DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY

CIRCULAR NO.SU./B.Sc.CBC & GS/11/2022

It is hereby inform to all concerned that, on the recommendation of Faculty of Science & Technology Meeting dated 24.08.2022, **the Academic Council at its meeting held on 29 August 2022 has accepted the following Syllabi of B.Sc. Degree under the Choice Based Credit & Grading System along with Rules and Regualtion** as appended herewith:-

1.	B.Sc.Computer Science (Optional)	Ist and IInd semester
2.	B.Sc.Computer Application (Optional)	Ist and IInd semester
3.	B.Sc.Computer Application (Degree)	Ist and IInd semester
4.	B.Sc.Computer Science (Degree)	Ist and IInd semester
5.	B.Sc.Horticulture (Optional)	Ist to VIth semester
6.	B.Sc.Botany (Optional)	Ist to VIth semester
7.	B.Sc. Agrochemical & fertilizer (Optional)	Ist to VIth semester
8.	B.Sc.Home Science (Optional)	Ist and IInd semester
9.	B.Sc.Automobile Technology (Degree)	Ist and IInd semester
10.	B.Sc.Workshop Technology (Degree)	Ist and IInd semester
11.	B.Sc.Refrigeration and Air Conditioning (Degree)	Ist and IInd semester
12.	B.Sc.Environmental Science (Optional)	Ist and IInd semester
13.	B.Sc.Biotechnology (Degree)	Ist and IInd semester
14.	B.Sc.Biotechnology (Optional)	Ist and IInd semester
15.	B.Sc.Dairy Sci.& Tech (Optional)	Ist and IInd semester
16.	B.Sc.Zoology (Optional)	Ist to VIth semester
17.	B.Sc.Polymer Chemistry (Optional)	Ist and IInd semester
18.	B.Sc.Fisheries Science (Optional)	Ist and IInd semester
19.	B.Sc.Instrumentation Practice (Optional)	Ist semester
20.	B.Sc.Biochemistry (Optional)	Ist and IInd semester
21.	B.Sc.Non Conventional & Conventional Energy (Degree)	Ist and IInd semester

This is effective from the Academic Year 2022-23 and onwards.

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

University Campus,
Aurangabad-431 004.
Ref.No. SU/B.Sc./2022/8428-35
Date:-29.08.2022.

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Deputy Registrar,
Academic Section

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Copy forwarded with compliments to :-
1] **The Principal, concerned affiliated College,**
   Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
2] **The Director, University Network & Information Centre, UNIC, with a request to upload this Circular on University Website.**
   Copy to :-
1] The Director, Board of Examinations & Evaluation,
2] The Section Officer,[B.Sc.Unit] Examination Branch,
3] The Programmer [Computer Unit-1] Examinations,
4] The Programmer [Computer Unit-2] Examinations,
5] The In-charge, [E-Suvidha Kendra],
   Rajarshi Shahu Maharaj Examination Branch,
6] The Public Relation Officer,
7] The Record Keeper,

JS*29082022/-

Dr. Babasaheb Ambedkar Marathwada University
Aurangabad- 431004(MS) India.

Undergraduate Bachelor Degree Program
In Science (B.Sc.)
Computer Applications (Optional Subject)

Course Structure and Curriculum
(Outcome based Curriculum)
Choice Based Credit System

(Effective from Academic Year 2022-23)

Dr. Babasaheb Ambedkar Marathwada University
Aurangabad – 431004 (MS) India

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1. Eligibility:

- He/ She must have passed the higher secondary (multipurpose) examination conducted by H.S.C. board Government of Maharashtra with science / 0technical subjects Or an Examination of any statutory University and Board recognized as equivalent thereto.

- OR He / She must have passed examination prescribed at the end of second year of the junior college conducted by the H.S.C. board, Government of Maharashtra with English, Second language, Physics, Chemistry, Mathematics and or Biology or one of the technical subjects prescribed at the said examination as the optional or elective subjects or an examination recognized as equivalent thereto.

- First, Second and Third year in the subject or subjects concerned excluding compulsory English, Second Language and remaining optional subject(s). A candidate shall not be allowed to appear for such examination if he has passed the higher examination.

