

University of Mumbai



Title of the program

- A-** U.G. Certificate in Information Technology
- B-** U.G. Diploma in Information Technology
- C-** B.Sc. (Information Technology)
- D-** B.Sc. (Honours) in Information Technology
- E-** B.Sc. (Honours with Research) in Information Technology

Syllabus for Semester –

Sem I & II

Ref: GR dated 20th April, 2023 for Credit Structure of UG

(With effect from the academic year 2024-25 Progressively)

University of Mumbai



Syllabus for Approval

(As per NEP 2020)

Sr. No.	Heading	Particulars	
1	Title of program O. <u>SU-503A</u>	A	Title of the program U.G. Certificate in Information Technology
	O. <u>SU-503B</u>	B	U.G. Diploma in Information Technology
	O. <u>SU-503C</u>	C	B.Sc. (Information Technology)
	O. <u>SU-503D</u>	D	B.Sc. (Honours) in Information Technology
	O. <u>SU-503E</u>	E	B.Sc. (Honours with Research) in Information Technology
2	Eligibility O. <u>SU-504A</u>	A	10+2 (A learner must have completed HSC or equivalent with 45% of aggregate for open category and 40% of aggregate in case of reserved candidates in one attempt with Mathematics and/or Statistics as one of the subjects (OR) Passed Equivalent Academic Level 4.0 with CGPA equivalent to 45% for open category and 40% in case of reserved candidates with Mathematics and/or Statistics as one of the subjects
	O. <u>SU-504B</u>	B	Under Graduate Certificate in Information Technology Academic Level 4.5
	O. <u>SU-504C</u>	C	Under Graduate Diploma in Information Technology Academic Level 5.0
	O. <u>SU-504D</u>	D	Bachelors of Science in Information Technology with minimum CGPA of 7.5 Academic Level 5.5
	O. <u>SU-504E</u>	E	Bachelors of Science in Information Technology with minimum CGPA of 7.5 Academic Level 5.5

3	Duration of program R. <u>SU-506</u>	A	One Year
		B	Two Years
		C	Three years
		D	Four years
		E	Four years
4	Intake Capacity R. <u>SU-507</u>		
5	Scheme of Examination R. <u>SU-508</u>	NEP 40% Internal 60% External, Semester End Examination Individual Passing in Internal and External Examination	
6	Standards of Passing R. <u>SU-509</u>	40% in each component	
7	Sem. I & II Credit Structure R: <u>SU-510A</u> R: <u>SU-510B</u> Sem. III & IV Credit Structure R: <u>SU-510C</u> R: <u>SU-510D</u> Sem. V & VI Credit Structure R: <u>SU-510E</u> R: <u>SU-510F</u>	Attached herewith	
8	Semesters	A	Sem I & II
		B	Sem I, II, III & IV
		C	Sem I, II, III, IV, V & VI
		D	Sem I, II, III, IV, V, VI, VII & VIII
		E	Sem I, II, III, IV, V, VI, VII & VIII
9	Program Academic Level	A	4.5
		B	5.0
		C	5.5
		D	6.0
		E	6.0
10	Pattern	Semester	
11	Status	New	
12	To be implemented from Academic Year Progressively	From Academic Year: 2023-24	

Sign of Chairperson
Dr. Mrs. R.
Srivaramangai
Ad-hoc BoS (IT)

Sign of the
Offg. Associate Dean
Dr. Madhav R. Rajwade
Faculty of Science &
Technology

Sign of Offg. Dean,
Prof. Shivram S. Garje
Faculty of Science &
Technology

Preamble

1) Introduction

Information technology (IT) continues to be a dynamic and rapidly evolving field with high demand for skilled professionals. The demand for IT workers is driven by various factors, and the landscape may have evolved over a period of time. NEP envisages the multidisciplinary approach thus making IT much more applicable in all fields of life. This facilitates multi-institutional mobility of the students within India as well as abroad thus making the students attain different proficiency levels right from certificate to B.Sc Honours with Research. This new syllabus under NEP will thus enable the students for higher education, research and career in the field of IT

2) Aims and Objectives

The aims and objectives of a Bachelor of Science (B.Sc) program in Information Technology (IT) generally revolve around providing students with a comprehensive understanding of the principles, technologies, and applications within the field of information technology. The entire program collectively aims to produce graduates who are well-rounded IT professionals, capable of contributing to the design, development, and management of information technology systems in various industries. The specific details of the curriculum may vary among institutions offering B.Sc in Information Technology programs.

3) Learning Outcomes

The B. Sc. (Information Technology) Programme shall prepare and enable the graduates to:

- ✓ Demonstrate proficiency in programming languages, Data structures, Design and implement software solutions with their technical competence
- ✓ Analyze user requirements and design effective IT systems or applications.
- ✓ Apply system analysis and design methodologies to address complex business challenges.
- ✓ Acquire the skills of Database Management, Networking and Security, Web Technologies
- ✓ Plan, execute, monitor, and control IT projects.
- ✓ Analyze and solve complex IT problems using critical thinking skills.
- ✓ Apply concepts of artificial intelligence, machine learning, cloud computing, and IoT
- ✓ Effectively communicate technical information both orally and in writing.

4) Any other point (if any)

PROGRAMME SPECIFIC OUTCOMES (PSO)

On completing the B. Sc.(Information Technology) at the University of Mumbai, the graduates shall be able to

- Technical Proficiency:
 - Demonstrate a comprehensive understanding of fundamental concepts, principles, and technologies in information technology.
 - Apply programming and software development skills to design and implement IT solutions.
- System Thinking and Analysis:
 - Apply system analysis and design methodologies to analyze and address

- complex problems.
- Design and develop IT systems that meet user requirements and organizational needs.
- Database Management:
 - Design, implement, and manage relational databases to store and retrieve information effectively.
 - Demonstrate proficiency in using database management systems and querying languages.
- Networking and Security:
 - Understand and implement computer networks, protocols, and security measures.
 - Evaluate and implement security solutions to protect information systems.
- Web Technologies:
 - Develop web applications using a variety of technologies and programming languages.
 - Design and create user interfaces that adhere to web design principles.
- Project Management:
 - Apply project management principles to plan, execute, and deliver IT projects.
 - Demonstrate the ability to work effectively within project teams.
- Emerging Technologies:
 - Stay informed about and adapt to emerging technologies in the IT field.
 - Apply concepts of artificial intelligence, machine learning, cloud computing, and IoT to solve real-world problems.
- Critical Thinking and Problem-Solving:
 - Analyze and solve complex IT problems using critical thinking skills.
 - Apply problem-solving strategies to troubleshoot and resolve technical issues.
- Communication Skills:
 - Effectively communicate technical information to diverse audiences, both orally and in writing.
 - Collaborate with team members and stakeholders to achieve common goals.
- Ethics and Professionalism:
 - Demonstrate ethical behavior and professionalism in all aspects of the IT profession.
 - Adhere to ethical standards and legal considerations related to information technology.

(Credit Struture Sem I & II)

	R: _____A									
Level	Sem ester	Major		Minor	OE	VSC, SEC (VSEC)	AEC, VEC, IKS	OJT, FP, CEP, CC, RP	Cum. Cr. / Sem.	Degr ee/ Cum. Cr.
		Mandatory	Electiv es							
	I	6		-	2+2	VSC:2, SEC:2	AEC:2, VEC:2, IKS:2	CC:2	22	UG Certificate 44
		• Program ming with C - 02 • Database Managem ent Systems - 02 • Practical I - 02				VSC : Combinational and Sequential Design- 02 SEC – 02 Office Tools for Data Management OR Fundamentals of Telecommunication Systems				
R: _____B										
	II	6		2	2+2	VSC:2, SEC:2	AEC:2,VEC:2	CC:2	22	
		• OOPs with C++ - 02 • Web Designi ng - 02 • Practica l II - 02				• VSC : Assembly Language Programm ing – 02 • SEC: 02 • Web Program ming - OR • PL/SQL				
	Cum Cr.	12	-	2	8	8	10	4	44	
Exit option: Award of UG Certificate in Major with 40-44 credits and an additional 4 credits core NSQF course/ Internship OR Continue with Majorand Minor										

Credit Structure (Sem. III & IV)

Exit option; Award of UG Diploma in Major and Minor with 80-88 credits and an additional 4 credits core NSQF course/ Internship OR Continuewith Major and Minor

B.Sc. (Information Technology)**Credit Structure (Sem. V & VI)**

	R: _____E									
Level	Seme ster	Major		Minor	OE	VSC, SEC (VSEC)	AEC, VEC, IKS	OJT, FP, CEP, CC, RP	Cu m. Cr. / Sem .	Degre e/ Cum. Cr.
		Mandatory	Electives							
	V	10	4	4		VSC: 2		FP/C EP:2	22	UG Degr ee 132
		- Advanced Web Programming-02 - Advanced Web Programming Practical-02 - Business Intelligence-02 - Business Intelligence Practical-02 - Software Project Management-02	- Linux Administration -02 - Linux Administration Practical-02 OR - EARN-02 - EARN Practical-02 OR - Enterprise Java-02 - Enterprise Java Practical-02			Advance d Mobile Program ming-02		FP: Proje ct Diss ertati on-02	22	
	R: _____E									
	VI	10	4	4				OJT :4	22	
		- Security in Computing -02 - Security in Computing Practical-02 - AI and ML-02 - AI and ML Practical-02 - Software Quality Assurance-02	- Enterprise Networking-02 - Enterprise Networking Practical-02 OR - Principles of GIS-02 - Principles of GIS Practical-02					OJT: Proj ect Impl eme ntati on-04		
	Cum Cr.	48	8	18	12	14	14	18	132	
Exit option: Award of UG Degree in Major with 132 credits OR Continue with Major and Minor										

[Abbreviation - OE – Open Electives, VSC – Vocation Skill Course, SEC – Skill Enhancement Course, (VSEC), AEC – Ability Enhancement Course, VEC – Value Education Course, IKS – Indian Knowledge System, OJT – on Job Training, FP – Field Project, CEP – Continuing Education Program, CC – Co-Curricular, RP – Research Project]

SEMESTER I

Syllabus
B.Sc. (Information Technology)
(Sem.- I)

Major Courses

Name of the Course: Programming with C

Sr.No	Heading	Particulars
1	Description the course : Including but Not limited to:	This course allows the students to understand the fundamental concepts of programming which will allow them to program applications in C.
2	Vertical :	Major
3	Type :	Theory
4	Credits :	2 credits (1 credit = 15 Hours for Theory in a semester)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives(CO): CO 1. To understand the concepts of computer programming. CO 2. To understand syntax and semantics of the C language CO 3. To understand loops and decision making in programming. CO 4. To understand the use of arrays, structures, union and pointers. CO 5. To understand functions for modular code and handle errors.	
8	Course Outcomes (OC): OC 1. Students can build flowcharts, pseudocode for C programs. OC 2. Students can use C language syntax and semantics in their programs. OC 3. Students can implement loops and decision making. OC 4. Students can use different types of data structures in their programs. OC 5. Students can write well-structured, readable, and maintainable C code and debug programs if there are any errors.	
9	Modules:-	
	Module 1:	
	1. Introduction: Algorithms, History of C, Structure of C Program. Program Characteristics, Compiler, Linker and preprocessor, pseudo code statements and flowchart symbols, Desirable program characteristics. Program structure. Compilation and Execution of a Program, C Character Set, identifiers and keywords, data types and sizes, constants and its types, variables, Character and character strings, typedef, typecasting 2. Type of operators: Arithmetic operators, relational and logical operators, Increment and Decrement operators, assignment operators, the conditional operator, Assignment operators and expression, Precedence and order of Evaluation Block Structure, Initialization, C Preprocessor	15 Hrs
	Module 2:	

	1. Control Flow: Statements and Blocks, If-Else, Else-If, Switch, Loops- While and For Loops Do-while, Break and Continue, Goto and Labels 2. Basics of functions. User defined and Library functions 3. Pointer and Addresses, Pointer and Function Arguments, Pointer and Arrays. 4. User-defined data types- structure and union	15 Hrs
10	Books and References: 1. C Programming Language, Brian W. Kernighan, Dennis M. Ritchie , 2017 2. Let Us C, Yashvant Kanetkar, BPB Publications,2008. 3. Mastering in C, K. R. Venugopal and Sudeep R. Prasad, Tata McGraw-Hill Publications. 4. A Computer Science -Structure Programming Approaches using C, Behrouz Forouzan, Cengage Learning. 5. . Schaum's outlines Programming with C, Byron S. Gottfried, Tata McGraw- Hill Publications. 6. Basics of Computer Science, by Behrouz Forouzan, Cengage Learning. 7. Programming Techniques through C, by M. G. Venkateshmurthy, Pearson Publication.	
12	Internal Continuous Assessment: 40%	Semester End Examination: 60%
13	Continuous Evaluation through: Class test of 1 of 15 marks Class test of 2 of 15 marks Average of the two: 15 marks Quizzes/ Presentations/ Assignments: 5 marks Total: 20 marks	Format of Question Paper: External Examination (30 Marks)– 1 hr duration
14	Format of Question Paper: (Semester End Examination : 30 Marks. Duration:1 hour) Q1: Attempt any two (out of four) from Module 1 (15 marks) Q2: Attempt any two (out of four) from Module 2 (15 marks)	

Name of the Course: Database Management System

Sr.No	Heading	Particulars
1	Description the course : Including but Not limited to:	The objective of the course is to present an introduction to fundamentals of database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively -information from a DBMS.
2	Vertical :	Major
3	Type :	Theory
4	Credits:	2 credits (1 credit = 15 Hours for Theory)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives(CO): CO 1. To make students aware fundamentals of database system. CO 2. To give idea how ERD components helpful in database design and implementation. CO 3. To experience the students working with database using MySQL. CO 4. To familiarize the student with normalization, database protection and different DDL, DML, DQL, DCL Statements CO 5. To make students aware about importance of protecting data from unauthorized users.	
8	Course Outcomes (OC): OC 1. Define and describe the fundamental elements of relational database management system. OC 2. To relate the basic concepts of relational data model, entity-relationship model, relational database OC 3. Design ER-models to represent simple database application scenarios. OC 4. Understand the normalization and its role in the database design process OC 5. Transform the ER-model to relational tables, populate relational database and formulate SQL OC 6. Understand basic database storage structures and access techniques: file and page organizations, indexing methods and hashing.	
9	Modules:- Module 1:	
	1. Introduction to Databases and transactions What is database system, purpose of database system, view of data, relational databases, database architecture, transaction management 2. Data Models The importance of data models, Basic building blocks, Business rules, The evolution of data models, Degrees of data abstraction 3. Database Design, ER-Diagram Database design and ER Model: overview, ER-Model, Constraints, ER-Diagrams, ERD Issues, Codd's rules, Relational Schemas 4. Relational database model Logical view of data, keys, integrity rules	15 Hrs

	Module 2:	
	1. Database Design theory and normalization: Basics of functional dependencies and normalization for relational databases. Relational database design and further dependencies. 2. SQL, Indexing: Introduction to SQL, Complex queries, triggers, views, joining database tables and schema modification. Query Processing and optimization. File structure, hashing and indexing 3. Transaction management and concurrency control and recovery: Introduction to transaction processing concepts and theory. Concurrency control technique. Database recovery technique	. 15 Hrs
10	Text Books 1. "Fundamentals of Database System", Elmasri Ramez, Navathe Shamkant, Pearson Education, Seventh edition, 2017 2. Database Management Systems", Raghu Ramakrishnan and Johannes Gehrke, 3rd Edition, 2014 3. Database Systems: Design implementation and management by Carlos Coronel, Steven Morris, Peter Rob	
11	Reference Books 1. "Database System Concepts", Abraham Silberschatz, Henry F. Korth, S. Sudarshan, McGraw Hill, 2017 2. "MySQL: The Complete Reference", Vikram Vaswani , McGraw Hill, 2017 3. "Learn SQL with MySQL: Retrieve and Manipulate Data Using SQL Commands with Ease", Ashwin Pajankar, BPB Publications, 2020	
12	Internal Continuous Assessment: 40%	Semester End Examination: 60%
13	Continuous Evaluation through: Class test of 1 of 15 marks Class test of 2 of 15 marks Average of the two: 15 marks Quizzes/ Presentations/ Assignments: 5 marks Total: 20 marks	Format of Question Paper: External Examination (30 Marks)– 1 hr duration
14	Format of Question Paper: (Semester End Examination : 30 Marks. Duration:1 hour) Q1: Attempt any two (out of four) from Module 1 (15 marks) Q2: Attempt any two (out of four) from Module 2 (15 marks)	

Name of the Course: Major Practical 1

Sr.No	Heading	Particulars
1	Description the course : Including but Not limited to:	<u>Programming with C -practical</u> This course is stepping stone to learn other languages. This course provides students hands on experiences of coding exercises and projects. <u>Database Management System's</u> practical approach is useful to gain the knowledge for software backend development. It benefits to user by providing data definition, data access, reduced data redundancy, data integrity, data sharing, data organizing, data consistency, data accuracy, and security
2	Vertical :	Major
3	Type :	Practical
4	Credits :	2 credits (60 Hours of Practical work in a semester)
5	Hours Allotted :	30 Hours (C Programming Practical) + 30 Hours(DBMS - Practical)
6	Marks Allotted:	50 Marks
7	Course Objectives(CO): CO 1. To provide exposure in developing algorithm, flowchart and to write efficient code. CO 2. To understand loops and decision making in programming. CO 3. To understand the arrays, structures, union. CO 4. To understand the use of function and pointers. CO 5. To Identify entities and its relationship with relational model structure. CO 6. To understand relational database using SQL and constraints implementation using create table queries. CO 7. To Understand DML operations and backing of database CO 8. To understand how to retrieve data from database and learn how to retrieve single value after performing calculations on group of values CO 9. To understand built-in functions to perform operations on data CO 10. To understand how to fetch data from two or more tables, which is joined to appear as single set of data CO 11. To understand nested and larger query as advanced fetching of data to understand concept of virtual table. CO 12. To understand how to control user access in a database.	

