GIRRAJ GOVT COLLEGE (A), NIZAMABAD

(COLLEGE WITH POTENTIAL FOR EXCELLENCE)

B.O.S-2018-19

DEPARTMENT OF COMPUTER SCIENCE

PROCEEDINGS OF THE PRINCIPAL, GIRRAJ GOVT.COLLEGE(A)

Present: Sri K.DUBBA RAJAM, M.sc

Lr. No. / GGC-Nzb. / Comp. Sc / BOS – 18-19 / dated -09-2018

Sub.: constitution Board of studies members for the Dept.of Computer Science- Girraj Govt. College (A), Nizamabad.

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ORDERS:

The following persons from Telangana University,Girraj govt.College are included as members for the Board of Studies in the department of computer science,Girraj Govt College(A),Nizamabad .The constitution of the BOS Members from this academic year i.e. 2018-19 .

1.Smt. A.Nileema	Asst.Prof.Comp.Science Dept & Chair person B.O.S.,(University Nominee) Telangana University, Dichpally,Nizamabad.
2. Sri Raja	Lecturer in Physics & Chairman B.O.S.,Comp.Sci Department. Girraj Govt.College(A),Nizamabad.
3. Sri M.Kumar Swamy	Lecturer in History & Executive Member & Chairman B.O.S.-B.A.(CA) Girraj Govt.College(A),Nizamabad.
4. Sri V.Subhash	Lecturer & HOD of Comp.Sci Goutami Degree & PG College, Nizamabad.
5. All staff members Of the Computer Sci.Dept	

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DEPARTMENT OF COMPUTER SCIENCE
GIRRAJ GOVERNMENT COLLEGE (Autonomous)

(College with Potential for Excellence)

Proposed Scheme for **B.Sc.** Computer Science under Choice Based Credit System.

Code	Course Title	Sem. Name	HPW	Credits
Theory Sessions (70 Marks)				
	I Year			
BS101	Programming in C	Semester-I	4T+2P=6	4+1=5
BS102	Programming in C++	Semester-II	4T+2P=6	4+1=5
	II Year			
BS203	Programming in Java	Semester-III	4T+2P=6	4+1=5
BS204	Programming in Java with D.S.	Semester-IV	4T+2P=6	4+1=5
	III Year			
BS305(a)	Graph Theory Computer Organization & Assembly Language (COAL) Modern Data Base Management System	Semester-V	2 2 3T+2P=5	2 2 3+1=4
BS305(b)	Elective-A Operating System Elective-B Software Engineering		3T+2P=5 3T+2P=5	3+1=4 3+1=4
	III Year			
BS306(a)	Graph Theory-2 Numerical Computing Computer Networks	Semester-VI	2 2 3T+2P=5	2 2 3+1=4
BS307(b)	Elective-A: PHP with MySQL Elective-B: Web Technologies		3T+2P=5 3T+2P=5	3+1=4 3+1=4
Practical Lab Sessions (50 Marks)				
I Year	Programming in C	Semester-I	3	50
	Programming in C++	Semester-II	3	50
II Year	Programming in Java	Semester-III	3	50
	Prog. in Java with data structure	Semester-IV	3	50
III Year (Paper-III)	Major project-I	Semester-V	3 3 3	50 50 50
III Year (Paper-IV)	Major Project-II	Semester-VI	3 3 3	50 50 50
Internal Assessment (5+5+20=30)				
I Year	Internal Assessment (I & II)	Semester-I		20+5+5=30
	Internal Assessment (I & II)	Semester-II		20+5+5=30
II Year	Internal Assessment (I & II)	Semester-III		20+5+5=30
	Internal Assessment (I & II)	Semester-IV		20+5+5=30
III Year	Project Work	Semester-V		Grades(ABC)
	Project Work	Semester-VI		Grades(ABC)

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SYLLABUS FOR COMPUTER SCIENCE

Proposed scheme for B.Sc. MPCs & MSCs
(Choice Based Credit System - CBCS)
With effect from 2016-17

