que Publication)

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Course: CM-502 Paper-XVIII

Fifth Semester

Network Security-I

(Effective from June 2013)

1) IntroductionBasic concepts: confidentiality, integrity, availability, security policies,security mechanisms and assurance.
2) Basic Cryptography, Historical background , Transposition/Substitution, Caesar Cipher Introduction to Symmetric crypto primitives, Asymmetric cryptoprimitives, and Hash functions
3) Secret Key CryptographyData Encryption Standard (DES)Encrypting large messages (ECB, CBC, OFB, CFB, CTR)Multiple Encryptions DES (EDE)
4) Public Key CryptographyTheory: Euclidean algorithm, Euler Theorem, RSA, multiplicative and additive inverse RSA, Selection
of public and private keys
5) AuthenticationSecurity Handshake pitfalls Online vs. offline password guessing
Reflection attacksPer-session keys and authentication ticketsKey distribution centers and certificate authorities

Text Book:
1. William Stallings, "Cryptography And Network Security - Principles and Practices", Prentice Hall ofIndia, Third Edition, 2003.

REFERENCES
1. AtulKahate, "Cryptography and Network Security", Tata McGraw-Hill, 2003.
2. Bruce Schneier, "Applied Cryptography", John Wiley & Sons Inc, 2001.
3. Charles B. Pfleeger, Shari Lawrence Pfleeger, "Security in Computing", Third Edition, Pearson Education, 2003.

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Course: CM-503 **Paper -XIX (Practicals on Paper - XVII)**

Fifth Semester

XIX - : Experiments **(Marks 50)**

1. Addition and subtraction of two 8-bit numbers with programs based on differentAddressing modes of 8086.
2. Addition and subtraction of two 16-bit numbers. (Using 2's complement method, also programs which access numbers from specified memory locations)
3. Multiplication of two 8-bit numbers using the method of successive addition and Shift & add. ,
4. Division of two 8-bit numbers using the method of successive subtraction and shift &subtract.
5. Block transfer and block exchange of data bytes.
6. Finding the smallest and largest element in a block of data.
7. Arranging the elements of a block of data in ascending and descending order.
8. Generating delays of different time intervals using delay subroutines and measurement of delay period on CRO using SOD pin of 8086.
9. Program for Summation of First n Number.
10. Program for Factorial of n.

B.Sc. Computer Maintenance

Course: CM-504 paper-XX (PracticaIs on Paper-XVIII)

Fifth Semester

(Marks 50)

Every candidate appearing for examination must produce journal showing that he/she has completed 15 experiments during the semester. The journal must be certified at the end of the semester by The Head of the Department.

B.Sc. Computer Maintenance

Sixth Semester

Course: CM- 601 **Paper-XXI**

Installation of Software

Sr. No	Topic	No. of Lect.
1.	**Basics of Operating System**	12

Differences between DOS, WINDOWS 2000 / XP and Linux operating systems, starting and exiting from a program in WINDOWS 2003 / XP, Linux, files and folders in Windows 2003 / XP/Linux copying and moving files under Windows 2003 / XP, the use of explorer, study of control panel and its settings.

2 Installation and Administration of WINDOWS 2003 / LINUX **12**

The minimum hardware requirements for the installation, the steps involved in installation of Windows 2003/Linux and troubleshooting during installation. Booting process of Windows 2003/ XP/Linux the plug and play feature of Windows2003 / XP -the automatic detection of new hardware at booting time, the boot sector, Architecture of Windows2003 / XP, the Recycle bins, DLL files, the Windows registry and itsimportance, the device drivers, the addition of new hardware and software to a Windows 2003 / XP ' system, the device manager of 2003 / XP, changing of display settings, setting of screen savers and their password protection, configuration of keyboard and mouse in Windows 2003 / XP.

3. Installation of Network Operating System in a Client-Server Model 12

Introduction to Windows 2000 and Windows XP. The minimum hardware requirements for installation, Server installation,.Configuring a Windows 2000/XP system as a client to Windows 2000 network, and Password security in Windows 2000.Peer to Peer Networking in Windows 2000/2003, sharing the files and folder level security.Users Rights available in Windows 2000 and their functions. Rights assigned to built in groups. Password Security, account restrictions, Audit Policy. The TCP/IP protocol suit, TCP/IP core protocols, TCP/IP diagnostic utilities, IP addressing. TC/IP configuration, Installation of TCP/IP protocol.

4 Introduction to Internet, Connectivity and Peripheral Configuration 09

The internet as a source of information, The domain names in the internet, world wide web, configuring Windows as a station for accessing Internet using dial up networking, Modem Configuration and connectivity using ISDN, leased line, obtaining the internet connection from the Internet service provider, using of internet for obtaining information, chatting / searching of information using search engine, using various browsers and configuring E-Mail, Uploading / Downloading, Tips for increasing speed of internet etc.

Recommended Book: Windows 98 / 2000/2003, Bible; Simpson Alan

B.Sc. Computer Maintenance

Course: CM-602 Paper XXII

Sixth Semester

Network Security – II

(Marks 50)

1 Trusted Intermediaries, Public Key infrastructures, Certification authorities and key distribution centers Kerberos

2. Real-time Communication Security
Introduction to TCP/IP protocol, security protocols and implications, IPsec: AH and ESP IPsec: IKE SSL/TLS

3. Electronic Mail Security

4. Source authentication, message integrity, non-repudiation, proof of submission, proof of delivery, message flow confidentiality.

5. Pretty Good Privacy (PGP)
Firewalls and Web Security, Packet filters Application level gateways,Encryptedtunnels,Cookies

Text Book:
1. William Stallings, "Cryptography And Network Security - Principles and Practices", Prentice Hall of
India,. Third Fditinn, ?003.

REFERENCES
1. AtulKahate, "Cryptography and Network Security", Tata McGraw-Hill, 2003.
2. Bruce Schneier, "Applied Cryptography", John Wiley & Sons Inc, 2001.
3. Charles B. Pfleeger, Shari Lawrence Pfleeger, "Security in Computing", Third Edition, Pearson Education, 2003.

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