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Course Outcomes (OC):

- OC 1. Students can demonstrate the concepts of datatypes, variables and operators in C.
- OC 2. Students can implement the concept of control statements and looping in C program.
- OC 3. Students can demonstrate the use of arrays, strings and structures in C
- OC 4. Students can implement modular C program using functions and pointers.
- OC 5. Students can demonstrate the use of arrays, strings and structures in C.
- OC 6. Students able to perform various operations such as insert, update delete and retrieve data from database using SQL queries.
- OC 7. Students able to perform alteration in tables and can restore and take backup of the database.
- OC 8. Students able to perform operations using simple SQL Queries to fetch data and learns various aggregate functions to get single value.
- OC 9. Students able to perform SQL Queries using JOIN keyword for joining two or more tables.
- OC 10. Students able to perform nested queries using in, exists operators.
- OC 11. Students able to create new table by joining one or more tables and learn how to hide attribute from end user.
- OC 12. Students able to restrict the user from accessing data in database.
- OC 13. Students should be able to create, manipulate the database management system to evaluate the business information problem.

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Module 1:- Programming with C**1. Practical 1:-**

- To calculate simple interest taking principal, rate of interest and number of years as input from user. Write algorithm & draw flowchart for the same.
- Write a program to find greatest of three numbers using conditional operator. Write algorithm & draw flowchart for the same.
- Write a program to check if the year entered is leap year or not. Write algorithm & draw flowchart for the same.

2. Practical 2:-

- Write a program to calculate roots of a quadratic equation.
- Write a menu driven program using switch case to perform add / subtract / multiply / divide based on the users choice.
- Write a program to print the pattern of asterisks.

3. Practical 3

- Write a program using while loop to reverse the digits of a number.
- Write a program to calculate the factorial of a given number.
- Write a program to print the Fibonacci series.

4. Practical 4

- Write a program to print area of square using function.
- Write a program using recursive function.
- Write a program to square root, abs() value using function.
- Write a program using goto statement .

5. Practical 5

- Write a program to print rollno and names of 10 students using array.
- Write a program to sort the elements of array in ascending or descending order

6. Practical 6

- Write a program to extract the portion of a character string and print the extracted part.
- Write a program to find the given string is palindrome or not.
- Write a program to using strlen(), strcmp() function .

7. Practical 7

Write a program to swap two numbers using a function. Pass the values to be swapped to this function using call-by-value method and call-by-reference method.

8. Practical 8

- Write a program to read a matrix of size m*n.
- Write a program to multiply two matrices using a function.

9. Practical 9

Write a program to print the structure using

Title
Author
Subject
Book ID

Print the details of two students.

10. Practical 10

Create a mini project on "Bank management system". The program should be menu driven.

30 Hrs

	Module 2 - Conceptual Designing using ER Diagrams (Identifying entities, attributes, keys and relationships between entities, cardinalities, generalization, specialization etc.) - Perform the following: - Viewing all databases - Creating a Database - Viewing all Tables in a Database - Creating Tables (With and Without Constraints) - Inserting/Updating/Deleting Records in a Table - Perform the following: - Altering a Table - Dropping/Truncating/Renaming Tables - Backing up / Restoring a Database - Perform the following: - Simple Queries - Simple Queries with Aggregate functions - Queries involving - Date Functions - String Functions - Math Functions - Join Queries - Inner Join - Outer Join - Subqueries - With IN clause - With EXISTS clause - Converting ER Model to Relational Model and apply Normalization on database. (Represent entities and relationships in Tabular form, Represent attributes as columns, identifying keys and normalization up to 3rd Normal Form). - Views - Creating Views (with and without check option) - Dropping views - Selecting from a view - DCL statements - Granting and revoking permissions - Saving (Commit) and Undoing (rollback)	30 Hrs
10	Text Books: “Fundamentals of Database System”, Elmasri Ramez, Navathe Shamkant, Pearson Education, Seventh edition, 2017 . - Database Management Systems”, Raghu Ramakrishnan and Johannes Gehrke, 3rd Edition, 2014	
11	Reference Books: - MASTERING C, K. R. Venugopal and Sudeep R. Prasad, Tata McGraw-Hill Publications. “A Computer Science -Structure Programming Approaches using C”, Behrouz	

	Forouzan, Cengage Learning. 3. Schaum's outlines "Programming with C", Byron S. Gottfried, Tata McGraw-Hill Publications. 4. "Basics of Computer Science", Behrouz Forouzan , Cengage Learning. 5. "Programming Techniques through C", M. G. Venkateshmurthy, Pearson Publication. 6. "Programming in ANSI C", E. Balaguruswamy, Tata McGraw-Hill Education. 7. "MySQL: The Complete Reference", Vikram Vaswani , McGraw Hill, 2017. 8. "Learn SQL with MySQL: Retrieve and Manipulate Data Using SQL Commands with Ease", Ashwin Pajankar, BPB Publications, 2020.	
12	Internal Continuous Assessment: 40%	Semester End Examination: 60%
13	Continuous Evaluation through: Students are expected to attend each practical and submit the written practical of the previous session. Performing Practical and writeup submission will be continuous internal evaluation. 2.5 marks can be awarded for each practical performance and writeup submission totalling to 50 marks and can be converted to 20 marks.	30 marks practical exam of 2 hours duration
14	Format of Question Paper: Duration 2 hours. Certified copy of Journal is compulsory to appear for the practical examination Practical Slip: Q1. From Module 1 13 marks Q2. From Module 2 12marks Q3. Journal and Viva 05 marks	

Vocational Skill Course (VSC)

Name of the course: Combinational and Sequential Design

Sr.No	Heading	Particulars
1	Description the course : Including but Not limited to:	Combinational and Sequential Design is a course that focuses on digital electronics and the design of circuits that combine multiple digital components. The course covers the theoretical and practical aspects of both combinational and sequential circuit design, as well as their applications. Digital circuits are used in many electronic devices, including computers, smartphones, and communication systems. The design of these circuits is critical to the performance and functionality of these devices. Understanding the basics of combinational and sequential design is essential for anyone interested in pursuing a career in the field of digital electronics. The course will cover the various techniques and tools used in digital circuit design, including Boolean algebra and K-map simplification. The course is highly relevant in today's technological landscape, as all modern electronics devices are based on digital circuits. The skills learned in the course are highly useful in various fields, such as computer and electronics engineering, telecommunications, and robotics. The application of combinational and sequential design is quite broad, and the skills acquired from the course can be applied in various areas. Students will be able to design digital circuits, troubleshoot and repair digital circuits, and optimize circuit performance. The course is highly interesting and engaging, providing students with the opportunity to explore and analyze complex digital circuitry. It is also connected to other courses such as Digital Logic Design, Computer Organization, and Microcontrollers. The demand for professionals with digital circuit design skills is high in various industries such as electronics, semiconductors, telecommunications, and computing. There is an increasing demand for professionals with these skills,

		and job prospects are promising for those with a solid background in digital circuit design. In summary, Combinational and Sequential Design is a course that offers students a comprehensive understanding of digital circuits' design principles and techniques. The knowledge and skills gained from this course are highly useful and applicable in various industries, with promising career prospects.
2	Vertical :	Vocational Skill Course(VSC)
3	Type :	Practical
4	Credits :	2 credits (60 hours in a semester)
5	Hours Allotted :	60 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives(CO): CO 1.To provide students with a comprehensive understanding of combinational and sequential circuit design principles and techniques. CO 2.To enable students to apply Boolean algebra, K-map simplification, and other design techniques to create optimized digital circuits. CO 3.To equip students with the necessary tools and skills to implement arithmetic circuits, data path circuits, and memory circuits. CO 4.To enable students to analyze and troubleshoot digital circuits to ensure optimal performance. CO 5.To provide students with hands-on practical experience in designing and implementing digital circuits using simulation software and real-world hardware.	
8	Course Outcomes (OC): OC 1. Students can explain the differences between combinational and sequential circuits, and identify their different applications. OC 2. Students can define the concept of Boolean algebra and its importance in digital circuit design. OC 3. Students can explain and apply the principles of K-map simplification and other design techniques. OC 4. Students can design and construct combinational circuits using Boolean algebra and K-maps. OC 5. Students can design and implement arithmetic circuits such as adders, subtractors, and multipliers. OC 6. Students can design and implement data path circuits such as registers, multiplexers, and decoders. OC 7. Students can implement digital circuits using breadboards, logic probes, and oscilloscopes. OC 8. Students can troubleshoot and verify the correctness of digital circuits using real-world hardware and measure their performance using various metrics.	
9	Modules:- Module 1:	

	1. Study of Logic gates and their ICs and universal gates: a. Study of AND, OR, NOT, XOR, XNOR, NAND and NOR gates b. Study of IC 7400, 7402, 7404, 7408, 7432, 7486, 74266 c. Implement AND, OR, NOT, XOR, XNOR using NAND gates. d. Implement AND, OR, NOT, XOR, XNOR using NOR gates. 2. Implement the given Boolean expressions using minimum number of gates. a. Verifying De Morgan's laws. b. Implement other given expressions using minimum number of gates. c. Implement other given expressions using minimum number of ICs. 3. Implement combinational circuits. a. Design and implement combinational circuit based on the problem given and minimizing using K-maps. (Various Equations, SOP, POS forms can be given) 4. Implement code converters. a. Design and implement Binary - to - Gray code converter. b. Design and implement Gray - to - Binary code converter. c. Design and implement Binary - to - BCD code converter. d. Design and implement Binary - to - XS-3 code converter. 5. Implement Adder and Subtractor Arithmetic circuits. a. Design and implement Half adder and Full adder. b. Design and implement BCD adder. c. Design and implement XS - 3 adder. d. Design and implement binary subtractor. e. Design and implement BCD subtractor. b. Design and implement XS - 3 subtractor.	30 Hrs	
	Module 2: 6. Implement Arithmetic circuits. a. Design and implement a 2-bit by 2-bit multiplier. b. Design and implement a 2-bit comparator. 7. Implement Encode and Decoder and Multiplexer and Demultiplexers. a. Design and implement 8:3 encoder. b. Design and implement 3:8 decoder. c. Design and implement 4:1 multiplexer. Study of IC 74153, 74157 d. Design and implement 1:4 demultiplexer. Study of IC 74139 e. Implement the given expression using IC 74151 8:1 multiplexer. f. Implement the given expression using IC 74138 3:8 decoder. 8. Study of flip-flops and counters. a. Study of flip-flops and counters. b. Study of IC 7473. c. Study of IC 7474. d. Study of IC 7476. e. Conversion of Flip-flops.	30 Hrs	

	f. Design of 3-bit synchronous counter using 7473 and required gates. g. Design of 3-bit ripple counter using IC 7473. 9. Study of counter ICs and designing Mod-N counters. a. Study of IC 7490, 7492, 7493 and designing mod-n counters using these. b. Designing mod-n counters using IC 7473 and 7400 (NAND gates) 10. Design of shift registers and shift register counters. a. Design serial - in serial - out, serial - in parallel - out, parallel - in serial - out, parallel - in parallel - out and bidirectional shift registers using IC 7474. b. Study of ID 7495. c. Implementation of digits using seven segment displays.	
10	Text Books 1. Digital Electronics and Logic Design, N. G. Palan, Technova	
11	Reference Books 1. Digital Principles and Applications, Malvino and Leach, Tata McGrawHill 2. Modern Digital Electronics, R. P. Jain, Tata McGrawHill 3. Digital Design, M. Morris R. Mano, Michael D. Ciletti, Pearson Education, 2012	
12	Internal Continuous Assessment: 40%	Semester End Examination: 60%
13	Continuous Evaluation through: Students are expected to attend each practical and submit the written practical of the previous session. Performing Practical and writeup submission will be continuous internal evaluation. 2.5 marks can be awarded for each practical performance and writeup submission totalling to 50 marks and can be converted to 20 marks.	30 marks practical exam of 2 hours duration
14	Format of Question Paper: Duration 2 hours. Certified copy of Journal is compulsory to appear for the practical examination Practical Slip: Q1. From Module 1 13 marks Q2. From Module 2 12marks Q3. Journal and Viva 05 marks	

Skill Enhancement Course (SEC)

Name of the Course: Office Tools for Data Management

Sr.No.	Heading	Particulars
1	Description the course:	• Introduction: The MS Access course offers a comprehensive understanding of Microsoft's relational database management system, making it a valuable skill in today's data-driven environment. This course is designed to empower individuals with the tools needed to efficiently organize, manage, and analyse data. • Relevance and Usefulness: It provides practical insights into leveraging a relational database system for enhanced efficiency and organization. The MS Access course is useful for individuals seeking to enhance their data management skills. • Applications: With applications in various sectors, from business to research and project management, MS Access is versatile. It facilitates the creation of databases for tasks ranging from contact management to complex systems for inventory and financial analysis. • Interest and Connection with Other Courses: Its practical applications and user-friendly interface make it attractive to individuals looking to boost their data management skills. The MS Access course establishes a practical link with other data-related courses, offering foundational knowledge in database management. It complements courses in data analysis, business intelligence, and information systems. • Demand in the Industry: As businesses increasingly rely on data for decision-making, there is a growing demand for professionals skilled in database management. Proficiency in MS Access is particularly sought after in roles involving data organization, analysis, and reporting. • Job Prospects: Professionals completing the MS Access course are well-positioned for roles requiring efficient data management and analysis. Job prospects include positions in database administration, data analysis, and business intelligence, where MS Access proficiency is a valuable asset.
2	Vertical :	Skill Enhancement Course(SEC)
3	Type :	Practical
4	Credits :	2 credits
5	Hours Allotted :	60 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives (CO):	

	CO 1. Participants will grasp essential database concepts, including tables, relationships, and normalization principles. CO 2. Participants will design and construct well-organized databases in MS Access, showcasing proficiency in table design and data validation. CO 3. Participants will master the creation of complex queries in MS Access, enabling them to extract specific information efficiently. CO 4. Participants will develop expertise in crafting user-friendly forms and interfaces in MS Access, optimizing data entry processes. CO 5. Participants will generate comprehensive reports in MS Access, demonstrating skills in grouping, sorting, and presenting data for meaningful analysis.	
8	Course Outcomes (OC): OC 1. Participants can explain normalization importance, identify table relationships, and justify database design choices. OC 2. Participants create well-structured MS Access databases with proper relationships, data types, and normalization. OC 3. Participants execute advanced queries in MS Access, retrieving specific information based on diverse criteria. OC 4. Participants design intuitive MS Access forms, incorporating controls for an efficient and user-friendly data entry experience. OC 5. Participants produce insightful MS Access reports, organizing and presenting data effectively for analysis.	
9	Modules:- All Practicals are based on MS Access Module 1:	
	Practical 1: A. Getting familiar with MS Access Ribbon options. B. With the help of access wizard Create Database. Add 2 Tables. In each table add 5 columns of different data types. Add 10-10 entries in each table. Add necessary integrity constraints. C. Use the Table Wizard to create a table. Add and delete fields in an existing table. Establish an input mask and validation rule for fields within a table. Switch between the Design and Datasheet views of a table. Practical 2: A. Create and use an Input Mask to enter the data in sample table. B. Adding records in table by using Datasheet View, using a Form and using SQL. C. Create the Employee Database with necessary table and data and then implement the following transitions: • Delete the record for Kelly Marder. • Change Pamela Milgrom's salary to \$59,500. • Use the Replace command to change all occurrences of "Manager" to "Supervisor". Practical 3: A. Create the Bookstore database with necessary table and data and modify the database to accommodate the following:	30 Hrs

	i. Add the book Exploring Microsoft Office 2000 Vol II (ISBN: 013-011100-7) by Grauer/Barber, published in 1999 by Prentice Hall, selling for \$45.00. ii. Change the price of Memory Management for All of Us to \$29.95. iii. Delete The Presentation Design Book. B. Create a table employ with (idno, name, job, age, salary). Insert 10 records. Create a query to display the information of all managers. Create a query to display the names of employs who's salary is >15000. C. Use the Form Wizard to create a form, Move and size controls within a form. Use the completed form to enter data into the associated table. Practical 4: A. Add fields to an existing table. Use the Lookup Wizard to create a combo box. Add controls to an existing form to demonstrate inheritance. Add command buttons to a form. B. Generate and use various the queries using Query Wizards. C. Generate and use various the Query with User Input. D. Demonstrate use of Expression Builder. Practical 5: A. Use the report wizard to create a new report. Modify an existing report by adding, deleting, and/or modifying its controls. B. Create a query containing a calculated control. Then, create report based on that query. Use the Sorting and Grouping command to add a group header and group footer to a report. C. Use action queries to modify a database. Create a crosstab query to display summarized values from a table.	
	Module 2: Practical 6: A. Create and Open a database with multiple tables; Identify the one-to-many relationships within the database and to produce reports based on those relationships. B. Create and Open a database with multiple tables; Identify the one-to-one relationships within the database and to produce reports based on those relationships. C. Create and Open a database with multiple tables; Identify the Many-to-Many relationships within the database and to produce reports based on those relationships. Practical 7: A. Demonstrate use of look up tables. B. Use the Report Wizard to create a report having the following requirements: i. Select the LastName field from the Author table. ii. Select the Title and Price fields from the Book table. iii. Select the PubName field from the Publisher table.	30 Hrs