Semester No. & Course Code	Course Title	Hours per Week	Credits
Semester - I **BSC 106**	Fundamentals of Computers Programming in C	4T+2P = 64	4 + 1 = 05
Semester – II **BSC 206**	Programming in C++	4T+2P = 64	4 + 1 = 05
Semester – III **BSC 306**	Data Structures with C++	4T+2P = 64	4 + 1 = 05
Semester – IV **BSC 406**	Database Management Systems	4T+2P = 64	4 + 1 = 05
Semester – IV **BSC 506**	Programming in Java	3T + 2P = 53	3 + 1 = 04
	Elective – A Operating System	3T + 2P = 53	3 + 1 = 04
	Elective – B Software Engineering	3T + 2P = 53	3 + 1 = 04
Semester – IV **BSC 606**	Computer Networks	3T + 2P = 53	3 + 1 = 04
	Elective – A: PHP with My-SQL	3T + 2P = 53	3 + 1 = 04
	Elective – B: Web Technologies	3T + 2P = 53	3 + 1 = 04

The above Syllabus will come into effect from the academic Year 2016-17 as:

2016 – 17: B.Sc. First Year MPCs & MSCs, Approval.

2017 – 18: B.Sc. Second Year MPCs & MSCs, Approval.

2018 – 19: B.Sc. Third Year MPCs & MSCs, Approval.

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NIZAMABAD

BOS 2018-19

DEPARTMENT OF COMPUTER SCIENCE

Girraj Govt. College (Autonomous)

B.Sc. III Year V Semester Syllabus

Core-PAPER-V: Java Programming

Max. Marks: 70(Theory)
Internal Assessment:30

Theory	3Hrs/Week	3Credits
Practical	2Hrs/Week	1Credit

UNIT-I

Chapter-I:

Java History, Basic concepts of object oriented programming, Java features, How java differs from C and C++,Java and Internet ,Java and WWW,

Web browsers, Java Environment, Simple java program, Use of math functions,An application with two classes, Java program structure, Java Tokens,Java Statements, Implementation of Java Program,JVM,Command line arguments.

Chapter-II:

Constants,Variables,Datatypes,Declaration of variables,Giving values to variables, Scope of variables,Type casting,Operators of java:Arithmetic Expressions,Evaluation of Expression,precedence of Arithmetic Operators,Mathematical Functions.

UNIT-II

Chapter-I:

Decision making and branching:if-statement,if else,else if ladder,nested if ,switch,Loop:while,do-while,for,nested loops,Jumps in loops:break,continue,labeled loops.

Classes,objects and methods:Designing a class,field declaration,method declaration,creating objects,Accessing class members,constructors:Default Constructor,Parameterized constructors,Method Overloading,Static Members,Nesting Methods.

Chapter-II

Inheritance:Extending a class,Overriding Method,final variables and methods,Final Classes,Finalizer Methods,Abstract Methods and Classes.

UNIT III

Chapter I

Arrays:One Dimensional Arrays,Two Dimentional Arrays,Strings,Vectors,Wrapper Classes,Enumerated Types,Interfaces:Designing interfaces,Extending Interfaces,implementing Interfaces,Accessing interface variables

Chapter-II:

Packages:Java API Packages,Using System Packages,Naming Conventions,Creating Packages,Accessing a Package,Using Package.

UNIT IV

Chapter I

Multithreading Programming:Creating Threads,Extending the thread class,Stopping and blocking a thread,Life Cycle of a thread,Using Thread Methods,Thread Exception,Thread Priority,Synchronization,Implementing the Runnable Interface.

Chapter II

Managing Errors and Exceptions:Types of Errors,Exceptions,Syntax of Exception Handing Code,Multiple Catch Statements,Applet Programming:How applets Differ from applications,Preparing to write applets,Building applet Code,Applet Life Cycle,Creating an Executable Applet,Designing a web page,Applet Tag,Adding Applet to HTML file,Running the Applet,More about Applet Tab,Passing Parameters to Applets,Aligning the Display,More about HTML tag,Displaying Numeric values,Getting I/O from User.