2. Duration

The undergraduate program in Computer Science is offered though the courses designed for granting the following B.Sc. degrees. All the courses are of 3-year duration spread over six semesters.

3. Medium of Instructions

The medium of instruction for this course is English.

4. Attendance:

This course is the practical course so, student should need minimum 40 % attendance for appearing the examination.

5. Program Educational Objectives:

Program Educational Objectives (PEOs) are broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve. These objectives describe the expected accomplishments of our graduates during the several years following graduation.

Objective 1: Our graduates will apply their knowledge and skills to succeed in their careers and/or obtain advanced degrees.

Objective 2: Our graduates will behave ethically and responsibly, and will remain informed and involved as full participants in their profession and society.

Objective 3: Our graduates will creatively solve problems, communicate effectively, and successfully function in diverse and inclusive multi-disciplinary teams.

Objective 4: Our graduates will apply principles and practices of computing grounded in mathematics and science to successfully complete software-related projects to meet customer business objectives and/or productively engage in research.

6. **Program Outcomes (POs) and Program Specific Outcomes:**

   Program Outcomes (POs)

S.No.	Program Outcomes (POs)
1	**Engineering knowledge:** Apply the knowledge of algorithm, data structure and programming to the solution of real time problems.
2	**Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3	**Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
5	**Project management:** Demonstrate knowledge and understanding of the science principles and apply these for real time applications.

Program Specific Outcomes (PSOs)

S.No	Program Specific Outcomes (PSOs)
1	Model computational problems by applying mathematical concepts and design solutions using suitable data structures and algorithmic techniques
2	Design and develop solutions by following standard software engineering principles and implement by using suitable programming languages and platforms
3	Develop system solutions involving both hardware and software modules

7. **Structure and Curriculum for**

Bachelor of Science (B. Sc.) Computer Application (Optional Subject)

(Choice Based Credit System)

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad								
Choice Based Credit System (CBCS) Curriculum For Faculty of Science and Technology Course Structure and Scheme of Examination B.Sc. Three Year Undergraduate Degree Program								
Semester I								
	Course Code	Course Title	Teaching time/week	Credits	Scheme of Examination			
					Max Marks	CIA	UA	Min Marks
Optional I (DSC-1A) Core Courses	CA-111	Fundamentals of Computer	45(3/week)	2	50	10	40	20
	CA-112	Operating System	45(3/week)	2	50	10	40	20
	CA-121	Lab course 1 (based on CA-111 and CA-112)	45(3/week)	1.5	50	10	40	20
Ability Enhancement compulsory courses (AECC-1)	CA-131	Communication skills in English-I	45(4/week)	3	50	10	40	20
	CA-132	Marathi/Hindi/Urdu/Sanskrit A student can opt for any one of these languages (SL-I)	45(4/week)	3	50	10	40	20
			225	11.5	250	50	200	100

Total Credits for Semester I : 11.5 (Theory : 10 ; Laboratory : 1.5)

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University, Aurangabad

Semester II

	Course Code	Course Title	Teaching time/week	Credits	Scheme of Examination			
					Max Marks	CIA	UA	Min Marks
Optional I (DSC-1B) Core Courses	CA-211	Digital Electronic	45(3/week)	2	50	10	40	20
	CA-212	C Programing- I	45(3/week)	2	50	10	40	20
	CA-221	Lab course 2 (based on CA-211 and CA-212)	45(3/week)	1.5	50	10	40	20
Ability Enhancement compulsory courses (AECC-2)	CA-231	Communication skills in English-II	45(4/week)	3	50	10	40	20
	CA-232	Marathi/Hindi/Urdu/Sanskrit A student can opt for any one of these languages (SL-II)	45(4/week)	3	50	10	40	20
Non-Credit Course	CMP-213	Constitution of India	45(3/week)	2*				
			225	11.5	250	50	200	100

Total Credits for Semester II : 11.5 (Theory : 10 ; Laboratory : 1.5)