- iv. View the data by Publisher.
 - v. Add a grouping level using LastName.
 - vi. Sort the report by the Title field in ascending order.
 - vii. Choose Stepped layout and Portrait orientation.
 - viii. Type Book List as the report's title.
 - C. Define the relationship between two tables and add a subform to a form.
- Practical 8:**
- A. Import an Access table from an Excel workbook. Create a one-to-many relationship between tables in a database. Create a multiple-table query.
 - B. Import external data from the Excel spreadsheet file Bookstore.
 - i. Make sure Import the source data into a new table in the current database is selected.
 - ii. Select the Author worksheet.
 - iii. Make sure that First Row Contains Column Headings is selected.
 - iv. For the AuthorID field, set the Data Type option to Long Integer and set the Indexed option to Yes (No Duplicates).
 - v. Select Choose my own primary key and make sure the AuthorID field is selected.
 - vi. Save the table with the name Author.
 - C. Export data from access to various formats.
- Practical 9:**
- A. Relationships: Create and Use Author and Book Table.
 - i. Create a relationship between the AuthorID field in the Author table and the AuthorCode field in the Book table. Put a checkmark in the box labeled Enforce Referential Integrity.
 - ii. Create a relationship between the PubID field in the Publisher table and the PubID field in the Book table. Put a checkmark in the box labeled Enforce Referential Integrity.
 - B. Create a switchboard; Use the Link Tables command to associate tables in one database with the objects in a different database.
 - C. Create an AutoExec and a Close Database macro and demonstrate the use.
- Practical 10:**
- A. Create the College Library database find out the following: -
 - i. Total no. of copies of books subject wise.
 - ii. A report displays all books group by Publisher.
 - iii. A report displays all books group by Book Title.
 - iv. A report displays all books group by Book Edition
 - B. Demonstrate the use of Database Splitter Wizard by splitting database.
 - C. Make Access database as an executable-only

10

Online reference/Text Books

1. https://www.quackit.com/microsoft_access/tutorial/

	2. https://www.tutorialspoint.com/ms_access/index.htm 3. Access 2016 in easy steps, by Mike McGrath, In Easy Steps, 1st Edition, 2017 4. Relational Databases and Microsoft Access, by Ron McFadyen, 1st Edition
11	Reference Books 1. MICROSOFT ACCESS 2019 by David Murray, Kendall Hunt Publishing, 1 st Edition, 2020. 2. Step by Step Microsoft Access 2013, by Joyce Cox and Joan Lambert, 1 st Edition, Microsoft Press, 2013 3. Access 2019 Bible, by Michael Alexander, Richard Kusleika, Wiley, 1 st Edition, 2018 4. Access 2019 For Dummies, by Laurie A. Ulrich, Ken Cook, Wiley, 1 st Edition, 2018
12	Internal Continuous Assessment: 40%
13	Continuous Evaluation through: Students are expected to attend each practical and submit the written practical of the previous session. Performing Practical and writeup submission will be continuous internal evaluation. 2.5 marks can be awarded for each practical performance and writeup submission totalling to 50 marks and can be converted to 20 marks.
14	Semester End Examination: 60% 30 marks practical exam of 2 hours duration Format of Question Paper: Duration 2 hours. Certified copy of Journal is compulsory to appear for the practical examination Practical Slip: Q1. From Module 1 13 marks Q2. From Module 2 12marks Q3. Journal and Viva 05 marks

1		

Name of the Course: Quantitative Techniques – I (OE – I)

Sr. No.	Heading	Particulars
1	Description the course: Including but not limited to:	This course deals with the Basic Mathematics that forms an essential component of Most of the Competitive and Entrance Examinations, such as Banking, Management Entrance, UPSC/MPSC, SET/NET, GMAT/GRE to quote a few. Although the Math-concepts involved in these examinations are of elementary level, the nature of the problems in such exams is far different, and the difficulty level of the questions is much higher, than the typical ones, based on which students are tested in schools. A person appearing for such exams is expected to have a thorough understanding of the concepts, to have ability to think logically, and to be able to interpret the data, presented in different manner.
2	Vertical:	Open Elective
3	Type:	Theory
4	Credits:	2 credits (1 credit = 15 Hours for Theory or 30 Hours of Practical work in a semester)
5	Hours Allotted:	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives (CO): This course revises the basic mathematical concepts learned during school career. However, the problems asked in this course would be mostly advanced and indirect, and would demand broader and critical thinking. The course aims to enhance the reasoning power and logical thinking of the learners and nurture their intellect so as to make them competent across all competitive exams. CO1. To reinforce the basic math concepts and ideas within the learners CO2. To enhance the reasoning power of the learners and make them think over and apply concepts/formulae to solve math problems of indirect nature, thereby developing their problem-solving capacity. CO3. To develop logical thinking of the learners CO4. To make learners competent across all competitive and entrance examinations.	
8	Course Outcomes (OC): After completion of the course, students will be able to. OC1: understand the integers, rational numbers, real numbers and their operations. OC2: learn the concepts of GCD, LCM. OC3: understand the concepts related to averages and percentages, such as arithmetic mean.	

	geometric mean, harmonic mean OC4: evaluate the ratios and proportions OC5: understand the Profit, Loss, Percentage Profit and Percentage Loss. OC6: learn the concepts related to Time, Speed and Distance.
9	Modules:- Module 1: Elementary Arithmetic - I 1. Numbers and BODMAS: • Review of the number systems (Integers, Whole Numbers, Rational Numbers and Real Numbers) • Review of the basic operations and their results (like odd + even = odd, odd × even = even, odd raised to even is odd etc) • Easy tricks to do fast calculations (multiplication, squares, square-roots etc) • GCD and CLM of two or more numbers. 2. Averages and Percentage: • The three different means viz. Arithmetic Mean, Geometric Mean, Harmonic Mean • Properties of the three means, such as (a) AM-GM-HM inequality, (b) The mean of two numbers lies in between the two numbers, (c) In case of several numbers, the product of AM and the number of numbers equals the addition of numbers, (d) In case of several numbers, the product of the numbers equals the GM raised to the number of numbers, (e) The effect of adding the same quantity to each number on AM, (f) The effect of multiplying each number by the same quantity on GM • Percentage 3. Ratio and Proportion: • Concept of Ratio of two quantities • Ratio related properties such as invertendo, alternendo, componendo, dividendo etc • Direct and Inverse Proportion [The problems to be asked should be of varied levels of difficulty. A few ones based on directly applying a given formula may be asked at the beginning; however, the latter ones should demand critical analysis of the given information and a thoughtful selection of the method/formula to solve the same.] Module 2: Elementary Arithmetic – II 1. Profit and Loss: • Definitions of Profit and Loss • The concept of Percentage Profit and Percentage Loss 2. Time, Speed and Distance: • The concept of average speed based on the total distance crossed and the total time taken • The difference between crossing a pole/tower/tree/human and crossing a tunnel/bridge/station • Crossing a stationary object versus crossing a moving object

	- Moving with/against the current (in a river) 3. Work, Pipes and Cisterns: - Work done in unit time is reciprocal of the total work done (assuming that the amount of work done in each unit time is same), - Filling/refilling/emptying cisterns.													
10	Text Books 1. Bible To Basic Mathematics, Pragati Agarwal 2. Quantitative Aptitude for Competitive Examinations, R. S. Agarwal 3. Logical and Analytical Reasoning: Useful for All Competitive Exams, A. K. Gupta													
11	Reference Books 1. Arithmetic : Subjective And Objective For Competitive Examinations, R. S. Agarwal 2. Maths Book For Competitive Exams, Vikas Bhalla 3. Reasoning For Competitive Examinations, Nishit K Sinha													
	<u>Scheme of the Examination</u>													
	The performance of the learners shall be evaluated into two parts. - Internal Continuous Assessment of 20 marks for each paper. - Semester End Examination of 30 marks for each paper. - Separate head of passing is required for internal and semester end examination.													
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Sign of the BOS
Chairman
Dr. Bhausaheb S Desale
The Chairman, Board of
Studies in Mathematics

Sign of the
Offg. Associate Dean
Dr. Madhav R. Rajwade
Faculty of Science &
Technology

Sign of the
Offg. Dean
Prof. Shivram S. Garje
Faculty of Science &
Technology

Name of the Course: Logic and Data Interpretation – I (OE – II)

Sr. No.	Heading	Particulars
1	Description the course: Including but Not limited to:	This course deals with the Logical Thinking and Data Interpretation, that forms an essential component of Most of the Competitive and Entrance Examinations, such as Banking, Management Entrance, UPSC/MPSC, SET/NET, GMAT/GRE to quote a few. The nature of the problems and the difficulty level of the questions is quite high and a person appearing for such exams is expected to have a thorough understanding of the concepts, to have ability to think logically, and to be able to interpret the data, presented in different manner.
2	Vertical :	Open Elective
3	Type :	Theory
4	Credits :	2 credits (1 credit = 15 Hours for Theory or 30 Hours of Practical work in a semester)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives (CO): This course revises the basic mathematical concepts learned during school career. However, the problems asked in this course would be mostly advanced and indirect, and would demand broader and critical thinking. The course aims to enhance the reasoning power and logical thinking of the learners and nurture their intellect so as to make them competent across all competitive exams. CO1. To reinforce the basic math concepts and ideas within the learners CO2. To enhance the reasoning power of the learners and make them think over and apply concepts/formulae to solve math problems of indirect nature, thereby developing their problem-solving capacity. CO3. To develop logical thinking of the learners CO4. To make learners competent across all competitive and entrance examinations.	
8	Course Outcomes (OC): After completion of the course, the learners will be able to OC1: think logically about the given sequence of numbers/alphabets/symbols OC2: understand the odd/unfit element amongst the set of various elements OC3: develop logical thinking to obtain relations between two people	

	OC4: understand the directions, angles between any two angles OC5: get a general idea about the concept of coding a message and how to decode a coded message OC6: develop logical thinking to check whether or not the given information is sufficient to answer a question.
9	Modules:- Module 1: Fundamentals of Logical thinking - I 1. Number/Letter/Symbol Series: - Given a finite sequence of numbers, the learners are expected to find a simple rule (difference between or the ratio of consecutive numbers, square-quantities, cube-quantities, recursive rules etc) that binds all the numbers and be able to fill in the gap either at the end or at the beginning or in between. - Given a finite sequence of objects, made up of sets of alphabets/symbols, the learners are expected to observe the pattern that is visible in each set of letters/symbols and be able to predict the missing object/s 2. Odd Man Out: - Given a finite sequence of numbers, the learners are expected to find a simple rule that binds all but one and be able to find out the odd one - Given a finite sequence of objects, made up of sets of alphabets/symbols, the learners are expected to observe the pattern that fits each except one and be able to find out the miss-fit object 3. Relations: - Understanding the terms in relations such as mother, father, son, daughter, grand-mother, grand-father, grandson, grand-daughter, brother, sister, siblings, mother-in-law, father-in-law, cousin, nephew, niece, husband, wife, life- partner, spouse, uncle, aunt. - Forming a tree/diagram based on the information given, vertical aligning of different generations, definite symbols to be used for different people viz. square for male, circle for female, triangle for those whose gender is not specified and cannot be determined, double arrow ($\leftrightarrow$) for siblings and equality (=) for married couples [The problems to be asked should be of varied levels of difficulty. A few ones based on directly applying a given formula may be asked at the beginning; however, the latter ones should demand critical analysis of the given information and a thoughtful selection of the method/formula to solve the same.] Module 2: Fundamentals of Logical Thinking - II 1. Directions: - The eight directions and their names - The angles between any two directions - Revision of simple Pythagorean triplets such as (3-4-5), (6-8-10), (5-12-13), (7-24-25), (8-15-17), (9-12-15), (10-24-26), and their use in finding the distance between two points, say A and B when AC and CB are perpendicular, Revision of 45-45-90 triangle.

	2. Coding and Decoding - Alphabet Coding, Numerical Coding, Symbol based Coding, Values Coding, Substitution Coding - Deciphering a given Coding 3. Data Sufficiency: - The concept/idea of Data Sufficiency, for example, the lengths of all the sides are sufficient to find the area of a triangle but not of a quadrilateral - Problems based on insufficient data and finding the minimal info needed to obtain the answer (In such case, not the final answer, but the minimal additional required information is to be found out) – The problems may be based on elementary mathematics or day-to-day situations.							
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Name of the Course: Fundamentals of People's Skills

Sr. No.	Heading	Particulars
1	Description the course : Including but Not limited to :	This course deals with the fundamentals of people's skills which are one of the most important aspects of Life Skills required to be developed among students. Acquiring these skills would help them to develop ethical foundation right during their young days. It would foster creativity and innovation among these student while sensitizing them towards respecting social and cultural differences.
2	Vertical :	Skill Enhancement
3	Type :	Theory / Practical
4	Credit:	2 credits
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks

Course Objectives	1. To develop ethical foundation among students. 2. To encourage creativity and innovation among young minds. 3. To create awareness among students about the importance of being a good listener. 4. To sensitize students about recognizing and dealing with different social, cultural backgrounds more effectively 5. To enable students to conduct themselves more professionally and put across their views in front of others more effectively.
Course Outcomes	Students will be able to: 1. Demonstrate ethical behavior coupled with integrity. 2. Will generate new ideas and create a business plan. 3. Will be able to develop good listening skills which are vital for demonstrating good team qualities. 4. Will build sensitivity about social and cultural differences and illustrate good etiquettes. 5. Will be able to present themselves and their thoughts in front of others more confidence.
Module 1: Ethics and Integrity (6 Hours)	Importance of ethics. (Story-telling) Ethical decision-making. (Discussing biographies) Personal and professional moral codes of conduct. (Discussing biographies) Creating a harmonious life. (Interactive session)
Module 2: Entrepreneurial Skills (6 Hours)	1. Who is an entrepreneur (Story-telling) 2. Traits and qualities of a good entrepreneur (Story-telling) 3. Types of entrepreneurs (Interactive session with Story-telling) 4. Problem identification and idea generation (role play/ simulation)

	5. Idea validation (Interactive session with Story-telling) 6. Pitch-deck presentation (video)
Module 3 Teamwork and Importance of Listening in a Team (6 Hours)	1. What is a team? (Conceptual Clarity) 2. Advantages of being a good listener in a team (Story telling) 3. Listening as a team leader (Case study) 4. Listening as a team member(Interactive session) 5. Improving listening skills (Interactive session)
Module 4 Resume Writing and CV Building (6 Hours)	1. Difference between a Resume and CV (Conceptual Clarity) 2. Essentials of writing a good Resume (Practical Application) 3. How to build a good CV (Practical Application) 4. Common Mistakes in preparing a good resume/ building a good CV (Conceptual Clarity)
Module 5 Professional, Social and Cultural Etiquettes (6 Hours)	1. Why following etiquettes is important (Interactive session) 2. Types of etiquettes (Conceptual Clarity) 3. Professional etiquettes (Video + Story-telling) 4. Social etiquettes (Video + Story-telling) 5. Cultural etiquettes (Video + Story-telling) 6. Role of etiquettes in creating a better personal and professional image (Video + Story-telling)
Suggested Readings and e- resources	1. Bentley University. (2022, December 7) 7 ways to promote diversity in the workplace. https://www.bentley.edu/news/7-ways-promote-diversity-workplace . 2. Roy, B. D. (2022, August 1). Active listening; its skills and importance in the workplace. Nurture an Engaged and Satisfied Workforce Vantage Circle HR Blog. https://blog.vantagecircle.com/active-listening/ . 3. Hisrich, R. D., Peters, M. P., and Shepherd D. A. (2017). Entrepreneurship. 10th Ed. McGraw Hill Education 4. Ashokan, M. S. (2015). Karmayogi: A Biography of E. Sreedharan. London: Penguin. 5. Nellickappilly, S. (n.d). Ethics. [Video]. NPTEL. https://nptel.ac.in/courses/109/106/109106117/ .
Assessment and Evaluation	Continuous assessment throughout the semester of 30 Marks by maintain a logbook and/ or a journal and final project of 20 marks at the end of the semester
Signature of the Team	

Signature:
Prof. Kavita Laghate
Chairman of Board of Studies in Value Education

As Per NEP 2020

University of Mumbai



Syllabus for Indian Knowledge System	
Board of Studies in Indian Knowledge System	
UG First Year Programme	
Semester	I OR II
Title of Paper	Credits 2 for either I or II Semester
I) Indian Knowledge System	
From the Academic Year	2024-2025

Sr. No.	Heading	Particulars
1	Description the course : Including but Not limited to :	Introduction, relevance, Usefulness, Application, interest, connection with other courses, demand in the industry, job prospects etc.
2	Vertical :	Major/Minor/Open Elective /Skill Enhancement / Ability Enhancement/Indian Knowledge System (Choose By $\sqrt{\quad}$)
3	Type :	Theory / Practical
4	Credit:	2 credits (1 credit = 15 Hours for Theory or 30 Hours of Practical work in a semester)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives: (List some of the course objectives) 1. To sensitize the students about context in which they are embedded i.e. Indian culture and civilisation including its Knowledge System and Tradition. 2. To help student to understand the knowledge, art and creative practices, skills and values in ancient Indian system. 3. To help to study the enriched scientific Indian heritage. 4. To introduce the contribution from Ancient Indian system & tradition to modern science & Technology.	
8	Course Outcomes: (List some of the course outcomes) 1. Learner will understand and appreciate the rich Indian Knowledge Tradition 2. Lerner will understand the contribution of Indians in various fields 3. Lerner will experience increase subject-awareness and self-esteem 4. Lerner will develop a comprehensive understanding of how all knowledge is ultimately intertwined	
9	Modules:-	
	Module 1: (10 Hours)	
	1. Introduction to IKS (What is knowledge System, Characteristic Features of Indian Knowledge System) 2. Why IKS? (Macaulay's Education Policy and its impact, Need of revisiting Ancient Indian Traditions) 3. Scope of IKS (The Universality of IKS (from Micro to Macro), development form Earliest times to 18th Century CE) 4. Tradition of IKS (Ancient Indian Education System: Home, Gurukul, Pathashala, Universities and ancient educational centres) 5. Relevant sites in the vicinity of the Institute (Water Management System at Kanheri, Temple Management of Ambarnath, etc.)	

