

Sem. - IV

Vertical – 1 Major

Title of Paper :Core Java

Sr.No.	Heading	Particulars
1	Description the course : Including but Not limited to:	Core Java course focuses on teaching students how to design, develop, and maintain software applications using the Java programming language. The course covers fundamental to advanced concepts of Java, enabling students to understand object-oriented programming (OOP) principles, data structures, algorithms, and real-world application development.
2	Vertical :	Major
3	Type :	Theory
4	Credits :	2 credits (1 credit = 15 Hours for Theory in a semester, Total 30 hours)
5	Hours Allotted :	30 Hr
6	Marks Allotted:	50
7	Course Objectives(CO): CO 1: Understand and Apply Object-Oriented Programming (OOP) Concepts. CO 2: Identify the key components of a class and object in Java, including attributes (fields), methods, and constructors. CO 3: Apply sound software engineering principles in Java by organizing code into classes and methods with proper access control identifiers CO 4: Use tools and techniques like unit testing, as well as IDE debugging tools to find and fix issues within Java programs. CO 5. Effectively use Java's collection framework (e.g., Lists, Sets, Maps) to manage and process groups of related objects. CO 6. Use OOP concepts in designing and building solutions to real-world problems, ensuring the application is modular, maintainable, and reusable.	
8	Course Outcomes (OC): OC1. Understand the basics of Java and its runtime environment. OC2. Be proficient in using Java's data types, control flow statements, and OOP principles such as classes, inheritance, and exception handling. OC3. Creating own classes and objects OC4. Develop mini projects using Class, Interface and exception handling	
9	Modules:- Module 1: Introduction to Java Programming -History of Java and its Evolution,Features of Java (Platform Independence, Object-Oriented),Data Types and Variables,Operators Constants and Literals,Type Casting Decision Making and Loops :If-else Statements,Switch Statement, Loops (For, While, Do-While),Break and Continue Statements Classes and Objects :Array,ArraysString class and String methods, StringBuffer and StringBuilder, Object-Oriented Programming Concepts, Defining Classes and Creating Objects, Instance Variables and Methods, Constructors, this Keyword, super keyword, Types of Classes, Scope Rules, Access Modifier, constants, static members of a class, garbage collection.	
		15 Hrs

	<p>Inheritance: Its types, Superclass and Subclass, Final classes and methods</p> <p>Polymorphism: Compile-time and Runtime Polymorphism</p>	
	Module 2:	
	<p>Interfaces: Defining and Implementing Interfaces, Abstract Classes and Methods, Multiple Interface Implementation</p> <p>Packages: Introduction to predefined packages, User Defined Packages, Access specifier, Java Built-in packages</p> <p>Exception handling- Try, Catch, and Finally Blocks, Throw and Throws Keywords</p> <p>Introduction to Threads: Creating and Running Threads, Thread Lifecycle</p>	15 Hrs
10	<p>Books and References:</p> <ol style="list-style-type: none"> 1. Java: The Complete Reference Herbert Schildt MC-Graw HILL 12th EDITION 2022 2. Core Java, Volume I: Fundamentals Hortsman Pearson 9th 2013 3. Core Java, Volume II: Advanced Features Gary Cornell and Hortsman Pearson 8th 2008 	
12	Internal Continuous Assessment: 40%	Semester End Examination: 60%
13	<p>Continuous Evaluation through:</p> <p>Class test of 1 of 15 marks</p> <p>Class test of 2 of 15 marks</p> <p>Average of the two: 15 marks</p> <p>Quizzes/ Presentations/ Assignments: 5 marks</p> <p>Total: 20 marks</p>	<p>Format of Question Paper: External Examination (30 Marks)– 1 hr duration</p>
14	<p>Format of Question Paper: (Semester End Examination: 30 Marks. Duration:1 hour)</p> <p>Q1: Attempt any two (out of four) from Module 1 (15 marks)</p> <p>Q2: Attempt any two (out of four) from Module 2 (15 marks)</p> <p>Or</p> <p>Q1: Attempt any three (out of five) from Module 1 (15 marks)</p> <p>Q2: Attempt any three (out of five) from Module 2 (15 marks)</p>	