Textbooks: Sachin Malhotra, Saurabh Choudhary, *Programming in Java (2e)*
Bruce Eckel, *Thinking in Java (4e)*

References: Herbert Schildt, *Java: The Complete Reference (9e)*
Y. Daniel Liang, *Introduction to Java Programming (10e)*
Paul Deitel, Harvey Deitel, *Java: How To Program (10e)*

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DEPARTMENT OF COMPUTER SCIENCE

Girraj Govt. College (Autonomous)

B.Sc. III Year V Semester Syllabus

Elective-PAPER-VII-(A): Operating System

Max. Marks: 70(Theory)
Internal Assessment:30

Theory	3Hrs/Week	3Credits
Practical	2Hrs/Week	1Credit

Unit – I

Introduction: Computer-System Architecture, Computing Environments. Operating-System Structures: Operating-System Services, User Interface for Operating-System, System Calls, Types of System Calls, Operating System Structure.

Process Management: Process Concept, Process Scheduling, Operations on Processes, Inter process Communication.

Process Synchronization: Critical-Section Problem, Peterson's Solution, Synchronization, Semaphores, Monitors.

Unit – II

CPU Scheduling: Concepts, Scheduling Criteria, Scheduling Algorithms.

Deadlocks: System Model, Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection, Recovery from Deadlock.

Unit – III

Main Memory: Introduction, Swapping, Contiguous Memory Allocation, Segmentation, Paging. Virtual Memory: Introduction, Demand Paging, Page Replacement, Allocation of Frames, Thrashing. Mass-Storage Structure: Overview, Disk Scheduling, RAID Structure.

Unit – IV

File Systems: File Concept, Access Methods, Directory and Disk Structure, File-System Mounting, Protection. File System Implementation, Directory Implementation, Allocation Methods, Free-Space Management.

Text:

Abraham Silberschatz, Peter Baer Galvin, Greg Gagne, *Operating System Concepts (9e).*

References:

1. Naresh Chauhan, *Principles of Operating Systems*
2. Thomas W. Doeppner, *Operating Systems in Depth*
3. Andrew S. Tanenbaum, *Modern Operating Systems*
4. William Stallings, *Operating Systems – Internals and Design Principles*
5. Dhananjay M. Dhandhere, *Operating Systems – A Concept Based Approach*

DEPARTMENT OF COMPUTER SCIENCE

Girraj Govt. College (Autonomous)
B.Sc. III Year V Semester Syllabus
Elective-VIIA Lab Programming

Practical **2Hrs/Week** **1Credit**

1. Use vi editor to create different files, writing data into files, modifying data in files
2. Use different types of Unix commands on the files created in first program.
3. Write shell programs using 'case', 'then' and 'if' & 'else' statements.
4. Write shell programs using while, do-while and for loop statements.
5. Write a shell script that accepts two integers as its arguments and add two numbers.
6. Write a shell script accept its arguments and compute factorial of numbers.
7. Write a program that simulate the following Unix commands like ls, mv, cp.
8. Write a program to convert upper case to lower case letters of a given ASCII file.
9. Write a program to program to search the given pattern in a file.
10. Write a program to demonstrate FCFS process schedules on the given data.
11. Write a program to demonstrate SJF process schedules on the given data.
12. Write a program to demonstrate Priority Scheduling on the given burst time and arrival times.
13. Write a program to demonstrate Round Robin Scheduling on the given burst time and arrival times.
14. Write a program to search the given pattern in a file.
15. Write a program to simulate FIFO, LRU, LFU Page replacement algorithms.

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B.Sc. III Year V Semester Syllabus

Elective-PAPER-VII(B) Software Engineering

Max. Marks: 70(Theory)
Internal Assessment:30

Theory	3Hrs/Week	3Credits
Practical	2Hrs/Week	1Credit

Unit – I

Software Engineering – Introduction, Program Versus Software, Software Engineering, Software Development Process and its Stages, Generic Software Development Process Models, Code of Ethics and Professional Practice, Software Development and Maintenance Cost Breakup.

Requirement Engineering Processes – Requirement Engineering Process, Feasibility Study, Cost and Benefit Analysis, Requirement Specification, Characteristics of a Good Requirement and Validation Techniques, Requirements Management Planning, Process of Requirement Change Management.

SoftwareRequirementSpecifications – Introduction, Stakeholder Analysis, Software Requirements Document, IEEE Standard of Software Requirement Specifications, Organizing Functional Requirements, Traceability and Validation of Specifications.