	Module 2: (10 Hours)	
	1. Medicine (Ayurveda) 2. Alchemy 3. Mathematics 4. Logic 5. Art of Governance (Arthashastra)	
	Module 3: (10 Hours) (Select Any FIVE out of the following)	
	1. Aesthetics 2. Town Planning 3. Strategic Studies 4. Krishi Shastra 5. Vyakaran & Lexicography 6. Natyashastra 7. Ancient Sports 8. Astronomy	9. Yoga and Wellbeing 10. Linguistics 11. Chitrasutra 12. Architecture 13. Taxation 14. Banking 15. Trade and Commerce
10	Reference Books 1. Concise history of science in India- D.M. Bose, S.N Sen, B.V. Subbarayappa. 2. Positive sciences of the Ancient Hindus- Brajendranatha seal, Motilal Banarasidas, Delhi 1958. 3. History of Chemistry in Ancient India & Medieval India, P.Ray- Indian Chemicals Society, Calcutta 1956 4. Charaka Samhita- a scientific synopsis, P. Ray & H.N Gupta National Institute of Sciences of India, New Delhi 1965. 5. MacDonnell A.A- History of Sanskrit literature 6. Winternitz M- History of Indian Literature Vol. I, II & III 7. Dasgupta S.N & De S.K- History of Sanskrit literature Vol. I. 8. Ramkrishna Mission- cultural heritage of India Vol. I, II & III. 9. Majumdar R. C & Pushalkar A.D- History & culture of the Indian people, Vol. I, II & III. 10. Keith A.B- History of Sanskrit literature. 11. Varadachari V- History of Sanskrit literature Chaitanya Krishna- A new History of Sanskrit	
11	Continuous Internal Assessment: 20 Marks	Semester End Examination : 30 Marks
12	Continuous Evaluation through: Assignment/ Presentations/ Projects (Group/Individual) / Field Visit Report 10 Marks, class Test / MCQ Test 5 Marks, Overall Conduct and Class Participation 5 Marks	
13	Format of Question Paper: for the final examination Q1. Attempt any TWO Questions out of FIVE. 6 Marks Q2. Attempt any THREE Questions out of SIX 12 Marks Q3. Attempt any THREE Questions out of SIX. 12 Marks	

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University of Mumbai



Title of the Program

Introduction to Cultural Activities

SEM I

Syllabus for Two Credit

(With effect from the academic year 2024-25)

Aims and Objectives

- To study the importance of cultural activities in India.
- To discuss the historical importance of cultural activities.
- To define and describe the overview of cultural practices at Indian and Global level.
- To list the various forms of cultural activities and its applied skills.
- To describe the role of organizations for organizing cultural activities in India.

Learning Outcomes

- Understand the significance of cultural activities
- Sensitize students towards Indian culture and its preservation
- Apply the knowledge and skills of the cultural activities in their practical life
- Participate in the various cultural activities

Modules at Glance Semester I

Module No.	Unit	Content	No. of Hours
1	I	Overview to Cultural Activities	05
	II	History of Student Cultural Activities	05
2	III	Forms / Types of Literary and Fine Arts Activities and its Applied Skills	10
	IV	Forms / Types of Performing Arts Activities and its Applied Skills	10
Total No. of Hours			30

Module No.	Unit	Content	No. of Hours
1	I	1.1 Overview to Cultural Activities • Definition of culture and its manifestations • Understanding cultural diversity and inclusivity • The role of cultural activities in preserving heritage • Overview of Indian cultural practices • Overview of global cultural practices	05
	II	2.1 History of Student Cultural Activities □ Role of student cultural activities □ History of student cultural activities in India	05

		• Role of AIU in preserving cultural heritage of India • History of student cultural activities in Maharashtra • Student Cultural activities at University of Mumbai	
2	III	3.1 Forms / Types of Literary and Fine Arts Activities and its Applied Skills 3.1.1 Various Forms of Literary Arts • Elocution: Reading Skills, Soft Skills, Languages, Communication Skills, etc. • Debate: Reading Skills, Soft Skills, Languages, Communication Skills, etc. • Story Writing: Introduction, Plot, Characterization, Presentation, Relevance, Language Style, etc. • Story Telling: Introduction, Plot, Characterization, Presentation, Relevance, Language Style, etc. • Quiz: General Knowledge skills 3.1.2 Various Forms of Fine Arts • Painting: Visualization, Delivery of the Subject, Composition, Colour Application, Presentation and Overall Impact • Collage: Visualization, Delivery of the Subject, Handling of Medium, Composition, Presentation and Overall Impact • Poster Making: Visualization, Delivery of the Subject, Presentation, Tagline and Overall Impact • Clay Modeling: Visualization, Delivery of the Subject, Handling of Medium, Composition, Presentation and Overall Impact • Cartooning: Visualization, Delivery of the Subject, Characters, Synchronization, Colour Application, Composition, Presentation and Overall Impact • Rangoli: Visualization, Delivery of the Subject, Colour Scheme, Elements, Presentation and Overall Impact • Mehendi Designing: Originality, Creativity, Decorative Art with Aesthetic Sense, Presentation and Overall Impact	10

		• Spot Photography: Impact, Composition, Technical Quality and Suitability for the Specific Theme • Installation: Visualization, Delivery of the Subject, Handling of Medium, Synchronization, Composition, Presentation and Overall Impact	
	IV	4.1 Forms / Types of Performing Arts Activities and its Applied Skills 4.1.1 Various Forms of Dance • Folk Dance: History and Origin of Folk Dance In India, Types and their Uniqueness, Significance of Folk Dance, Folk Dances in Maharashtra • Classical Dance: History of Classical Dance, Types and their Peculiarities, Significance of Classical Dances in India 4.1.2 Various Forms of Theatre • History of Indian Theatre • Types and their Uniqueness • Significance of Indian Theatre • Various Forms of Theatre: One Act Play, Skit, Mime, Mimicry 4.1.3 Various Forms of Music • History of Indian Music, • Types and their Uniqueness, • Significance of Music in India • Various Forms of Music: Classical Singing, Light Vocal, Percussion, Non-Percussion, Nattasangeet, Western Vocal, Western Instrumental	10

Scheme of Evaluation

The Scheme of Examination shall be of 50 marks. It will be divided into Internal Evaluation (20 marks) and Semester End Examination (30 Marks).

Semester I (50 Marks, 2 Credits) Internal Evaluation (20 Marks)

Sr. No.	Particulars	Marks
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1	Presentation OR Project OR Assignment	15
2	Participation in Workshop / Conference / Seminar (as decided by the Teacher) OR Participation in Online Workshop / Conference / Seminar (as decided by the Teacher) OR Field Visit OR Attendance	5
Total		20

Semester End Examination (30 Marks)

Question No.	Particulars	Marks
1	Objective Type Questions (All Units)	6
2	Descriptive Question(s) on Unit I [This question may be divided into sub questions like (a) (b) for 3 Marks + 3 Marks or 4 Marks + 2 Marks pattern]	6
3	Descriptive Question(s) on Unit II [This question may be divided into sub questions like (a) (b) for 3 Marks + 3 Marks or 4 Marks + 2 Marks pattern]	6
4	Descriptive Question(s) on Unit III [This question may be divided into sub questions like (a) (b) for 3 Marks + 3 Marks or 4 Marks + 2 Marks pattern]	6
5	Descriptive Question(s) on Unit IV [This question may be divided into sub questions like (a) (b) for 3 Marks + 3 Marks or 4 Marks + 2 Marks pattern]	6
Total		30

Reference Books

- 1) Rabindranath Tagore, The Centre of Indian Culture. Rupa and Co, India, 2017.
- 2) Chopra, J. K. Indian Heritage and Culture. Unique Publisher, India, 2013.
- 3) Patnaik Devdatta, Indian Culture, Art and Heritage. Pearson, India, 2021.
- 4) Cassady Marsh, An Introduction to the Art of Theatre: A comprehensive text- Past, Present and Future. Colorado Springs, Colo, 2017.
- 5) Pingle Bhavanrav A., History of Indian Music: with particular reference to theory and practice, Dev Publishers and Distributors, India, 2021.
- 6) Popley Herbert A., The Music of India. Central Archaeological Library, New Delhi, 1921.

- 7) Tomory Edith, History of Fine Arts in India and the West. Orient Longman, Mumbai, 1989. 8) Arthur Schopenhauer, The Art of Literature, S. Sonnenschein and co London. 1981.
- 9) M. Keith Booker, A Practical Introduction to Literary theory and Criticism. Routledge.Michigan, 1996.
- 10) Vatsyayan Kapila, Indian Classical Dance. Publications Division, Ministry of Information and Broadcasting, Govt. of India, 1992.
- 11) Phyllia S. Weikart, Teaching folk dance: successful steps. High/Scope Press, Mchigan, 1997.
- 12) Gosvami O., The story of Indian Music, its growth and synthesis. Bombay, New York, Asia Pub. House, 1961.

As Per NEP 2020

University of Mumbai



Title of the Program

**Co-Curricular Course
Introduction to Sports, Physical Literacy,
Health and Fitness and Yog**

SEM I

Syllabus for Two Credit

(With effect from the academic year 2024-25)

Semester I

Course Structure

Semester	Paper	Title of Paper	No of lecture (Theory)	Internal Evaluation (IE)	End Semester Evaluation	Total Marks	Credits
First	CC	Introduction to Sports, Physical Literacy, Health & Fitness and Yoga	30	20	30	50	02
Second	CC	Introduction to Sports, Physical Literacy, Health & Fitness and Yoga	30	20	30	50	02
Total	-	-	60	40	60	100	04

Semester I

1.1 Preamble:

India is growing rapidly as a global super-power. To face the challenges of the century and to keep up with the pace of the world, maintaining health is of prime importance. Giving thrust to healthy society, Physical Education, Sports, Health & fitness and Yoga are of great significance in today's world. The Government of India insists on Physical Fitness, Mental Health and Overall Development of Personality for every citizen. In these lines, the Government has launched Fit India Movement, Khelo India, TOPS and National Sports Day, International Day of Yoga etc. These initiatives have given impetus and awareness among general public, professional and academicians. However, creating efficient and skilled human resource in the field of Physical Education, Sports and Yoga is identified as the need of the hour. Thus, the Governments of India and Government of Maharashtra have included Physical Education, Sports and Yoga as a key area under the NEP 2020.

1.2 Objectives of the Course:

- 1.To make students familiarize with concepts of Health, Fitness, Yoga, Sports & Physical Literacy.
- 2.To sensitize the students about background knowledge of Sports structure of Sports Federations, Indian Olympic Association, Khelo India Schemes, FIT India movement, National Sports Day, Intercollegiate Sports structure of University of Mumbai.

3. To familiarize the students with the various physical education concepts and information regarding various Olympic Sports.
4. To make students aware about famous sports personalities and various awards given to Sportsperson and coaches.
5. To educate students regarding various career opportunities in the sports management, sports coaching, sports industry, health and fitness, sports infrastructure, yoga, etc.
6. The course is designed primarily to educate those interested in becoming a Physical Literacy Trainer/Ambassador as well as those who wish to stay lifelong active and want to influence others to be active for life.

1.3 Salient features of the course:

1. The course is designed to enhance the Competency, attitude and skills related knowledge to Physical Literacy, health & fitness, Sports & Yoga.
2. The course is design to implemented as per CBCS pattern .

1.4 Utility of the course:

1. The course may provide opportunity in the field of physical education, sports management, health & fitness, yoga, etc.
2. The course is significant to enhance the abilities of the student to work in the different fields of physical education in the area of coaching, event management, health & fitness, yoga etc.
3. The professional abilities and personality of the students may be enhanced.

1.5 Program outcomes:

By the end of the program the students will be able to:

1. The curriculum would enable the pass out students to be entrepreneur (to start their own fitness center, gym, yoga studio etc.) and device appropriate fitness program for different genders and age groups at all level
2. The curriculum would enable to officiate, supervise various sports events and organize sports events.
3. Students acquire the knowledge of Physical Education, Sports and Yoga and understand the purpose and its development.
4. The student learns to plan, organize and execute sports events.
5. Student will learn theoretical and practical aspects of game of his choice to apply at various levels for teaching, learning and coaching purposes efficiently.
6. Student acquires the knowledge of opted games, sports and yoga and also learns the technical and tactical experience of it.
7. Student will learn to apply knowledge of Physical fitness and exercise management to lead better quality life.
8. Students will understand and learn different dimension of active life style.
9. Student will learn the knowledge of nutrition and diet.
10. Students will be able to assess the physical fitness in a scientific way.
11. The students will be able to continue professional courses and research in Physical Education, sports and yoga.
12. It helps the student to understand theory and practical aspects of physical literacy. These aspects include role of motivation and confidence, how to focus on positive experience, new styles of teaching, inclusive session planning and review the progress in physical activities.

1.6 Programme Duration: The structure of Sports & Physical Literacy has two semesters in total covering a period of two years.

1.7 Duration of the Course:. First Year comprises two semesters. Each semester will have theory paper 30 marks for End Semester Examination and 20 marks for Internal Evaluation for each paper.

1.8 Modes of Internal Evaluation: Assignment, Tutorial, Presentation, MCQs via Google, Field Visits, any other suitable mode along with marks for Attendance of the students.

1.9 Medium of Instruction: English

1.10 Course Structure

Credits: 02

Lectures: 30

Marks: 50

Unit Number	Title of the Unit	No. of Lecture	No. of Credits
1	Introduction to Sports, Physical Literacy, Health & fitness and Yoga 1.1 Meaning and Definition of Sports, Physical Literacy, Health & Fitness and Yoga 1.2 Aim, Objectives & Importance of Sports, Physical Literacy, Health & Fitness and Yoga 1.3 History of Sports, Physical Literacy, Physical Education and Yoga 1.4 Modern trends of Sports, Physical Literacy, Health & Fitness and Yoga	15	1

2	Introduction to Structure of Sports associations, Fitness Training & Yogic Asanas 2.1 Various government schemes, awards and famous sports personalities 2.2 Sports Structure of Sports Federations, Khelo India, Sports Tournaments of University of Mumbai and Indian Olympic Association 2.3 Fundamental Principles of Fitness training and Yoga 2.4 Components of health related and skill related physical fitness 2.5 Types of Yogic practices – Asanas, Pranayama and Meditation	15	1
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References –

1. Bucher, C. A. (n.d.) Foundation of physical education. St. Louis: The C.V. Mosby Co. Deshpande, S. H. (2014). Physical Education in Ancient India. Amravati: Degree college of Physical education.
2. Mohan, V. M. (1969). Principles of physical education. Delhi: Metropolitan Book Dep. Nixon, E. E. & Cozen, F.W. (1969). An introduction to physical education. Philadelphia: W.B. Saunders Co.
3. William, J. F. (1964). The principles of physical education. Philadelphia: W.B. Saunders Co.
4. Coalter, F. (2013) Sport for Development: What game are we playing? .Routledge.
5. Singh Hardayal (1991), Science of Sports Training, DVS Publication, New Delhi
6. Muller, J. P.(2000). Health, Exercise and Fitness. Delhi : Sports.
7. Russell, R.P.(1994). Health and Fitness Through Physical Education. USA : Human Kinetics.
8. Uppal, A.K. (1992). Physical Fitness. New Delhi : Friends Publication.
9. Nagendra, H. R. & Nagarathna, R. (2002). Samagra Yoga Chikitse. Bengaluru: Swami Vivekananda Yoga Prakasana.
10. Kumar, Ajith. (1984) Yoga Pravesha. Bengaluru: Rashtrothanna Prakashana.
11. D.M Jyoti, Yoga and Physical Activities (2015) lulu.com3101, Hills borough, NC27609, United States
12. D.M Jyoti, Athletics (2015) lulu.com3101, Hills borough, NC27609, United States
13. Gharote, M. L. & Ganguly, H. (1988). Teaching methods for yogic practices. Lonawala: Kaivalyadhama.
14. Pinto John and Roshan Kumar Shetty (2021) Introduction to Physical Education, Louis Publications, Mangalore
15. Shekar, K. C. (2003). Yoga for health. Delhi: Khel Sahitya Kendra.
16. Amit Arjun Budhe, (2015) Career aspects and Management in Physical Education, Sports Publication, New Delhi
17. Pinto John and Ramachandra K (2021) Kannada Version, Daihika Shikshanada Parichaya, Louis

UNIVERSITY OF MUMBAI
National Service Scheme

1.1 Preamble:

Students in the National Service Scheme are better able to comprehend all the most recent ideas. These courses include an Introduction to National Service Scheme that covers the concept of social services, which are a variety of public services meant to offer support and help to targeted specific groups, most often the underprivileged. They could be offered by individuals, autonomous, private entities, or under the management of a government body.