Title of Paper: Software Engineering

Sr.No	Heading	Particulars
1	Description the course: Including but Not limited to:	This course provides an in-depth understanding of Scrum, an Agile framework for developing, delivering, and sustaining complex products. Students will learn the principles and practices of Scrum, including roles (Scrum Master, Product Owner, Development Team), events (Sprint, Scrum Meetings), and artifacts (Product Backlog, Sprint Backlog, Increment). The course emphasizes hands-on exercises, real-world scenarios, and collaborative activities to master iterative development and enhance team productivity. By the end, learners will be equipped to implement Scrum in software engineering projects effectively and drive organizational agility.
2	Vertical :	Major
3	Type :	Theory
4	Credits :	2 credits (1 credit = 15 Hours for Theory in a semester, Total 30 hours)
5	Hours Allotted :	30
6	Marks Allotted:	50
7	Course Objectives (CO): CO1: Understand the core principles of Agile and the Scrum framework. CO2: Explore the high-level Scrum process and its key components. CO3: Develop skills in managing the Product Backlog effectively. CO4: Learn techniques for Sprint planning, execution, and tracking. CO5: Gain insights into Scrum-based project, quality, and risk management. CO6: Master the art of writing clear and actionable user stories.	
8	Course Outcomes (OC): OC1: Demonstrate a comprehensive understanding of Agile concepts and Scrum practices. OC2: Apply Scrum processes to effectively manage software development life cycles. OC3: Create and prioritize user stories for efficient Product Backlog management. OC4: Utilize metrics to evaluate and enhance Sprint performance and team productivity. OC5: Implement strategies for cost, customer, and risk management in Scrum projects. OC6: Formulate effective Sprint retrospectives to drive continuous improvement.	
9	Module 1:	
	Software and Software Engineering, Process Models, Introduction to Agile Concepts, All about Scrum, Scrum Process: High-Level View. Product Backlog Management, Sprint Planning, Writing Effective User Stories, Sprint Execution and Tracking, Sprint Review, Sprint Retrospectives	15 Hrs
	Module 2:	
Measurements and Metrics in Scrum, Software Development Life Cycle and Waterfall Model, Project Management in Scrum and Waterfall, Quality Management in Scrum, Customer Management in Scrum, Risk Management in Scrum, Cost Management in Scrum.	15 Hrs	

10	Books and References: <ol style="list-style-type: none"> 1. "Agile Scrum", Rama Bedarkar, Wiley, 1st, 2020 2. "Mastering Professional Scrum: A Practitioner's Guide to Overcoming Challenges and Maximizing the Benefits of Agility" by Stephanie Ockerman and Simon Reindl, Addison-Wesley Professional, 1st edition (2019). 3. "Scrum: A Pocket Guide" by Gunther Verheyen, Van Haren Publishing, 2nd edition (2019). 4. "Software in 30 Days" by Ken Schwaber and Jeff Sutherland, Wiley, 1st edition (2012). 5. "Scrum Insights for Practitioners: The Scrum Guide Companion" by Hiren Doshi, PracticeAgile Solutions, 1st edition (2016). 6. "A Scrum Book: The Spirit of the Game" by Jeff Sutherland and James O. Coplien, Pragmatic Bookshelf, 1st edition (2019). 7. "The Scrum Fieldbook: A Master Class on Accelerating Performance, Getting Results, and Defining the Future" by J.J. Sutherland, Random House Business, 1st edition (2019). 	
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) Or Q1: Attempt any three (out of five) from Module 1 (15 marks) Q2: Attempt any three (out of five) from Module 2 (15 marks)	

Title of Paper: Computer Networks

Sr.No.	Heading	Particulars
1	Description the course : Including but Not limited to:	A course on Computer Networks typically focuses on the fundamental principles, technologies, and protocols that enable communication and data exchange between devices in various network environments.
2	Vertical :	Major
3	Type :	Theory
4	Credits :	2 credits (1 credit = 15 Hours for Theory in a semester, Total 30 hours)
5	Hours Allotted :	30
6	Marks Allotted:	50
7	Course Objectives(CO): 1. To understand the basic concepts in OSI Model,distinguishing Factors in TCP/IP ,IP addressing Schemes 2. Understand How the communication happens across the network 3. Understanding of various Routing protocol and their implementation	
8	Course Outcomes (OC): CO 1.Understanding the Transport layer protocols and their utilities CO 2.Various application layer protocols and their implementation CO3:Mailing Services and web services implementation	
9	Modules:- Module 1: 1. Introduction: OSI Model, TCP/IP Protocol Suite, IPV 4 Addresses and Protocol and IPV6 Addresses and Protocol 2. Address Resolution Protocol (ARP), Internet Control 3. Message Protocol Version 4 (ICMPv4), Mobile IP, 4. Unicast Routing Protocols (RIP, OSPF and BGP)	15 Hrs
	Module 2: 8. User Datagram Protocol (UDP), Transmission Control Protocol (TCP) 9. Host Configuration: DHCP, Domain Name System (DNS) 10. Remote Login: TELNET and SSH, File Transfer: FTP and TFTP ; World Wide Web and HTTP, 11. Electronic Mail: SMTP, POP, IMAP and MIME	15 Hrs
10	Books and References: TCP/IP Protocol Suite, Behrouz A. Forouzan, 4th Edition, Tata McGrawHill (Chapter 2, 5, 7, 26, 27, Chapter 8, 9, 10, 11, Chapter 14,15, Chapter 16, 18, 19, Chapter 20, 21, 22, Chapter 23, 25)	
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)