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University, Aurangabad

8. Curriculum for Semester I

Course Code: **CA-111**   Course Title: **Fundamentals of Computer**   Total Credits: 02   Contact Hours: 30 (Clock Hours)   Marks: 50   Periods: 45 (45 minutes each)
Objective: To impart basic introduction to computer hardware, components, computer number system, how the CPU works, fundamental about algorithms and flowchart as well as different type of software.
UNIT-1: Introduction to Computers: (10 period)   Definition of Computers, History and Generations of Computers, Characteristics of computer, Classification of Computers. Fundamental Block diagram of Computer: CPU, Input & Output Unit. Input devices, Output devices, Types of printer's, Memory, CD-ROM, Hard disk, Floppy disk.
UNIT-2: Software: (10 period)   Definition of Software, Types of Software-System software, Application software and Utility software. Computer Languages: Definition, types of Programming languages, Language Processors: Assemblers, Interpreters, Compiler and Editors. Introduction to Operating Systems: Types of Operating System, Functions of Operating System examples. MS-DOS Internal and External Commands.
UNIT-3:Internet, World Wide Web: (10 period)   Introduction to Internet, Internet Access, Internet Basics, Protocols-TCP/IP,HTTP,FTP, Addressing, World Wide Web(WWW), Web Pages & HTML, Web browsers, Searching for information-search engines. Internet chat. Applications of Internet. Advantages and Disadvantages of Internet
UNIT-4: Number Systems and Arithmetic   (10 period)   Decimal Number System & Binary Number System, Decimal to Binary conversion, Binary to Decimal Conversion,. Binary Arithmetic : Binary addition, subtraction, Multiplication & division Hexadecimal number system , Hexadecimal to binary, Binary to Hexadecimal, Hexadecimal to decimal conversion Binary subtraction using 1' complement, 2'scomplement method.
UNIT-5: Tutorial and Assignment   (05 period)

References

1. Fundamentals of Computers, V. Rajaraman 6th edition PHI Learning Private Limited 2014

2. Fundamentals of Information Technology ByChetanSrivastava, Kalyani Publishers

3. Fundamentals of Computers By V.Rajaraman, PHI Publication ,IVth Edition.

4. Fundamentals of Programming By Raj K.Jain, S.Chand Publication

5. Digital Electronics and Micro-Computers – R.K.Gaur ,DhanpatRai Publication

Additional Reference:

1. Computer Today By Suresh K. Basandra, GalgotiaPublication,Updated Edition 2. Computer Fundamental ByB.Ram, BPB Publication.

3. Digital Electronics and Logic Design – N.G.Palan, Technova Publication

| Course Code: **CA-112** |
| Course Title: **Operating System** |
| Total Credits: 02 |
| Contact Hours: 30 (Clock Hours) |
| Marks: 50 |
| Periods: 45 (45 minutes each) |

Objective: To introduce students the basic functioning of operating systems as resource manager and its Salient features. Also to study about process states, scheduling, Memory and I/O Management techniques.

Unit-I: Introduction to Software: (05 periods)

Software: Definition, classification of software, operating system as the main component of system software.

Unit-II: Operating System Fundamental (10 periods)

Operating Systems: OS as a resource manager, Structure of OS, Evolution of OS, OS functions, Characteristics of modern OS, Types of O.S.: Early systems, simple batch systems, multiprogramming batch systems, Time sharing system, Personal Computer systems, Parallel systems, Distributed systems, Real time systems.

Unit-III:I/O Management(10 periods)

I/O Management I/O System Components : I/O Devices , I/O, Hardware , Application I/O interface, Secondary Storage Structure : Disk fundamental, Disk Scheduling , Disk Management

Device Characteristics Input and Output devices, Storage devices, Device allocations, I/O scheduler, Introduction to Virtual Devices, Dedicated Devices, shared devices and virtual devices, Generalized strategies.

Unit-IV:Process Management and Memory Management (15 periods)

Concept of Process: Process State, Operation on Processes, thread.CPU Scheduling: Types of Schedulers, Criteria for scheduling, Scheduling Algorithms. Process Synchronization: Need for synchronization, Critical Section, Hardware Synchronization, Semaphores, Monitors, Problem of synchronization. Deadlocks:

Concept of Deadlock, Deadlock Modeling, Methods for Handling Deadlock

Address Binding, Logical Vs. Physical Address space, Memory Allocation, Paging, Segmentation, Segmentation and paging.