1.2 Objectives of the Course:

1. To Introduce National Service Scheme to learners and explain how it is used in current social studies.
2. To make the students aware of the need of having a foundation in social science and NSS.
3. To introduce students to social concepts and issues in society, as well as to get involved in resolving social issues.

1.3 Learning Outcomes of the Course: The students will be able to

1. The course will help students comprehend the foundations of the National Service Program.
2. To understand the unique camping program.
3. Students will learn about the regular activities of NSS.

1.4. Programme Specific Outcomes:

1. Students will be familiar with NSS fundamentals and history, particularly as they pertain to social work.
2. Students will recognize NSS and its ongoing operations.

1.5 Programme Outcomes:

1. Students will comprehend fundamental ideas and facts about the National Service Program.
2. Students will learn the essentials of NSS-related procedures.
3. Students will learn social work skills (such as Voter Awareness, Campus Cleanup, Tree Plantation, and Rallies).

1.6 Modes of Internal Evaluation: Assignment, Tutorial, Presentation, MCQs via Google, Field Visits, any other suitable mode along with marks for Attendance of the students.

UNIVERSITY OF MUMBAI**Semester I****NSS CC****Sub: - Introduction to National Service Scheme****Credits: 02****Marks:50**

Unit Number	SEMESTER 1 Title of the Unit	No. of Lecture
1	Introduction to National Services Scheme NSS- History,Philosophy & Need of Emergence Aims, Objectives, Motto and Emblem of NSS, NSS Theme Song Organizational Structure of NSS-Hierarchy at different levels (National,State,University,College) Roles and Responsibilities of Program Officer Financial Provisions -Grant in Aid for NSS Advisory committees & their functions	15
2	NSS Programmes and Activities (Regular activities) NSS Programmes and Activities (Special Camp activities) Yearly Action Plan of NSS Unit Volunteerism– Meaning, definition, basic qualities of volunteers, need of volunteerism for National development. Opportunities in NSS for Volunteers (Various Camps) Report Writing	15

Evaluation Pattern

Internal Assessment

Assessment Criteria	Marks
Assignment / Project / Quiz/Presentations	10
Attendance, Class and Activity Participation	10
Total	20

External Assessment Question Paper Pattern

Time: 1:00 Hours

Total Marks: 30

Introduction:- 1. All questions are compulsory.
2. Figure to the Right indicates full marks.
3. Draw neat labeled drawings wherever necessary.

Q.1) Rewrite the following by choosing the correct options given below
(with four alternatives) 6 Objectives question of 1 mark each **06 marks.**

- | | | | |
|-------|----|----|----|
| 1. a) | b) | c) | d) |
| 2. a) | b) | c) | d) |

Q.2) Short Notes . (Any Two out of Four) **06marks**

- 1.
- 2.
- 3.
- 4.

Q.3) Answer the following questions (Any Three out of Five) **18 marks**

- 1.
 - 2.
 - 3.
 - 4.
 - 5.
-

References:

1. National Service Scheme Manual 2006, Government of India
2. Salunkhe P.B. Ed, Chhtrapati Shahu the Pillar of Social Democracy
3. National Service Scheme Manual, Govt. of India
4. Training Programme on National Programme Scheme TISS
5. Orientation Courses for N.S.S. Programme Officers, TISS
6. Hans Gurmeet, Case Material as a Training Aid for Field Workers
7. Tarachand, History of the Freedom Movement in India Vol.II
8. Kapil K. Krishan, Social Service Opportunities in Hospitals (TISS)
9. Ram, Social Problems in India.
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12. Barrett, R. (2013). The Values-driven Organisation: Unleashing Human Potential for Performance and Profit. London: Fulfilling Books
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14. Bauman, D. C. (2013). Leadership and the three faces of integrity. The Leadership Quarterly, 24(3), 414-426.
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AC – 20/04/2024
Item No. – 7.8 Sem. II (5a)

As Per NEP 2020

University of Mumbai



Syllabus for Basket of Minor	
Ad- hoc Board of Studies in B. Com. (Management Studies)	
UG First Year Programme	
Semester	II
Title of Paper	Credits 2/ 4
Industry and Service Management I (Basics of I & S)	2
From the Academic Year	2024-25

Sr. No.	Heading	Particulars
1	Description the course: Including but not limited to:	Management is not only an essence in all fields but it is a prevalent tool in the hands of corporates to governments. From planning to controlling and from budgeting to reporting, all managerial elements are the most essential parts of daily life. So the learners need to know about all aspects from rural development to creating artificial intelligence. They will understand how to develop India, one of the fifth most powerful economies in the world. It is expected that the learners should learn how to develop our economy and management for the future generation from these managerial facets.
2	Vertical :	Major/ Minor /Open Elective /Skill Enhancement / Ability Enhancement/Indian Knowledge System (Choose By ✓)
3	Type :	Theory / Practical
4	Credit:	2 credits
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives: 1. Differentiate between different types of industries and their defining characteristics 2. Apply industry analysis frameworks to assess competitive landscapes 3. Evaluate the impact of various factors on industry performance and service delivery 4. Design and analyze service models for optimal customer experience.	

8	Course Outcomes: 1. Learners should Differentiate between various industry types and their characteristics 2. Identify the key factors influencing industry performance and competition 3. Understand the core principles of service management and customer experience 4. Analyse the challenges and opportunities unique to service businesses
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9	Modules: -
	Module 1: Basics of Industry Management
	a) Concept of Industry Management, Characteristics of IM, Types, Pros and Cons of Industry Management b) Industry Analysis: Framework of Porter's Five Forces, Industry Life Cycle, Technological advancement, Government regulations
	Module 2: Basics of Service Management
	a) Concept of service and service Management, characteristics of services, importance of service industry b) Scope and Classification of services - Specialized services, Customer services and Industrial services, Reasons for growth of service industry in India.
10	Text Books: • <i>Service Sector in India - recent policy initiative a New century publication 2008</i> • <i>A. Vijaykumar Service Sector management - An Indian perspective - Bhattacharjee, Jaico publishing House 2011.</i>

	Reference Books: • Industry Analysis by Michael E. Porter • Operations Management by Roberta F. Shang and Kenneth S. Meizer • Competitive Strategy by Michael E. Porter • Good Strategy Bad Strategy by Richard Rumelt • <i>Service marketing - Temani V. K. Prism Publication</i> • <i>Management of Service Sector - Bhatia B. S. VP Publication</i>
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12	Internal Continuous Assessment: 40%	External, Semester End Examination Individual Passing in Internal and External Examination : 60%
13	Continuous Evaluation through: Quizzes, Class Tests, presentation, project, role play, creative writing, assignment etc.(at least 3)	
14	Format of Question Paper: for the final examination External Paper Pattern (30 Marks) Q1. Case Study Analysis 10 Marks Q2. Answer the following (Any One) 10 marks A Or B Q3. Answer the following (Any One) 10 Marks A Or B	

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Chairman
Prof. Dr. Kanchan
Fulmali
BOS in BMS

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Sangurde
Faculty of Commerce

Sign of the
Offg. Associate Dean
Prin. Kishori Bhagat
Faculty of
Management

Sign of the
Offg. Dean
Prof. Kavita Laghate
Faculty of Commerce
& Management

As Per NEP 2020

University of Mumbai



Syllabus for Basket of OE (Scheme I)	
Board of Studies in Mathematics	
UG First Year Programme	
Semester	II
Title of Paper	Credits
1. Quantitative Techniques – II	2
2.	
3.	
From the Academic Year	2024-25

Name of the Course: Quantitative Techniques – II (OE – I)

Sr. No.	Heading	Particulars
1	Description the course: Including but Not limited to:	This course deals with the Basic Mathematics that forms an essential component of Most of the Competitive and Entrance Examinations, such as Banking, Management Entrance, UPSC/MPSC, SET/NET, GMAT/GRE to quote a few. Although the Math-concepts involved in these examinations are of elementary level, the nature of the problems in such exams is far different, and the difficulty level of the questions is much higher, than the typical ones, based on which students are tested in schools. A person appearing for such exams is expected to have a thorough understanding of the concepts, to have ability to think logically, and to be able to interpret the data, presented in different manner.
2	Vertical :	Open Elective
3	Type :	Theory
4	Credits :	2 credits (1 credit = 15 Hours for Theory or 30 Hours of Practical work in a semester)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives (CO): This course revises the basic mathematical concepts learned during school career. However, the problems asked in this course would be mostly advanced and indirect, and would demand broader and critical thinking. The course aims to enhance the reasoning power and logical thinking of the learners and nurture their intellect so as to make them competent across all competitive exams. CO1. To reinforce the basic math concepts and ideas within the learners CO2. To improve the cognitive power of the learners and make them think over and apply concepts/formulae to solve math problems of indirect nature, thereby developing their problem-solving capacity. CO3. To develop rational thinking of the learners CO4. To make learners competent across all competitive and entrance examinations	
8	Course Outcomes (OC): After completion of the course, learners will be able to	

	OC1: understand the difference between equations and inequalities OC2: learn the concepts related to linear and quadratic equations, such as roots and their nature in different situations. OC3: realize how to perform various operations (such as addition, subtraction, multiplication and division) on inequalities and grasp their consequences. OC4: understand the difference between permutations and combinations OC5: learn the concepts and theorems related to probability, such as addition rule, multiplication rule, independent events. OC6: realize the various formulae and their applications in finding area and perimeter of various geometric shapes
9	Modules:- Module 1: Equations and Inequalities 1. Equations - I • Linear Equation in one variable • Linear Equation in two variables • Simultaneous Equations in two and three variables • Forming simultaneous equations 2. Equations - II • Quadratic Equation in one variable • Methods of solving a quadratic equation, such as (a) factorization, (b) technique of completing square, (c) use of the formula $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ • Discriminant and Nature of the roots of a quadratic equation • Equations of higher degree and solving the same, when one root is given/known. Use of synthetic division 3. Inequalities • Concept of inequality, types of inequality such as $<$, $>$, $\leq$, $\geq$. • Simple rules related to inequality such as ○ Adding same quantity to both sides doesn't alter inequality ○ Subtracting same quantity from both sides doesn't alter inequality ○ Multiplying both sides by same positive quantity doesn't alter inequality ○ Dividing both sides by same positive quantity doesn't alter inequality ○ Multiplication or Division by negative quantities alter inequality [The problems to be asked should be of varied levels of difficulty. A few ones based on directly applying a given formula may be asked at the beginning; however, the latter ones should demand critical analysis of the given information and a thoughtful selection of the method/formula to solve the same.] Module 2: Counting Techniques, Probability and Geometry 1. Permutations and Combinations • The idea of Permutations and Combinations

	- The factorial notation and formulae for $P(n, r)$ and $C(n, r)$ 2. Probability - The concept and definition of Probability - The addition rule in Probability - The multiplication rule (in case of independent events) in Probability 3. Geometry - Formulae for the area and perimeter of various standard geometric shapes, such as triangles and quadrilaterals. - Using area of triangle to obtain areas of non-standard shape - Relation of internal/external angle and the number of sides of a regular polygon - Circumference and Area of a circle	
10	Text Books - Bible To Basic Mathematics, Pragati Agarwal - Quantitative Aptitude for Competitive Examinations, R. S. Agarwal - Logical and Analytical Reasoning: Useful for All Competitive Exams, A. K. Gupta	
11	Reference Books - Arithmetic : Subjective And Objective For Competitive Examinations, R. S. Agarwal - Maths Book For Competitive Exams, Vikas Bhalla - Reasoning For Competitive Examinations, Nishit K Sinha	
	<u>Scheme of the Examination</u>	
	The performance of the learners shall be evaluated into two parts. - Internal Continuous Assessment of 20 marks for each paper. - Semester End Examination of 30 marks for each paper. - Separate head of passing is required for internal and semester end examination.	
12	Internal Continuous Assessment: 40%	Semester End Examination: 60%

13	Continuous Evaluation through: Quizzes, Class Tests, presentations, projects, role play, creative writing, assignments etc. (at least 3) <table><tr><th>Sr. No</th><th>Particulars</th><th>Marks</th></tr><tr><td>1</td><td>A class test of 10 marks is to be conducted during each semester in an Offline mode.</td><td>10</td></tr><tr><td>2</td><td>Project on any one topic related to the syllabus or a quiz (offline/online) on one of the modules.</td><td>05</td></tr><tr><td>3</td><td>Seminar/ group presentation on any one topic related to the syllabus.</td><td>05</td></tr></table> Paper pattern of the Test (Offline Mode with One hour duration): Q1: Definitions/Fill in the blanks/ True or False with Justification. (04 Marks: 4 x 1). Q2: Attempt any 2 from 3 descriptive questions. (06 marks: 2 x 3)	Sr. No	Particulars	Marks	1	A class test of 10 marks is to be conducted during each semester in an Offline mode.	10	2	Project on any one topic related to the syllabus or a quiz (offline/online) on one of the modules.	05	3	Seminar/ group presentation on any one topic related to the syllabus.	05					
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Sign of the BOS

Chairman

Dr. Bhausaheb S Desale

**The Chairman, Board of
Studies in Mathematics**

Sign of the

Offg. Associate Dean

Dr. Madhav R. Rajwade

**Faculty of Science &
Technology**

Sign of the

Offg. Dean

Prof. Shivram S. Garje

**Faculty of Science &
Technology**

As Per NEP 2020

University of Mumbai



Syllabus for Basket of OE (Scheme I)	
Board of Studies in Mathematics	
UG First Year Programme	
Semester	II
Title of Paper	Credits
1. Logic and Data Interpretation – II	2
2.	2
3.	2
From the Academic Year	2024-25

Name of the Course: Logic and Data Interpretation – II (OE – II)

Sr. No.	Heading	Particulars
1	Description the course: Including but Not limited to:	This course deals with the Logical Thinking and Data Interpretation, that forms an essential component of Most of the Competitive and Entrance Examinations, such as Banking, Management Entrance, UPSC/MPSC, SET/NET, GMAT/GRE to quote a few. The nature of the problems and the difficulty level of the questions is quite high and a person appearing for such exams is expected to have a thorough understanding of the concepts, to have ability to think logically, and to be able to interpret the data, presented in different manner.
2	Vertical :	Open Elective
3	Type :	Theory
4	Credits :	2 credits (1 credit = 15 Hours for Theory or 30 Hours of Practical work in a semester)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives (CO): This course revises the basic mathematical concepts learned during school career. However, the problems asked in this course would be mostly advanced and indirect, and would demand broader and critical thinking. The course aims to enhance the reasoning power and logical thinking of the learners and nurture their intellect so as to make them competent across all competitive exams. CO1. To reinforce the basic math concepts and ideas within the learners CO2. To improve the cognitive power of the learners and make them think over and apply concepts/formulae to solve math problems of indirect nature, thereby developing their problem-solving capacity. CO3. To develop rational thinking of the learners CO4. To make learners competent across all competitive and entrance examinations	
8	Course Outcomes (OC): After completion of the course, the learners will be able to OC1: think logically about the problems related to clocks OC2: understand the nature of the calendars, find out the day related to any date in past/future OC3: develop logical thinking and realize the hidden pattern amongst the sequence of figures/diagrams	