Unit –II

Architectural Styles – Introduction, Architecture Styles, Object Oriented Architecture, Inter-organizational Communication, Cloud Computing Architecture Style, Core, Configurable and Customizable Architecture, Design Models, Architectural Design Principles.

Object Oriented System Analysis – Introduction, Object Oriented Design, Object Oriented Design Models, Object Oriented Analysis, Data Modeling, Comparison Between Top Down Structured and Object Oriented Analysis, Description of Logical and Static Modeling, Identification of Class Relationships.

Object Oriented Design Using UML – introduction, Sequence Diagram, State Machine Diagram, Timing Diagram, Describing Detailed Object Oriented Design, Decision Tree and Decision Table, Composite Structure Diagram, Generating Test Cases, Moving Towards Physical Design, Structured Methods.

Unit –III

Software Development – Introduction, Good Coding Practices, Code Reuse, Design Pattern, Generator Based Reuse, Application/Software Developed on Product Lines Approach, Component Based Software Engineering, Agile Methods.

Verification, Validation and Software Testing – Introduction, Software Verification and Validation Process, Software Testing, System Testing, Object Oriented Testing Strategy, Test Cases, Equivalence Partitioning (Black Box Testing), Art of Debugging.

Unit – IV

Measurement and Metrics for Assessing Software Quality – Introduction, ISO 9126 Quality Standards, Quality Management Models, Ways to Build Quality in Software, Software Quality Control and Metrics, Defect Density Metrics, Chidamber and Kemerer Metric Suites for Object Oriented System, Class Coupling Metric-Coupling Between Objects, Monitoring Dynamic Quality Attributes (Visible Externally) of a Software.

Text Rajesh Narang, *Software Engineering: Principles and Practices*

References

Ian Sommerville, *Software Engineering*.
R. Mall, *Fundamentals of Software Engineering*
Pankaj Jalote, An Integrated *Approach to Software Engineering*

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DEPARTMENT OF COMPUTER SCIENCE

Girraj Govt. College (Autonomous)
B.Sc. III Year V Semester Syllabus
Elective:VII-B Lab Programming

Practical 2Hrs/Week 1Credit

I. Case Studies:

1. Banking System

2. Hotel management system

3. Inventory Control System Management system

4. Railway Reservation System

II. Choose any two of above case studies and do the following exercises for those case studies

1. Write the complete problem statement
2. Write the software requirements specification document
3. Draw the entity relationship diagram
4. Draw the data flow diagrams
5. Draw activity diagrams for all use cases
6. Draw sequence diagrams for all use cases
7. Draw collaboration diagram
8. Assign objects in sequence diagrams to classes and make class diagram.

Note:

To draw dataflow diagrams using Microsoft Visio Software, SmartDraw, etc...

To draw UML diagrams using Rational Rose Software, StarUML, etc...

The teacher should define the boundaries for the above case study problems and make the practice of problems mentioned.

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DEPARTMENT OF COMPUTER SCIENCE

Girraj Govt. College (Autonomous)

B.Sc. III Year VI Semester Syllabus

Core-PAPER-VI-Web Technologies

Max. Marks: 70(Theory)
Internal Assessment: 30

Theory	3Hrs/Week	3Credits
Practical	2Hrs/Week	1Credit

Unit – I

HTML Basics:

Introduction to HTML and XHTML. Basic structure. . Elements and Attributes HTML. Text Formatting tags. Types of tags. Lists. Navigation: Basic Links. Creating Links with the <a> Element. Advanced E- mail Links.

Images tags and attributes: Adding Images Using the <img> Element. Using Images as Links Image Maps, Choosing the Right Image Format. Adding Flash. Video and Audio to your web pages.

Tables: Introducing Tables, Nested Tables, Accessing Tables.

Forms: Introducing Forms, Form Controls. Sending Form Data to the Server

Frames: Introducing Frameset, <frame> Element. Creating Links between Frames. Setting a Default Target Frame Using <base> Element. Nested Framesets. Inline or Floating Frames with <iframe>.