UNIT-5: Tutorial and Assignment   (05 periods)

Core References:
1. "Operating System", By S.R.Sathe& Anil S.Mokhade , MacMillan Publication.
2. "Operating System", By Stuart E.Madnick, John J.Donovan.

Additional References:
1. Operating System Concepts- A. Silberzchaz& P.B. Galvin, Addison – Wesley Publishing Company

| Course Code: **CA-121** |
| Course Title: **Lab course 1 (Based on CA-111 and CA-112)** |
| Total Credits: 1.5 |
| Contact Hours: 03 Hours (Week) |
| Marks: 50 |

Practical based on CA-111

1. Student should prepare a report based on computer component such as monitor, printer, CPU, Pen drive, CD –ROM , Hard Disk
2. Create a partition of computer drive creation, formatting the drive and deleting the partition.
3. Create a user and password of computer user and Reset a computer password using CMOS battery.
4. Practical on office word tool as a creation, edit, insertion of table in the new word file.
5. Practical based on MS-Excel for creation of student data with name, marks, roll no for sorting and mark sheet creation.
6. Write a comparative report of different web browser such as opera, Microsoft edge, chrome and mozila Firefox.
7. Create an IP setting and home network setting for the computer.
8. Connect internet using wifi for a computer.
9. Practical based on online meeting using zoom, Google meet and skype
10. Practical based on remote desktop using any desk software.
11. Solve one example of binary to decimal, octal and hexadecimal number.
12. Solve one example of decimal to binary, octal and hexadecimal
13. Solve one example of octal to hexadecimal, decimal and binary.
   Minimum three practical on each unit

Practical based on CA-112

1. Execution of DOS internal and External commands
2. Study and explain the types of operating systems (their types with structure, functionality, dependencies, application software with their differences).
3. Installation of any one of the operating system.
4. Present the output of different file operation.
5. Implement any file allocation technique (Linked, Indexed or Contiguous) .(any one)
6. Present the output of following CPU Scheduling algorithm.(any one)

a. FCFS
b. SJF
c. Priority
d. Round Robin
7. Present the output of following Page Replacement Algorithm.(any one)
    a. FIFO
    b. LRU

Minimum three practical on each unit of syllabus.

9. Curriculum for Semester II

Course Code: **CA-211**
Course Title: **Digital Electronic**
Total Credits: 02
Contact Hours: 30 (Clock Hours)
Marks: 50
Periods: 45 (45 minutes each)

Objective: To convey basic introduction of computer system architecture, the structure of computer, working gates and its functionality. To impart basic knowledge in digital logic and circuits and to introduce basic concepts of data communications. Student will be able to learn basic concepts of digital logic and the design of basic logic circuits using commonly used combinational and sequential circuits.

Unit-I: Boolean Algebra and Logic Gates: (10 periods)

Postulates of Boolean Algebra Theorems of Boolean Algebra: Complementation , commutative, AND, OR, Associative, Distributive, Absorption laws , DE Morgan's theorems, Reducing Boolean expressions Logic Gates : AND, OR, NOT, Ex-OR, Ex-NOR, NAND as Universal building block Logic diagrams of Boolean expressions Boolean expressions for logic diagrams

Unit-II: Combinational and Sequential circuit (10 periods)

Introduction of Minimization techniques, Minterms and Maxterms, K-Map, K-Map for 2,3 and 4 variable.

Combinational circuit and sequential circuit introduction, Half adder, half substractor, Full Adder ,Full Subtractor, Multiplexer, demultiplexer, encoder, decoder, BCD to Decimal decoder 2 : 4 demultiplexer,4 line to 1 line multiplexer

Unit-III: Flip Flops (10 periods)

Introduction : RS FF,Clocked RS FF, D Flip Flops,Triggering, preset and clear,JK FF , T FF,Race around Condition

Unit-IV Counters Introduction:(10 periods)

Asynchronous/ ripple counter Modulus Counter , MOD-12 counter, Synchronous counter : Synchronous serial & synch parallel counterbid counter, Ring counter.