	OC4: understand the representation of data in various forms OC5: understand the idea behind displaying data in a web-like diagram and comparing between two sets of data OC6: develop logical thinking to extract information from various graphs, charts, and tables representing data.
9	Modules:- Module 1: Logic and Data Interpretation 1. Clocks • The proportion of the speeds of different hands of a clock • The angles between the several positions of the hands • Coincidental and collinear but oppositely directed hour-hand and minute hand 2. Calendars • Review of the standard Gregorian calendar, with emphasis on Leap Year (1900 wasn't a leap year but 2000 was!) • Number of weeks in a year • Forward movement of the days with respect to dates (E.g. 1 Jan 2023 was Sunday, but 1 Jan 2024 is Monday) 3. Figures and Images • Sequence of diagrams, identifying the various patterns by which the figures/diagrams undergo changes and then predicting the next (or in between) figure/diagram. • Understanding images of various shapes/figures in mirror and water. Finding out the actual shape from its images in water/mirror. [The problems to be asked should be of varied levels of difficulty. A few ones based on directly applying a given formula may be asked at the beginning; however, the latter ones should demand critical analysis of the given information and a thoughtful selection of the method/formula to solve the same.] Module 2: Data Interpretation 1. Types of data: Qualitative and Quantitative 2. Tabulation: Reading and understanding data presented in a tabular form. 3. Interpreting data represented by Bar Graph, Pie Chart, Line graph, Scatter Diagram, Histogram etc. 4. Caselet Data Interpretation – Questions/Problems based on a long paragraph of information. 5. Web-based data interpretation – Display of data in a web-like diagram, Two sets of data and their comparison, Analysing the data 6. Missing Data Interpretation - Filling the missing values in the table from the additional information given or by applying logical thinking.
10	Text Books 1. Data Interpretation for CAT, Nishit k Sinha 2. Data Interpretation & Analysis, Aashish Arora

	3. Logical and Analytical Reasoning: Useful for All Competitive Exams, A. K. Gupta													
11	Reference Books 1. Arithmetic : Subjective And Objective For Competitive Examinations, R. S. Agarwal 2. A Complete Book on Data Interpretation & Analysis and A Complete Book for Seating Arrangement and Puzzles, Adda247 Publications 3. Reasoning for Competitive Examinations, Nishit K Sinha													
	<u>Scheme of the Examination</u>													
	The performance of the learners shall be evaluated into two parts. • Internal Continuous Assessment of 20 marks for each paper. • Semester End Examination of 30 marks for each paper. • Separate head of passing is required for internal and semester end examination.													
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	Justification. (04 Marks: 4 x 1). Q2: Attempt any 2 from 3 descriptive questions. (06 marks: 2 × 3)		
14	Format of Question Paper: The semester-end examination will be of 30 marks of one hour duration covering the entire syllabus of the semester.		
Note: Attempt any TWO questions out of THREE.			
Q.No.1	Module 1 and 2	Attempt any THREE out of FOUR . (Each question of 5 marks) (a) Question based on OC1/OC2 (b) Question based on OC3 (c) Question based on OC4 (d) Question based on OC5/OC6	15 Marks
Q.No.2	Module 1 and 2	Attempt any THREE out of FOUR . (Each question of 5 marks) (a) Question based on OC1/OC2 (b) Question based on OC3 (c) Question based on OC4 (d) Question based on OC5/OC6	15 Marks
Q.No.3	Module 1 and 2	Attempt any THREE out of FOUR . (Each question of 5 marks) (a) Question based on OC1/OC2 (b) Question based on OC3 (c) Question based on OC4 (d) Question based on OC5/OC6	15 Marks

Sign of the BOS
Chairman
Dr. Bhausaheb S Desale
The Chairman, Board of
Studies in Mathematics

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Technology

Sign of the
Offg. Dean
Prof. Shivram S. Garje
Faculty of Science &
Technology

As Per NEP 2020

University of Mumbai



Syllabus for Basket of AEC	
Board of Studies in HINDI	
UG First Year Programme	
Semester	II
Title of Paper	Credits
हिन्दी भाषा : कौशल के आधार	2
From the Academic Year	2024-25

Sr. No.	Heading	Particulars
1	Description the course : Including but Not limited to :	हिन्दी भाषा : कौशल के आधार हिंदी राजभाषा होने के साथ-साथ भारत में बोलीजाने वाली एक प्रमुख भाषा है। भारत के अधिकांश निवासी और यहां तक कि भारत के बाहर बसनेवाले भारतवंशी भी अपने दैनिक आपसी वार्तालाप, कार्य-व्यवहार में हिंदी भाषा का ही प्रयोग करते हैं। विश्व की प्रमुख पांच भाषाओं के अंतर्गत हिंदी का अस्तित्व है, इस दृष्टि से हिंदी को लेकर विभिन्न प्रकार के कौशल सीखे और सिखाए जा सकते हैं। विद्यार्थियों के लिए हिंदी एक सामान्य भाषा होने के साथ विशेष भाषा तब बन जाती है जब वह हिंदी के माध्यम से अपने कौशल में अभिवृद्धि करें, हिंदी के माध्यम से रोजगार के कई अवसरों को प्राप्त करें। इस दृष्टि से पाठ्यक्रम अत्यंत लाभवर्धक और उपयोगी सिद्ध होगा। हिंदी भाषा में कौशल विकास की असीम संभावनाएं हैं और कौशल के विभिन्न आयाम जुड़े हुए हैं जो अलग-अलग दिशाओं में देखे जा सकते हैं। पाठ्यक्रम विद्यार्थियों में लेखन, वाचन कौशल की अभिवृद्धि करने के साथ रोजगारपरक अवसर प्रदान करता है।
2	Vertical :	Open Elective
3	Type :	Theory
4	Credit:	2 credits (1 credit = 15 Hours for Theory in a semester)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives: (List some of the course objectives) 1. विद्यार्थियों को लेखन, वाचन कौशल का ज्ञान देना एवं रोजगार के अवसरों से जोड़ना। 2. विद्यार्थियों को लेखन, वाचन कौशल से परिचय करते हुए अभिव्यक्ति की शैलियों का विकास करना। 3. विद्यार्थियों को भाषण कला के विविध रूपों को समझाना, मौलिकता में अभिवृद्धि लाना एवं विशेषज्ञता दिलाना। 4. विद्यार्थियों को श्रवण कौशल की विशेषताओं से परिचय कराते हुए श्रवण कौशल के लाभों से अवगत कराना।	

8	Course Outcomes: (List some of the course outcomes) CO-1) विद्यार्थियों को लेखन, वाचन कौशल के ज्ञान प्राप्ति के साथ मौलिक अभिव्यक्ति में बदलाव आएगा। CO-2) विद्यार्थियों का लेखन, वाचन कौशल द्वारा मानसिक विकास होगा, पठन-शक्ति, शैली का विकास होगा। CO-3) विद्यार्थियों को लेखन, भाषण कौशल से भाषिक-शक्ति, शैलियों का संवर्धन होगा विशेषज्ञता आएगी। CO-4) विद्यार्थियों को लेखन, वाचन, श्रवण, भाषण कौशल की विशेषताओं और उपयोगिता का ज्ञान प्राप्त होगा।									
9	Modules:- <table><tr><th>इकाई</th><th>पाठ</th><th>व्याख्यान संख्या</th></tr><tr><td>इकाई -1</td><td>1. लेखन कौशल का अर्थ एवं स्वरूप 2. लेखन कौशल की उपयोगिता एवं महत्व 3. लेखन कौशल की विधियाँ 4. लेखन कौशल के भेद एवं विशेषताएँ 5. वाचन कौशल का अर्थ, स्वरूप एवं विशेषताएँ 6. वाचन कौशल की उपयोगिता 7. वाचन कौशल की विधियाँ एवं विशेषताएँ</td><td>व्याख्यान- 15 क्रेडिट- 01</td></tr><tr><td>इकाई -2</td><td>8. भाषण कौशल का अर्थ एवं स्वरूप 9. भाषण कौशल का महत्व एवं उपयोगिता 10. भाषण कौशल की विशेषताएँ 11. भाषण कौशल की विधियाँ 12. श्रवण कौशल का अर्थ एवं स्वरूप 13. श्रवण कौशल का महत्व एवं उपयोगिता 14. श्रवण कौशल की विशेषताएँ</td><td>व्याख्यान- 15 क्रेडिट- 01</td></tr></table>	इकाई	पाठ	व्याख्यान संख्या	इकाई -1	1. लेखन कौशल का अर्थ एवं स्वरूप 2. लेखन कौशल की उपयोगिता एवं महत्व 3. लेखन कौशल की विधियाँ 4. लेखन कौशल के भेद एवं विशेषताएँ 5. वाचन कौशल का अर्थ, स्वरूप एवं विशेषताएँ 6. वाचन कौशल की उपयोगिता 7. वाचन कौशल की विधियाँ एवं विशेषताएँ	व्याख्यान- 15 क्रेडिट- 01	इकाई -2	8. भाषण कौशल का अर्थ एवं स्वरूप 9. भाषण कौशल का महत्व एवं उपयोगिता 10. भाषण कौशल की विशेषताएँ 11. भाषण कौशल की विधियाँ 12. श्रवण कौशल का अर्थ एवं स्वरूप 13. श्रवण कौशल का महत्व एवं उपयोगिता 14. श्रवण कौशल की विशेषताएँ	व्याख्यान- 15 क्रेडिट- 01
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10	संदर्भ ग्रंथ सूची - - हिंदी भाषा शिक्षण के विविध आयाम - प्राध्यापक डॉ. राठौर, किनले एडिशन - अभिनव पत्र लेखन - डॉ अनिल सिंह - हिंदी के व्यावहारिक रूप - डॉ संतोष मोटवानी, परिदृश्य प्रकाशन, मुंबई - हिंदी भाषा लेखन कौशल - गुलीबाबा पब्लिकेशन प्राइवेट लिमिटेड									

11	Internal Continuous Assessment: 40%	External, Semester End Examination 60% Individual Passing in Internal and External Examination
12	Continuous Evaluation through: <u>मूल्यांकन प्रारूप</u> आंतरिक मूल्यांकन- 20- अंक रचनात्मक कार्य, प्रकल्प इत्यादि- 10 अंक, कक्ष शिक्षण के दौरान सहभागिता इत्यादि - 05 अंक अकादमिक, व्यावसायिक एवं कौशल संवर्धन गतिविधियाँ- 05 अंक कुलयोग -20 अंक	
13	Format of Question Paper: <u>बाह्य मूल्यांकन- लिखित परीक्षा- 30- अंक</u> <u>परीक्षा अवधि- 01 घंटा</u> <u>निम्नलिखित तीन में से किन्हीं दो प्रश्नों के उत्तर लिखिए</u> <u>30 अंक</u> कुलयोग- 30 अंक	



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As Per NEP 2020

University of Mumbai



Syllabus for Basket of AEC	
Board of Studies in Marathi	
UG First Year Programme	
Semester	II
Title of Paper	Credits
भाषिक कौशल्यांचे उपयोजन – १ (भाषण व निवेदन कौशल्ये)	2
From the Academic Year	2024-25

Sr. No.	Heading	Particulars
1	Description the course : Including but Not limited to :	भाषिक कौशल्यांचे उपयोजन – १ (भाषण व निवेदन कौशल्ये) राष्ट्रीय शैक्षणिक धोरण- २०२० नुसार पदवीच्या प्रथम वर्षातील एका सत्रात क्षमता विकसन अभ्यासक्रम (Ability Enhancement Course) या शीर्षकांतर्गत आधुनिक भारतीय भाषेचे अध्ययन अनिवार्य करण्यात आले आहे. आधुनिक भारतीय भाषेचा प्रस्तुत अभ्यासक्रम व अध्ययन प्रामुख्याने भाषा क्षमता विकसन केंद्री असावे, असेही या धोरणात नमूद करण्यात आले आहे. त्यामुळे या अभ्यासपत्रिकेच्या अध्ययनातून विद्यार्थ्यांना भाषिक कौशल्यांचा तपशीलवार परिचय करून देणे तसेच ती कौशल्ये आत्मसात करण्याची संधी उपलब्ध करून देणे अभिप्रेत आहे. या पार्श्वभूमीवर भाषण व निवेदन कौशल्ये या दोन भाषिक कौशल्यांचा परिचय करून देणारी ही अभ्यासपत्रिका आहे. या अभ्यासपत्रिकेच्या अध्ययनातून भाषण व निवेदनाचे स्वरूप, विविध कार्यक्रम व घटना-प्रसंगीची भाषणे व निवेदन, विविध स्वरूपांच्या भाषण व निवेदनाची पूर्वतयारी, त्यासाठी आवश्यक क्षमता व तंत्रांचा व भाषिक-आंगिक-वाचिक कौशल्यांचा परिचय व्हावा, असे अपेक्षित आहे. या अभ्यासपत्रिकेचे अध्ययन करणाऱ्या विद्यार्थ्यांमध्ये भाषण व निवेदनाची जाण व क्षमता विकसित होईल, हे लक्षात घेऊन प्रस्तुत अभ्यासपत्रिकेची आखणी करण्यात आली आहे.
2	Vertical :	Ability Enhancement Course
3	Type :	Theory + Practical
4	Credit:	02 (1 credit = 15 Hours for Theory in a Semester)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives : १. विविध कार्यक्रम व घटना-प्रसंगीच्या भाषणाचे स्वरूप समजावून सांगणे. २. विविध घटना प्रसंगीच्या निवेदनाचे स्वरूप समजावून सांगणे. ३. प्रभावी भाषण करण्यासाठी आवश्यक असणाऱ्या क्षमता आणि तंत्रांचा परिचय करून देणे. ४. प्रभावी निवेदन करण्यासाठी आवश्यक असणाऱ्या क्षमता आणि तंत्रांचा परिचय करून देणे. ५. प्रत्यक्ष भाषण आणि निवेदन करण्याची संधी उपलब्ध करून देणे.	
8	Course Outcomes : १. विद्यार्थ्यांना विविध कार्यक्रम व घटना-प्रसंगी करावयाच्या भाषणाचे स्वरूप कळेल. २. विद्यार्थ्यांना विविध कार्यक्रम व घटना-प्रसंगी करावयाच्या निवेदनाचे स्वरूप कळेल. ३. विविध कार्यक्रम व घटना-प्रसंगी करावयाच्या भाषणासाठी आवश्यक असणाऱ्या क्षमता आणि तंत्रांचा विद्यार्थ्यांना परिचय होईल. ४. विविध कार्यक्रम व घटना-प्रसंगी करावयाच्या निवेदनासाठी आवश्यक असणाऱ्या क्षमता आणि तंत्रांचा विद्यार्थ्यांना परिचय होईल. ५. विद्यार्थ्यांना प्रत्यक्ष भाषण आणि निवेदन करण्याची संधी उपलब्ध होईल व त्यांच्या क्षमता विकसित होतील.	

9	Modules (अभ्यास घटक) :	
	Module 1 (घटक- ०१) : भाषण कौशल्य	
	१. भाषण : संकल्पना, भाषण : स्वरूप वैविध्य, भाषण प्रकार. २. भाषण कौशल्याचे उपयोजन : भाषणाची पूर्वतयारी, भाषण संहिता (लिखित व मौखिक), भाषिक-आंगिक-वाचिक कौशल्ये (६० मिनिटांच्या १५ तासिका, श्रेयांकन - १)	
	Module 2 (घटक- ०२) : निवेदन कौशल्य	
	१. निवेदन : संकल्पना, निवेदनाचे स्वरूप वैविध्य, निवेदनाचे प्रकार. २. निवेदन कौशल्याचे उपयोजन : निवेदनाची पूर्वतयारी, निवेदन संहिता (लिखित व मौखिक), काल-परिस्थिती भान, भाषिक-वाचिक कौशल्ये. (६० मिनिटांच्या १५ तासिका, श्रेयांकन - १)	
10	Text Books : N.A.	
11	Reference Books: १. केळकर अशोक, वैखरी : भाषा आणि भाषाव्यवहार, स्नेहवर्धन प्रकाशन, पुणे, २०००. २. तौर पृथ्वीराज (संपा०), मराठी भाषिक कौशल्य विकास, अथर्व पब्लिकेशन्स, धुळे, २०१८. ३. नसिराबादकर ल० रा० व्यावहारिक मराठी, भाषा संशोधन केंद्र, कोल्हापूर, २०२३. ४. केळकर अशोक, मध्यमा : भाषा आणि भाषाव्यवहार, मराठी भाषा आणि वाचिक अभिनय, मेहता पब्लिशिंग हाऊस, पुणे, १९९६. ५. भाषिक सर्जन आणि उपयोजन, राजन गवस, अरूण शिंदे, गोमटेश्वर पाटील, दर्या प्रकाशन, पुणे, २०१२	
12	Internal Continuous Assessment: 40%	External, Semester End Examination 60% Individual Passing in Internal and External Examination
13	Continuous Evaluation through: अंतर्गत मूल्यमापन : २० गुण चाचणी परीक्षा / मौखिक परीक्षा / प्रकल्पलेखन, नियत कार्य (Assignment) / सादरीकरण/ प्रश्नमंजूषा उपरोक्त कोणत्याही पद्धतीचा अवलंब करून अंतर्गत मूल्यमापन करता येईल. (प्रत्यक्ष उपस्थिती किंवा ऑनलाईन पद्धती)	
14	Format of Question Paper: (बहिर्गत परीक्षेच्या प्रश्नपत्रिकेचे स्वरूप) बहिर्गत परीक्षा ३० गुण (वेळ एक तास) - एकूण तीन प्रश्न विचारावेत. - प्रत्येक घटकावर अंतर्गत पर्याय असलेले प्रत्येकी १० गुणांचे दोन प्रश्न विचारावेत. - तिसरा प्रश्न हा घटक १ आणि २ वर आधारित दहा गुणांचा वस्तुनिष्ठ स्वरूपाचा असावा.	