Unit – II

Introduction to DHTML:

Cascading Style Sheets: Introducing CSS. Where you can Add CSS Rules.

CSS Properties: Controlling Text, Text Formatting. Selectors (Class and Id).Length. Introducing the Box Model.

More Cascading Style Sheets: Embedded style sheet. Inline Style sheet. External style sheet. Links using external CSS.

Events: Mouse Events and keyboard handling in DHTML

Design Issues: Typography in Design.

Unit – III

Introduction To JavaScript: Advantages of JavaScript. How to Add Script to Your Pages. basic structure of JavaScript. Variables. Operators. Control Statements. Looping. Functions. Arrays.

Unit – IV

Built- In Objects: String Objects. Math Objects. Date and Time objects. Document Object Model (HTMLDOM).Form Validations.

Exceptional Handling in JavaScript: try. catch. throw and final statements.

Introduction to XML: Advantages of XML, basic structure of xml.

Document Type Definition (DTD): Introduction to Internal and external DTDs.

Text Jon Duckett. *Beginning HTML. XTML. CSS and JavaScript*

References

Chris Bates. *Web Programming*

M. Srinivasan. *Web Technology: Theory and Practice* Achyut S. Godbole. Atul Kahate. *Web Technologies*

Kogent Learning Solutions Inc. *Web Technologies Black Book*

Ralph Moseley and M. T. Savaliya. *Developing Web Applications*

P.J. Deitel & H.M. Deitel. *Internet and World Wide Web How to program*

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DEPARTMENT OF COMPUTER SCIENCE

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B.Sc. III Year VI Semester Syllabus

Elective-PAPER-VIII-A Computer Networks

Max. Marks: 70(Theory)
Internal Assessment:30

Theory	3Hrs/Week	3Credits
Practical	2Hrs/Week	1Credit

Unit – I

Introduction: Data Communication Components, Line Configuration, Topologies. Transmission Mode, Categories of Networks, ISO Reference Model–Layered Architecture. Functions of Layers, TCP/IP Reference Model.
Transmission Media: Guided Media–Twisted Pair Cable, Coaxial Cable, Optical Fiber, Unguided Media– Satellite Communication, and Cellular Telephony.

Unit – II

Multiplexing: Frequency–Division Multiplexing, Time–Division Multiplexing

Data Link Layer: Error Detection–VRC, LRC, CRC, Checksum, Error Correction–Hamming Code, Burst Error Correction, Line Discipline–ENQ/ACK, Poll/Select, Flow Control–Stop-and-Wait, Sliding Window, Error Control–Stop-and-Wait ARQ, Sliding Window ARQ Go-Back-n ARQ, Selective-Reject ARQ.

Unit – III

Local Area Networks: Introduction to IEEE 802, Ethernet-CSMA/CD, Implementation, Token Ring,-Token Passing, Implementation.

Switching Circuit Switching, Packet Switching, Message Switching.

Unit-IV

Networking and Internetworking Devices: Repeaters, Bridges, Routers, Gateways, Brouters, Switches. Distance Vector Routing Algorithm, Link State Routing Algorithm, Transport Layer: Duties of Transport Layer, Connection.
Upper OSI Layers; Session Layer, Presentation Layer, Application Layer.

Text: Behrouz A. Forouzan, *Data Communication and Networking (2e Update)*
S.S. Shinde, *Computer Networks.*

References: William Stallings, *Data and Computer Communications*
Andrew S. Tanenbaum, David J Wetherall, *Computer Networks*
Behrouz A Forouzan, Firouz Mosharraf, *Computer Networks A Top-Down Approach*

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DEPARTMENT OF COMPUTER SCIENCE

Girraj Govt. College(Autonomous)

B.Sc. III Year VI Semester Syllabus

Elective-PAPER-VIII-B- PHP with MySQL

Unit-I

Introducing PHP – What is PHP? Why use PHP? Evolution of PHP. Installing PHP, Other ways to run PHP. Creating your first script. PHP Language Basics – Using variables. Understanding Data Types, Operators and Expressions. Constants. Decisions and Loops – Making Decisions. Doing Repetitive Tasks with Looping. Mixing Decisions and Looping with HTML.