UNIT-5: Tutorial and Assignment   (05 periods)

Core Reference:
1. Digital Electronics and Micro-Computers – R.K.Gaur ,DhanpatRai Publication
2. Digital fundamentals –Floyd & Jain –Pearson Education
3. Introduction to computers –Norton –McGraw Hill 4. Digital fundamentals –Floyd & Jain –Pearson Education

Additional Reference:
1. Digital Electronics and Logic Design – N.G.Palan ,Technova Publication
2. Computer fundamentals –B.Ram –New Age International

| Course Code: **CA-212** |
| Course Title: **C Programing -I** |
| Total Credits: 02 |
| Contact Hours: 30 (Clock Hours) |
| Marks: 50 |
| Periods: 45 (45 minutes each) |

Objective: To expose students to algorithmic thinking and problem solving and impart moderate skills in programming using C Language in an industry-standard. Introduce students to learn basic features, Create, execute simple C programs using conditional statements, loops and arrays.

Unit-I: Introduction (10 periods)

An Overview of C , History of Programming language type, C as a Structured Language, Features of C. Data Types Data Types: int, char, float, double. Declaration & Initialization, Example.

Character set, C Token, Identifier & Keywords, Variables, Constant and its types. Integer constant, floating point constant, character constant, string constants, Operators: Arithmetic, Relational, Logical, Unary operators, Increment & decrement Assignment and Conditional operator.

Unit-II :C Program & I/O statements (10 periods)

Structure of C Program, Compilation & Execution of C program, I/O: Introduction, Formatted Input/output function: scanf & printf, Escape sequence characters.

Unit-III: Control and Iterative Statements(10 periods)

Simple if, nested if, if-else, else if ladder, Switch-case statement, The conditional expression (? : operator),while and do-while loop, and for loop, break & continue statement, goto statement.

Unit-IV: Arrays Introduction(10 periods)

Declaration and initialization Accessing array elements, Memory representation of array. One dimension and multidimensional arrays, character array, Introduction to string

UNIT-5: Tutorial and Assignment (05 periods)

References

1. Let us C : Y. P. Kanetkar [BPB publication]
2. Programming in C : E. Balaburuswamy [Tata McGraw hill]
3. Programming in C : Goterfried [Shaums' Series]

Course Code: **CA-221**
Course Title: **Lab course 1 (based on CA-211 and CA-212)**
Total Credits: 1.5
Contact Hours: 03 Hours (Week)
Marks: 50

Objective: student understands the practical and logical application of programming language. The use of C logical statement in real time example solving. The student should understand the working of logic gate with its application in real time era.

Practical based on Digital Electronic
1. The practical should be done on kit for AND, OR , NOT, NAND, NOR , X-OR and X-Nor gate (**If kit not available use the software simulation for practical**)
2. Study of Components: Identification and testing of resistors, capacitors, inductors, diodes, LEDs & transistors
3. Study of Logic Gates: Study of truth table of basic gates, realization of Boolean functions
4. Study of Half adder and Full Adder
5. Study of Half Subtractor and Full Subtractor
6. Study of Implementation of a 3:8 decoder,
7. Study of 4-line to 16 bit decoder
8. Study of BCD to 7-segment decoder
9. Study of Generating a Boolean expression with a multiplexer
10. Study of Clocked JK Flip Flop 11. Study of 4-bit ripple counter 12. Study of Parallel-in, serial-out, 4-bit shift register

Practical based C Programing-I
1.Installation of C Program:
Download and installation of C programming software. Discussion on available c software and use of each individually.

2. Input Output statement program
 Minimum 10 program on input and output statement, data type and constant.
3.List of Program for student to understand the concept of programing
Practical based Basic C Programing
1.Installation of C Program:
Download and installation of C programming software. Discussion on available c

software and use of each individually.

2. Input Output statement program
Minimum 10 program on input and output statement, data type and constant.

3.List of Program for student to understand the concept of programing

1. Basic Programs:
a. Write a program to display the message HELLO WORLD.
b. Write a program to declare some variables of type int, float and double. Assign some values to these variables and display these values. c. Write a program to find the addition, subtraction, multiplication and division of two numbers.

2. Programs on variables:
a. Write a program to swap two numbers without using third variable.
b. Write a program to find the area of rectangle, square and circle.
c. Write a program to find the volume of a cube, sphere, and cylinder.