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As Per NEP 2020

University of Mumbai



Syllabus for Basket of VES	
Board of Studies in Value Education	
UG First Year Programme	
Semester	II
Title of Paper	Credits 2
I) Environmental Management & Sustainable Development -II	
From the Academic Year	2024-25

**Name of the Course: Environmental Management
& Sustainable Development -II**

Sr. No.	Heading	Particulars
1	Description the course : Including but Not limited to :	This introductory course explores the interconnectedness of our environment and the challenges it faces. Designed for students from all faculties, it equips you with a foundational understanding of: - Ecosystems and biodiversity: Explore the intricate web of life on Earth and the importance of species diversity. - Human impact: Analyse how human activities affect natural resources, climate, and pollution. - Sustainability: Discover principles for living in harmony with the environment and meeting our needs without compromising future generations. Regardless of major, environmental awareness is crucial. This course empowers learner to: - Become an informed citizen: Make responsible choices and advocate for environmental protection. - Understand complex environmental issues: Gain a holistic view of challenges like climate change and pollution. Explore solutions and career paths: Discover potential careers in environmental management, conservation, or sustainable development.
2	Vertical :	Open Elective
3	Type :	Theory / Practical
4	Credit:	2 credits / (1 credit = 15 Hours for Theory or 30 Hours of Practical work in a semester)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives: 1. To create and disseminate knowledge to the students about environmental problems at local, regional and global scale. 2. To introduce about ecosystems, biodiversity and to make aware for the need of	

	conservation. 3. To sensitize students towards environmental concerns, issues, and impacts of human population. 4. To prepare students for successful career in environmental departments, research institutes, industries, consultancy, and NGOs, etc.
8	Course Outcomes: 1. Use principles of Environmental Science for explaining sustainable development and its related ethical concerns 2. Display scientific perspective for issues confronting our present day environment. 3. Analyze the national and global environmental issues relating air, water, soil, and land use, biodiversity, and pollution. 4. Explain the Role of an individual in relation to human population and environmental pollution. 5. Recognize the importance of collective efforts for environmental sustainability as reflected in various treaties, conventions and laws
9	Modules:- Unit I: Environmental Pollution and Health (8 lectures) Understanding pollution: Production processes and generation of wastes; Assimilative capacity of the environment; Definition of pollution; Point sources and non-point sources of pollution. Air pollution: Sources of air pollution; Primary and secondary pollutants; Criteria pollutants- carbon monoxide, lead, nitrogen oxides, ground-level ozone, particulate matter and Sulphur dioxide; Other important air pollutants- Volatile Organic compounds (VOCs), Peroxyacetyl Nitrate (PAN), Polycyclic aromatic hydrocarbons (PAHs) and Persistent organic pollutants (POPs); Indoor air pollution; Adverse health impacts of air pollutants; National Ambient Air Quality Standards. Water pollution: Sources of water pollution; River, lake and marine pollution, groundwater pollution; water quality parameters and standards; adverse health impacts of water pollution on human and aquatic life. Soil pollution and solid waste: Soil pollutants and their sources; Solid and hazardous waste; Impact on human health. Noise pollution: Definition of noise; Unit of measurement of noise pollution; Sources of noise pollution; Noise standards; adverse impacts of noise on human health. Thermal and Radioactive pollution: Sources and impact on human health and ecosystems. Unit II: Environmental Management (7 lectures) Introduction to environmental laws and regulation: Constitutional provisions- Article 48A, Article 51A (g) and other derived environmental rights; Introduction to environmental legislations on the forest, wildlife and pollution control. Environmental management system: ISO 14001 Life cycle analysis; Cost-benefit analysis Pollution control and management; Waste Management- Concept of 3R (Reduce, Recycle and Reuse) and sustainability; Ecolabeling /Ecomark scheme. Introduction to Millennium Development Goals, Sustainable Development Goals, & Mission Life.

	Unit III: Environmental Treaties and Conventions (8 lectures)
	1) Major International Environmental Agreements: Stockholm Conference on Human Environment, 1972, Ramsar Convention on Wetlands, 1971, Montreal Protocol, 1987, Basel Convention (1989), Earth Summit at Rio de Janeiro, 1992, Kyoto Protocol, 1997, Earth Summit at Johannesburg, 2002. 2) Major Indian Environmental Legislations: The Wild Life (Protection) Act, 1972; The Water (Prevention and Control of Pollution) Act, 1974; The Forest (Conservation) Act, 1980; The Air (Prevention and Control of Pollution) Act, 1981; The Environment (Protection) Act, 1986; The Biological Diversity Act, 2002
	Unit IV: Case Studies and Field Survey (7 lectures)
	The students are expected to be engaged in some of the following or similar identified activities: • Discussion on one national and one international case study related to the environment and sustainable development. • Field visits to identify local/regional environmental issues, make observations including data collection and prepare a brief report. • One student one tree initiative. • Documentation of campus biodiversity. • Campus environmental management activities such as solid waste disposal, water management, and sewage treatment.
10	Text Books 1. Ahluwalia, V. K. (2015). Environmental Pollution, and Health. The Energy and Resources Institute (TERI). 2. Central Pollution Control Board Web page for various pollution standards. https://cpcb.nic.in/standards/ 3. Masters, G. M., & Ela, W. P. (2008). Introduction to environmental engineering and science (No. 60457). Englewood Cliffs, NJ: Prentice Hall. 4. Jørgensen, Sven Marques, Erik João Carlos and Nielsen, Søren Nors (2016) Integrated Environmental Management, A transdisciplinary Approach. CRC Press. 5. Barrow, C. J. (1999). Environmental management: Principles and practice. Routledge. 6. Theodore, M. K. and Theodore, Louis (2021) Introduction to Environmental Management, 2nd Edition. CRC Press. 7. Richard A. Marcantonio, Marc Lane (2022). Environmental Management: Concepts and Practical Skills. Cambridge University Press. 8. UNEP (2007) Multilateral Environmental Agreement Negotiator's Handbook, University of Joensuu, ISBN 978-952-458-992-5 9. Ministry of Environment, Forest and Climate Change (2019) A Handbook on International Environment Conventions & Programmes. https://moef.gov.in/wp-content/uploads/2020/02/convention-V-16-CURVE-web.pdf 10. Ministry of Environment, Forest and Climate Change (2019) A Handbook on International Environment Conventions & Programmes. https://moef.gov.in/wp-content/uploads/2020/02/convention-V-16-CURVE-web.pdf 11. India Code – Digital repository of all Central and State Acts: https://www.indiacode.nic.in/ 12. University Grants Commission, D.O.No.F. 14-5/2015(CPP-II) dated 2nd August 2019.

12	Internal Continuous Assessment: 40%	Semester End Examination : 60%
13	Continuous Evaluation through: Quizzes, Class Tests, presentation, project, role play, creative writing, Field Visits, Case Studies, assignments, One Student one tree initiative etc. (at least 4)	
14	Format of Question Paper: for the final examination For OE: External - 30 Marks (2 Credits) Internal - 20 Marks Question Paper Format for 30 Marks Format of Question Paper: 30 Marks per paper Semester End Theory Examination: 1. Duration - These examinations shall be of one hour and 30 minutes duration. 2. Theory question paper pattern: There shall be 04 questions each of 10 marks out of which students will attempt ANY THREE	

Signature:
Prof. Kavita Laghate
Chairman of Board of Studies in Value Education



Re- accredited with A ++ Grade (CGPA 3.65) by NAAC
Category- I University Status awarded by UGC

No. AAMS_UGS/ICC/2024-25/234

Date: 14th February, 2025

CIRCULAR:-

Attention of all the Principals of the Affiliated Colleges, Directors of the Recognized Institutions and the Head University Departments is invited to this office Circular No. AAMS_UGS/ICC/2024-25/04 dated 11th June, 2023 relating to the NEP UG & PG Syllabus.

They are hereby informed that the recommendations made by the Ad-hoc Board of Studies in N.C.C./N.S.S./Sports Co-Curricular at its meeting held on 06th February, 2025 has been accepted by the Hon'ble Vice Chancellor as per the powers confirmed upon him under Section 12 (7) of the Maharashtra Public Universities Act, 2016 and that in accordance therewith syllabus of **Co-Curricular Course Introduction to Sports, Physical Literacy, Health and Fitness & Yog Sem II** as per appendix (NEP 2020) with effect from the academic year 2024-25.

(The said circular is available on the University's website www.mu.ac.in).

MUMBAI – 400 032
14th February, 2025


(Dr. Prasad Karande)
REGISTRAR

To,

The Principals of the Affiliated Colleges, Directors of the Recognized Institutions and the Head, University Departments.

BOS/06/02/2025

Copy forwarded with Compliments for information to:-

- 1) The Chairman, Board of Deans,
- 2) The Dean, Faculty of Interdisciplinary,
- 3) The Chairman, Ad-hoc Board of Studies in N.C.C./N.S.S./Sports Co-Curricular,
- 4) The Director, Board of Examinations and Evaluation,
- 5) The Director, Department of Students Development,
- 6) The Director, Department of Information & Communication Technology,
- 7) The Director, Centre for Distance and Online Education (CDOE), Vidyanaagari,
- 8) The Deputy Registrar, Admissions, Enrolment, Eligibility & Migration Department (AEM).

Copy forwarded for information and necessary action to :-	
1	The Deputy Registrar, (Admissions, Enrolment, Eligibility and Migration Dept)(AEM), dr@eligi.mu.ac.in
2	The Deputy Registrar, Result unit, Vidyanagari drresults@exam.mu.ac.in
3	The Deputy Registrar, Marks and Certificate Unit,. Vidyanagari dr.verification@mu.ac.in
4	The Deputy Registrar, Appointment Unit, Vidyanagari dr.appointment@exam.mu.ac.in
5	The Deputy Registrar, CAP Unit, Vidyanagari cap.exam@mu.ac.in
6	The Deputy Registrar, College Affiliations & Development Department (CAD), deputyregistrar.uni@gmail.com
7	The Deputy Registrar, PRO, Fort, (Publication Section), Pro@mu.ac.in
8	The Deputy Registrar, Executive Authorities Section (EA) eau120@fort.mu.ac.in He is requested to treat this as action taken report on the concerned resolution adopted by the Academic Council referred to the above circular.
9	The Deputy Registrar, Research Administration & Promotion Cell (RAPC), rapc@mu.ac.in
10	The Deputy Registrar, Academic Appointments & Quality Assurance (AAQA) dy.registrar.tau.fort.mu.ac.in ar.tau@fort.mu.ac.in
11	The Deputy Registrar, College Teachers Approval Unit (CTA), concolsection@gmail.com
12	The Deputy Registrars, Finance & Accounts Section, fort draccounts@fort.mu.ac.in
13	The Deputy Registrar, Election Section, Fort drelection@election.mu.ac.in
14	The Assistant Registrar, Administrative Sub-Campus Thane, thanesubcampus@mu.ac.in
15	The Assistant Registrar, School of Engg. & Applied Sciences, Kalyan, ar.seask@mu.ac.in
16	The Assistant Registrar, Ratnagiri Sub-centre, Ratnagiri, ratnagirisubcentre@gmail.com
17	The Director, Centre for Distance and Online Education (CDOE), Vidyanagari, director@idol.mu.ac.in
18	Director, Innovation, Incubation and Linkages, Dr. Sachin Laddha pinkumanno@gmail.com
19	Director, Department of Lifelong Learning and Extension (DLLE), Dlleuniversityofmumbai@gmail.com

Copy for information :-

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3	P.A to Registrar, registrar@fort.mu.ac.in
4	P.A to all Deans of all Faculties
5	P.A to Finance & Account Officers, (F & A.O), camu@accounts.mu.ac.in

To,

1	The Chairman, Board of Deans pvc@fort.mu.ac.in
2	Faculty of Humanities, Dean 1. Prof.Anil Singh Dranilsingh129@gmail.com Associate Dean 2. Dr.Suchitra Naik Naiksuchitra27@gmail.com 3.Prof.Manisha Karne mkarne@economics.mu.ac.in
	Faculty of Commerce & Management, Dean 1. Dr.Kavita Laghate kavitalaghate@jbims.mu.ac.in Associate Dean 2. Dr.Ravikant Balkrishna Sangurde Ravikant.s.@somaiya.edu 3. Prin.Kishori Bhagat kishoribhagat@rediffmail.com

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	Faculty of Inter-Disciplinary Studies, Dean 1. Dr. Anil K. Singh aksingh@trcl.org.in Associate Dean 2. Prin. Chadrashekhkar Ashok Chakradeo cachakradeo@gmail.com
3	Chairman, Board of Studies,
4	The Director, Board of Examinations and Evaluation, dboee@exam.mu.ac.in
5	The Director, Board of Students Development, dsd@mu.ac.in@gmail.com DSW directr@dsw.mu.ac.in
6	The Director, Department of Information & Communication Technology, director.dict@mu.ac.in

As Per NEP 2020

University of Mumbai



Syllabus for Sports Co-Curricular Vertical - 6	
Board of Studies in NCC/NSS/Sports Co-Curricular	
UG First Year Programme	
Semester	II
Title of Paper	Credits
I) Sports, Physical Literacy, Health and Fitness & Yog	2
From the Academic Year	2024-25

Semester II

1.1 Preamble:

India is growing rapidly as a global super-power. To face the challenges of the century and to keep up with the pace of the world, maintaining health is of prime importance. Giving thrust to healthy society, Physical Education, Sports, Health & fitness and Yoga are of great significance in today's world. The Government of India insists on Physical Fitness, Mental Health and Overall Development of Personality for every citizen. In these lines, the Government has launched Fit India Movement, Khelo India, TOPS and National Sports Day, International Day of Yoga etc. These initiatives have given impetus and awareness among general public, professional and academicians. However, creating efficient and skilled human resource in the field of Physical Education, Sports and Yoga is identified as the need of the hour. Thus, the Governments of India and Government of Maharashtra have included Physical Education, Sports and Yoga as a key area under the NEP 2020.

1.2 Objectives of the Course:

1. To understand the importance of Physical Education, Sports, & Physical Activity
2. To increase participation of students in various games and sports and fitness activities
3. To develop the physical as well as mental health through physical activity
4. To create interest regarding sports , physical fitness to inculcate healthy habits for lifelong

1.3 Program outcomes:

By the end of the program the students will be able to:

1. The student will participate in various games, sports and physical activities and they will also learn the technical and tactical experience of it.
2. Students will understand the importance and benefits of participation in any fitness activity or sports.
3. Own choice based activities will be the stress buster for the students and this will inculcate healthy habits in the students
4. Students will able to organize, plan activities and will develop administrative qualities through these events
5. Students acquire the knowledge of Physical Education, Sports and Yoga and understand the purpose and its development.
6. The student learns to plan, organize and execute sports events.
7. Student will learn theoretical and practical aspects of game of his choice to apply at various levels for teaching, learning and coaching purposes efficiently.
8. Student acquires the knowledge of opted games, sports and yoga and also learns the technical and tactical experience of it.
9. Student will learn to apply knowledge of Physical fitness and exercise management to lead better quality life.
10. Students will understand and learn different dimension of active life style.

1.4 Programme Duration: The structure of the Credit Course in Sports has two semesters in total covering a period of two years i.e. 2 credits in each semester till the fourth semester as per the guidelines of NEP 2020.

1.5 Modes of Internal & External Evaluation: Students will submit a hard copy of the report of total 60 hours spent for semester II in any physical activities/ training sessions/ Sports events/ yoga/ adventure activities/ any sports/ gym or pilates / to the teacher. Students will be evaluated on the basis of activities participated for the semester II.

1.6 Modules at Glance – Semester II

Module No.	Unit	Content	No. of Practical Hours
1	I	Importance of Physical Education and Sports	15
	II	Participation in any physical activities	15
2	III	Volunteering in any sports events or fitness events	15
	IV	Participation in University or any other Sports competitions	15
Total No. of Hours			60

Module No.	Unit	Content
1	I	1.1 Importance of Physical Education and Sports & Yoga - Development of physical health as well as mental health through Physical Activities. - Group Sports & Fitness Activities - Fitness activities conducted by any sports/fitness instructor such as Yoga, Zumba, Aerobics etc.
	II	1.2 Participation in any Physical activities - Participation in any sports practice sessions conducted by our college/ any club / any institution - Completion of any Yoga/ Pilates/ Gym course/ any fitness related course - Participation in any other physical activities of the interest of student
2	III	2.1 Volunteering in any sports events or fitness events - Volunteering done in sports or fitness events organized by the college - Volunteering in any other fitness or sports activities organized by NGO or local clubs
	IV	2.2 Participation in University or any other Sports competitions - Participation in University Intercollegiate/ Inter Zonal / West Zone/ All India / National / State tournaments organized by University of Mumbai or State or District Sports Federation - Participation in any other intra college competition organized by college - Participation in any recognized Sports or Fitness competitions

Scheme of Evaluation

The Scheme of Examination shall be of 50 marks. It will be divided into Internal Evaluation (20 marks) and Semester End Examination (30 Marks).