Strings – Creating and Accessing: Strings. Searching Strings. Replacing Text with Strings. Dealing with Upper and Lowercase, Formatting Strings. Arrays – Creating Arrays, Accessing Array Elements, Looping Through Arrays with for-each. Working with Multidimensional Arrays. Manipulating Arrays.

Unit – II

Functions – What is a Function? Why Functions are useful? Calling Functions. Working with Variable Functions. Writing your own Functions. Working with References. Writing Recursive Functions.

Objects – Introduction OOP Concepts. Creating Classes and Objects in PHP. Creating and using Properties. Working with Methods. Object Overloading with _get(). _set() and _call(). Using Inheritance to Extend Power of Objects. Constructors and Destructors. Automatically Loading Class Files, Storing as Strings.

Handling HTML Forms with PHP – How HTML form works. Capturing Form Data with PHP. Dealing with Multi-Value Fields. Generating Web Forms with PHP. Storing PHP Variables in Forms,.

Unit – III

Creating File Upload Forms, Redirecting After a Form Submission

Working with Files and Directories - Getting Information on Files. Opening and Closing Files. Reading and Writing to Files. Copying. Renaming. and Deleting Files. Working with Directories.

Introducing Databases and SQL – Deciding How to Store Data. Understanding Relational

Unit – IV

Databases, Setting Up MySQL. A Quick Play with MySQL. Connecting MySQL from PHP. Retrieving Data from MySQL with PHP – Setting Up the Book Club Database. Retrieving Data with SELECT. Creating a Member Record Viewer. Manipulating MySQL Data with PHP – **Inserting, Updating, and Deleting Records:**. Building a Member Registration Application.

Text: Matt Doyle. *Beginning PHP 5.3*(Wrox – Wiley Publishing).

References: Ellie Quigley. *PHP and MySQL by Example*
Joel Murach. Ray Harris. *Murach's PHP and MySQL*

GIRRAJ GOVERNMENT COLLEGE (A), NIZAMABAD

DEPARTMENT OF COMPUTERSCIENCE APPLICATIONS

BSC COMPUTERSCIENCE III YEAR

CBCS (With effect from 2018-19)

Time:3:00 Hrs **External Examination** **Max.Marks:-70**

PART- A

Marks: 5x6=30

I. Answer any FIVE of the following Questions.

Q. 1 & 2	from	.Unit-I	4 marks
Q. 3 & 4	from	.Unit-II	4 marks
Q. 5 & 6	from	.Unit-III	4 marks
Q. 7 & 8	from	.Unit-IV	4 marks

PART-B

Marks: 4x10=40

II Answer any All the Questions.

Q. 11	(a or b) from unit- I	10 marks
Q. 12	(a or b) from unit- II	10 marks
Q. 13	(a or b) from unit- III	10 marks
Q. 14	(a or b) from unit- IV	10 marks

Internal Examination

Exam Duration: 30 **Max.Marks:30**

I. Written Test	20 marks
1. Multiple choice questions	10x1=10 marks
2. Filling the blanks	10x1=10 marks
II Assignment:	05 marks
III. Student Seminar	05 marks

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DEPARTMENT OF COMPUTERS SCIENCE

BSC COMPUTER SCIENCE- III YEAR

CBCS (With effect from 2018-19)

Time:30 min **Internal Examination** **Max.Marks:20**

I. Multiple Choice Questions **Marks: 10 x1=10**

Note: i) Answer all the Questions.

ii) All question carry equal marks

Q. 1.
Q. 2
Q. 3
Q. 4
Q. 5
Q. 6.
Q. 7
Q. 8
Q. 9
Q. 10

II .Fill in the blanks **Marks: 10x1=10**

Note: i) Answer all the Questions.

ii) All question carry equal marks

Q. 1.
Q. 2
Q. 3
Q. 4
Q. 5
Q. 6.
Q. 7
Q. 8
Q. 9
Q. 10

Internal Examination **Max.Marks:30**

Exam Duration: 30

I. Written Test	20 marks
1. Multiple choice questions	10x1=10 marks
2. Filling the blanks	10x1=10 marks
II Assignment:	05 marks
III Student Seminar	05 marks

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