3. Conditional statements and loops(basic)
a. Write a program to enter a number from the user and display the month name. If number >13 then display invalid input using switch case.
b. Write a program to check whether the number is even or odd.
c. Write a program to check whether the number is positive, negative or zero. d. Write a program to find the factorial of a number.
e. Write a program to check whether the entered number is prime or not.
f. Write a program to find the largest of three numbers.

4. Conditional statements and loops(advanced)
a. Write a program to find the sum of squares of digits of a number.
b. Write a program to reverse the digits of an integer.
c. Write a program to find the sum of numbers from 1 to 100.
d. Write a programs to print the Fibonacci series.
e. Write a program to find the reverse of a number.
f. Write a program to find whether a given number is palindrome or not.

5. Programs on patterns:
a. Programs on different patterns.

6. Functions:
a. Programs on Functions.

7. Recursive function
a. Write a program to find the factorial of a number using recursive function.
b. Write a program to find the sum of natural number using recursive function.

| Course Code: **CA-213** |
| Course Title: **Constitution of India** |
| Total Credits: NA (Non-Credit Course) |
| Contact Hours: 30 (Clock Hours) |
| Periods: 45 (45 minutes each) |

Objective: To objective of this paper is to introduce the Indian constitution of student.

Unit-I: (05 periods)

1. Meaning and concept of Indian Constitution.

2. Nature of constitution.

3. Brief idea of Indian Constitution.

Unit-II: Silent Feature of Indian Constitution (10 periods)

Written and Enacted Constitution; The longest and most detailed Constitution of the World; Rigidity and Flexibility Constitution; Parliamentary system of Government; Federal system with unitary basis; Adult Franchise; Single Citizenship; Sovereign, Democratic, Republic; Secularism; directive Principles of state policy; independent Judiciary; Fundamental Rights; Fundamental Duties.

Unit-III: (10 periods)

A. **Fundamental Rights**
   Concept of State (Art-12); Righty of Equality (Art-14 to 18); Right to Freedom (Art-19 to 22); Right against Exploitation (Art-23 & 24); Right to Religion (Art-25 to 28) ; Right to Minorities (Art-29 & 30) Constitutional Remedies(Art-32).
B. **Fundamental Duties (Art-51 A)**

Unit-IV: Directive Principles of State Policy (DPSP's) (15 periods)

1. Meaning and Significance of Directive Principles.
2. Classification / Principles of D. P. S. P.
3. Relationship between F. Rs. and D. P. S. P.

Executives

A) Union Government : The President, Council of Ministers and Prime Minister
B) State Government: The Governor, Council of Ministers and Chief Minister

UNIT-5: Tutorial and Assignment   (05 periods)

References

1. Constitution of India, Bare Act. Govt. of India.
2. Subhash C. Kashyap, Our Constitution (An Introduction of Indian Constitution and Constitutional) low, National Book Trust, India 2001.
3. Avasti & Maheshwari, Indian Constitution, Lakshmi Narain Agrwal Agra 2017.
4. Basu D. D. , Introduction to the Constitution of India, Laxis Nexis 2013.
5. Sharma L. N. Indian Prime Minister, The MacMillan company of India, 1976.
6. Jain H. M. Union Executive, Chaitanya Publication House 1969.
7. Dr. S. N. Busi, Dr. B. R. Ambedkar, Framingof Indian Constitution, 1st Edition 2015.
8. M. P. Jain, Indian Constitution Law 7th Edition Nexis 2014
9. M. P. Jain, Outline of Indian Legal and Constitutional History Laxis Nexis 2014
10. भारताचे संविधान
11. प्रदीप गायकवाड, (संपादक) भारताचे संविधान शिल्पकार डॉ. बाबासाहेब आंबेडकर दीक्षाभूमी संदेश, नागपूर २००६
12. डॉ. भा.ल. भोळे, भारताचे शासन आणि राजकारण, विद्या प्रकाशन नागपूर

NOTE: All latest volumes of above-mentioned books must be preferred. The above list of books is not an exhaustive one.

Two Internal Test (45 Minutes)	10 Marks
Two Home Assignment	10 Marks