Students will submit a brief report of 60 hours spent for Semester II in any of the physical activities along with geo tagged photo, receipt, sports training session's attendance, course certificates, etc. Report should include the explanation of the following questions. A report can have multiple physical activities done for the completion of 60 hours per semester. For eg. A student can enroll himself/ herself in Yoga/ Gym and any sport simultaneously and can give proof of the attendance for the same in the report. A student must complete 60 hours in any physical activity. Students should also enroll themselves as volunteers for any sports and fitness events held in the college.

1. Why did the student select a physical activity mentioned in the report?
2. What were the benefits and experience after the completion of the 60 hours of physical activity?
3. What were the challenges faced by the student during the activity?
4. Geotagged photos of the activity clicked in the beginning, during and on the last day of the activity.
5. Enrollment receipts, ID card, certificate of the activity.
6. Conclusion remark by the student.

Semester II (50 Marks - 2 Credits)

Internal Evaluation (20 Marks)

Sr. No.	Particulars	Marks
1	Presentation OR Project OR Assignment (Students must include the Geo Tagged photos, Enrolment receipt, Certificate etc. in the report)	10
2	Volunteering in any Sports / Fitness activities conducted by college or local clubs or NGO	10

Semester End Examination (30 Marks)

Question No.	Particulars	Marks
1	VIVA Conducted by teacher/ Sports In charge/ Sports Director regarding participation in Physical / Sports / Fitness activities / Fitness or Yoga Course completed by students OR Participation in Sports Competitions Conducted by University at State or National Level (Students who have represented Mumbai University or College at Intercollegiate / Inter Zonal / West Zone Inter University / All Indi Inter University/ International tournament) Students who have represented in the above mentioned competitions should be exempted from VIVA and should be evaluated on the basis of his/ her performance in the above mentioned competitions.	30
Total		30

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1. Bucher, C. A. (n.d.) Foundation of physical education. St. Louis: The C.V. Mosby Co. Deshpande, S.H. (2014). Physical Education in Ancient India. Amravati: Degree college of Physical education.
2. Mohan, V. M. (1969). Principles of physical education. Delhi: Metropolitan Book Dep. Nixon, E. E. & Cozen, F.W. (1969). An introduction to physical education. Philadelphia: W.B. Saunders Co.
3. William, J. F. (1964). The principles of physical education. Philadelphia: W.B. Saunders Co.
4. Coalter, F. (2013) Sport for Development: What game are we playing? .Routledge.
5. Singh Hardayal (1991), Science of Sports Training, DVS Publication, New Delhi
6. Muller, J. P.(2000). Health, Exercise and Fitness. Delhi : Sports.
7. Russell, R.P.(1994). Health and Fitness Through Physical Education. USA : Human Kinetics.
8. Uppal, A.K. (1992). Physical Fitness. New Delhi : Friends Publication.
9. Nagendra, H. R. & Nagarathna, R. (2002). Samagra Yoga Chikitse. Bengaluru: Swami Vivekananda Yoga Prakasana.
10. Uppal, A.K.(1992) Physical Fitness. New Delhi: Friend Publication
11. D.M Jyoti, Yoga and Physical Activities (2015) lulu.com3101, Hills borough, NC27609, United States
12. D.M Jyoti, Athletics (2015) lulu.com3101, Hills borough, NC27609, United States

As Per NEP 2020

University of Mumbai



Title of the Program

**Co-Curricular Course
NATIONAL SERVICE SCHEME**

SEM I & SEM II

Syllabus for Two Credit

(With effect from the academic year 2024-25)

UNIVERSITY OF MUMBAI
National Service Scheme

1.1 Preamble:

Students in the National Service Scheme are better able to comprehend all the most recent ideas. These courses include an Introduction to National Service Scheme that covers the concept of social services, which are a variety of public services meant to offer support and help to targeted specific groups, most often the underprivileged. They could be offered by individuals, autonomous, private entities, or under the management of a government body.

1.2 Objectives of the Course:

1. To Introduce National Service Scheme to learners and explain how it is used in current social studies.
2. To make the students aware of the need of having a foundation in social science and NSS.
3. To introduce students to social concepts and issues in society, as well as to get involved in resolving social issues.

1.3 Learning Outcomes of the Course: The students will be able to

1. The course will help students comprehend the foundations of the National Service Program.
2. To understand the unique camping program.
3. Students will learn about the regular activities of NSS.

1.4. Programme Specific Outcomes:

1. Students will be familiar with NSS fundamentals and history, particularly as they pertain to social work.
2. Students will recognize NSS and its ongoing operations.

1.5 Programme Outcomes:

1. Students will comprehend fundamental ideas and facts about the National Service Program.
2. Students will learn the essentials of NSS-related procedures.
3. Students will learn social work skills (such as Voter Awareness, Campus Cleanup, Tree Plantation, and Rallies).

1.6 Modes of Internal Evaluation: Assignment, Tutorial, Presentation, MCQs via Google, Field Visits, any other suitable mode along with marks for Attendance of the students.

UNIVERSITY OF MUMBAI**Semester I****NSS CC****Sub: - Introduction to National Service Scheme****Credits: 02****Marks:50**

Unit Number	SEMESTER 1 Title of the Unit	No. of Lecture
1	Introduction to National Services Scheme NSS- History,Philosophy & Need of Emergence Aims, Objectives, Motto and Emblem of NSS, NSS Theme Song Organizational Structure of NSS-Hierarchy at different levels (National,State,University,College) Roles and Responsibilities of Program Officer Financial Provisions -Grant in Aid for NSS Advisory committees & their functions	15
2	NSS Programmes and Activities (Regular activities) NSS Programmes and Activities (Special Camp activities) Yearly Action Plan of NSS Unit Volunteerism– Meaning, definition, basic qualities of volunteers, need of volunteerism for National development. Opportunities in NSS for Volunteers (Various Camps) Report Writing	15

UNIVERSITY OF MUMBAI

Semester II

NSS CC

Sub: - Leadership and Community Engagement

Credits: 02

Marks: 50

Unit Number	SEMESTER 2 Title of the Unit	No. of Lecture	No. of Credits
1	Leadership & Personality development: Meaning, definition, qualities, and characteristics of a Leader. Meaning of personality, Dimensions of personality. Personality and Leadership nexus.	15	
	Universal Human Values and Ethics for youths Sustainable Development Goals		
2	Activity Based Programmes (Suggestive list given below. Colleges can plan various social activities for learners and make a detailed report) Activities can be conducted throughout the academic year .Evaluation will be based on record keeping of the attendance of the learner.	30	
	Shramadhan – Plantation, Cleaning, Watering, Weeding, Any other activities.		
	Awareness Programmes – Seminar, Workshops, Celebration of National and International days, Personality Development Programmes, Group Activities, etc.,		
	Rally, Visit to Adopted villages, Swatchatha Programme, Visit and Conserving Ancient monuments and heritage site, Socio Economic Survey of village/slum, Nature Camp, Environmental Education, Women Empowerment Programme, Health Camps, Blood grouping awareness and Blood donation, Legal awareness Programme, Literacy Programme, Water Conservation Programme, One Day Special Camp in a village (preferably in adopted village/Adopted areas/Slums/MR Schools etc).		
Note: 1. Above Paper will be exempted if the learner is involved in NSS as Volunteer and Successfully completes 60 hours in each Semester. 2. If learner as a NSS Volunteer attends any Camps at National/State/University/District/ College Special Camp will be exempted from either Sem II OR Sem IV Paper provided they produce Certificate of Participation or Attendance in Camp certified by the Programme Officer.			

Evaluation Pattern

Internal Assessment

Assessment Criteria	Marks
Assignment / Project / Quiz/Presentations	10
Attendance, Class and Activity Participation	10
Total	20

External Assessment Question Paper Pattern

Time: 1:00 Hours

Total Marks: 30

Introduction:- 1. All questions are compulsory.
2. Figure to the Right indicates full marks.
3. Draw neat labeled drawings wherever necessary.

Q.1) Rewrite the following by choosing the correct options given below
(with four alternatives) 6 Objectives question of 1 mark each **06 marks.**

- | | | | |
|-------|----|----|----|
| 1. a) | b) | c) | d) |
| 2. a) | b) | c) | d) |

Q.2) Short Notes . (Any Two out of Four) **06marks**

- 1.
- 2.
- 3.
- 4.

Q.3) Answer the following questions (Any Three out of Five) **18 marks**

- 1.
 - 2.
 - 3.
 - 4.
 - 5.
-

References:

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3. National Service Scheme Manual, Govt. of India
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University of Mumbai

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Email id - dr.aams@fort.mu.ac.in
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Academic Authorities,
Meetings & Services (AAMS)
Room No. 128, M. G. Road, Fort,
Mumbai – 400 032.
Tel. 022-68320033

Re- accredited with A ++ Grade (CGPA 3.65) by NAAC
Category- I University Status awarded by UGC

No. AAMS_UGS/ICC/2024-25/ 2\9

Date: 31st January, 2025

CIRCULAR:-

Attention of all the Principals of the Affiliated Colleges, Directors of the Recognized Institutions and the Head University Departments is invited to this office Circular No. AAMS_UGS/ICC/2024-25/04 dated 11th June, 2023 relating to the NEP UG & PG Syllabus.

They are hereby informed that the recommendations made by the Ad-hoc Board of Studies in N.C.C./N.S.S./Sports Co-Curricular at its meeting held on 23rd November, 2024 and subsequently passed by the Board of Deans at its meeting held on 30th December, 2024 vide item No. 8.1 (N) have been accepted by the Academic Council at its meeting held on 27th January, 2025 vide item No. 8.1 (N) and that in accordance therewith to introduce 2 Credit Programme Co-Curricular Course Foundation and Exploration of Performing Fine Arts Sem II as per appendix (NEP 2020) with effect from the academic year 2024-25.

(The said circular is available on the University's website www.mu.ac.in).

MUMBAI – 400 032
31st January, 2025

(Dr. Prasad Karande)
REGISTRAR

To,

The Principals of the Affiliated Colleges, Directors of the Recognized Institutions and the Head, University Departments.

AC 8.1 (N) /27/01/2025

Copy forwarded with Compliments for information to:-

- 1) The Chairman, Board of Deans,
- 2) The Dean, Faculty of Interdisciplinary,
- 3) The Chairman, Ad-hoc Board of Studies in N.C.C./N.S.S./Sports Co-Curricular,
- 4) The Director, Board of Examinations and Evaluation,
- 5) The Director, Department of Students Development,
- 6) The Director, Department of Information & Communication Technology,
- 7) The Director, Centre for Distance and Online Education (CDOE), Vidyanagari,
- 8) The Deputy Registrar, Admissions, Enrolment, Eligibility & Migration Department (AEM).



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3	The Deputy Registrar, Marks and Certificate Unit,. Vidyanagari dr.verification@mu.ac.in
4	The Deputy Registrar, Appointment Unit, Vidyanagari dr.appointment@exam.mu.ac.in
5	The Deputy Registrar, CAP Unit, Vidyanagari cap.exam@mu.ac.in
6	The Deputy Registrar, College Affiliations & Development Department (CAD), deputyregistrar.uni@gmail.com
7	The Deputy Registrar, PRO, Fort, (Publication Section), Pro@mu.ac.in
8	The Deputy Registrar, Executive Authorities Section (EA) eau120@fort.mu.ac.in He is requested to treat this as action taken report on the concerned resolution adopted by the Academic Council referred to the above circular.
9	The Deputy Registrar, Research Administration & Promotion Cell (RAPC), rapc@mu.ac.in
10	The Deputy Registrar, Academic Appointments & Quality Assurance (AAQA) dy.registrar.tau.fort.mu.ac.in ar.tau@fort.mu.ac.in
11	The Deputy Registrar, College Teachers Approval Unit (CTA), concolsection@gmail.com
12	The Deputy Registrars, Finance & Accounts Section, fort draccounts@fort.mu.ac.in
13	The Deputy Registrar, Election Section, Fort drelection@election.mu.ac.in
14	The Assistant Registrar, Administrative Sub-Campus Thane, thanesubcampus@mu.ac.in
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16	The Assistant Registrar, Ratnagiri Sub-centre, Ratnagiri, ratnagirisubcentre@gmail.com
17	The Director, Centre for Distance and Online Education (CDOE), Vidyanagari, director@idol.mu.ac.in
18	Director, Innovation, Incubation and Linkages, Dr. Sachin Laddha pinkumanno@gmail.com
19	Director, Department of Lifelong Learning and Extension (DLLE), Dlleuniversityofmumbai@gmail.com

Copy for information :-

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2	P.A to Pro-Vice-Chancellor pvc@fort.mu.ac.in
3	P.A to Registrar, registrar@fort.mu.ac.in
4	P.A to all Deans of all Faculties
5	P.A to Finance & Account Officers, (F & A.O), camu@accounts.mu.ac.in

To,

1	The Chairman, Board of Deans pvc@fort.mu.ac.in
2	Faculty of Humanities, Dean 1. Prof.Anil Singh Dranilsingh129@gmail.com Associate Dean 2. Dr.Suchitra Naik Naiksuchitra27@gmail.com 3.Prof.Manisha Karne mkarne@economics.mu.ac.in
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As Per NEP 2020

University of Mumbai



Syllabus for Basket of OE	
Ad- hoc Board of Studies in N.C.C./N.S.S./Sports Co-Curricular	
UG First Year Programme - Co-Curricular Course	
Semester	II
Title of Paper	Credits
Foundation and Exploration of Performing Fine Arts	2
From the Academic Year	2024-25

Semester II
As per NEP 2020

Foundation and Exploration of Performing and Fine Arts

Syllabus for Two Credits Programme

With effect from Academic Year 2024-2025

Aims and Objectives

- To study the foundation and essentials of performing arts.
- To understand the chronicles of Indian Artistry.
- To comprehend the modern art forms.
- To explore various career opportunities in fine arts.

Learning Outcomes

The course will enable the learner to

- Identify and trace the historical evolution of Indian performing and fine arts.
- Analyze the transition from traditional to modern art forms in performing arts.
- Identify and describe a range of career paths in the fine and performing arts.

Modules at Glance

Semester I

Module No.	Unit	Content	No. of Hours
1	I	Foundation of Performing Arts	08
	II	Essential Skill Sets in Performing Arts	07
2	III	Chronicles of Indian Artistry	08
	IV	Contemporary and Modern Art	07
Total No. of Hours			30

Module No.	Unit	Content
1	I	1.1 Foundation of Performing Arts • Introduction to Performing Arts • Historical Evolution and Cultural Significance of Performing Arts • Basic Elements of Performing Arts
	II	1.2 Essential Skill Sets in Performing Arts • Character Development and Analysis

		• Emotional Exploration and Expression • Fundamentals of Voice Modulation and Projection • Improvisation Skills • Scene Study and Script Interpretation • Career Options in Performing Arts
2	III	2.1 Chronicles of Indian Artistry • Indus Valley Civilization • Folk and Tribal Art Forms • Impact of Aesthetic Art on Sacred Architecture • Revival and Preservation of Ancient Indian Art
	IV	2.2 Contemporary and Modern Art • Modern Trends in Indian Art • Eminent Contemporary Artists of India • Career Options in Fine Arts

Scheme of Evaluation

The Scheme of Examination shall be of 50 marks. It will be divided into Internal Evaluation (20 marks) and Semester End Examination (30 Marks).

Semester I (50 Marks - 2 Credits)

Internal Evaluation (20 Marks)

Sr. No.	Particulars	Marks
1	Presentation OR Project OR Assignment	15
2	Participation in Workshop / Conference / Seminar (as decided by the Teacher) OR Participation in Online Workshop / Conference / Seminar (as decided by the Teacher) OR Field Visit OR Attendance	5

Semester End Examination (30 Marks)

Question No.	Particulars	Marks
1	Objective Type Questions (All Units)	06
2	Descriptive Question(s) on Unit I The Question may be divided into sub questions: Attempt any 2 out of 4 (Each of 3 Marks)	06
3	Descriptive Question(s) on Unit II The Question may be divided into sub questions: Attempt any 2 out of 4 (Each of 3 Marks)	06
4	Descriptive Question(s) on Unit III The Question may be divided into sub questions: Attempt any 2 out of 4 (Each of 3 Marks)	06
5	Descriptive Question(s) on Unit IV The Question may be divided into sub questions: Attempt any 2 out of 4 (Each of 3 Marks)	06
Total		30

Reference Books

- Hennessey, B. (2019). *The artist's career handbook: A guide to building your career as a visual artist*. Allworth Press.
- Kapila, V. (2002). *Indian art: A history*. Penguin India.
- Mitter, P. (2001). *Indian art*. Oxford University Press.
- Chekhov, M. (2002). *To the actor: On the technique of acting*. Routledge.
- Strasberg, L. (1987). *A dream of passion: The development of the method*. Plume.
- Dehejia, V. (1997). *Indian art*. Phaidon Press.
- Nath, A. (2013). *Preservation of art and architecture in ancient India*. Bharatiya Kala Prakashan.
- Chawla, K. (2010). *Opportunities in fine arts careers*. Vikas Publishing House.
- Preece, R. (2011). *Careers in art and design*. Kogan Page.

- *Dalmia, Y. (2001). The making of modern Indian art: The progressives. Oxford University Press.*