Or

Q1: Attempt any three (out of five) from Module 1 (15 marks)

Q2: Attempt any three (out of five) from Module 2 (15 marks)

Title of Paper: Major Practical 4

Sr.No.	Heading	Particulars
1	Description the course : Including but Not limited to:	<p>Computer Networking Practical course focuses on providing hands-on experience with various networking concepts and techniques. Students typically practice configuring, troubleshooting, and testing network protocols and hardware in real-world scenarios. The practical component of this course emphasizes network setup, monitoring, and management skills Wireless Networks and Mobile Communications</p> <p>A Java Programming Practical course typically provides hands-on experience in writing, debugging, and executing Java programs. The goal is to help students become proficient in Java programming and apply theoretical concepts to solve real-world problems. The practical sessions in this course usually focus on programming skills and the application of Java principles in various scenario</p>
2	Vertical :	Major
3	Type :	Practical
4	Credits :	2 credits (30 Hours of Practical work in a semester)
5	Hours Allotted :	30
6	Marks Allotted:	50 Marks
7	Course Objectives(CO): <ol style="list-style-type: none">1. Understand core Java programming concepts, including data types, control structures, and object-oriented programming principles.2. Develop the ability to implement inheritance, polymorphism, interfaces, and abstract classes effectively.3. Gain hands-on experience with exception handling, multithreading, and dynamic initialization.4. Learn to apply Java programming to solve real-world problems, such as matrix operations and finding areas/volumes.5. Enhance debugging and problem-solving skills using Java's rich standard libraries and features.6. Basic foundation of LAN7. various command line utilities to be tested8. Practical implementation of IP Subnetting9. Testing of various Routing Protocols	
8	Course Outcomes (OC): <p>CO 1. Write efficient Java programs to perform arithmetic operations, manage control flow, and manipulate strings.</p> <p>CO 2. Demonstrate knowledge of object-oriented concepts by implementing inheritance, polymorphism, and interfaces.</p> <p>CO 3. Apply exception handling mechanisms to create robust Java applications.</p> <p>CO 4.1 Implement multithreading and explore dynamic initialization for advanced Java programming.</p>	

CO 5. Solve computational problems, such as matrix operations and factorial calculation, using packages and Java constructs.
 CO 6. Implementation of utility protocols
 CO 7 Understanding Basic Security features
 CO 8 Network Traffic and Packet Analysis
 CO 9 Basic Understanding of Wireless Network

9

Module 1

30 Hrs

1. Write a program
 - a. in Java to demonstrate Boolean value.
 - b. Print a string 10 times using a for loop.
 - c. Write a program in Java to evaluate $a+b*c\%d$.
2. Write a program
 - a. in Java to find the biggest element among three numbers using if else.
 - b. Write a program in Java to find the biggest element among three numbers using the ternary operator.
 - c. Write a program in Java to check the grade of marks using a switch case.
3. Write a program
 - a. in Java to demonstrate dynamic initialization.
 - b. Write a program in Java to create a class and access all data members and methods using the object and compute the area and perimeter of a circle.
 - c. Write a program in Java to access member variables using the constructor.
4. Write a program
 - a. in Java to multiply two matrices.
 - b. Write a program in Java to calculate the area of a rectangle using single inheritance.
 - c. Write a program in Java to demonstrate multilevel inheritance.
5. Write a program
 - a. in Java to demonstrate hierarchical inheritance.
 - b. Write a program in Java to find the area and perimeter of a circle using an abstract class.
 - c. Write a program in Java to show that a private member of a class cannot be inherited.
6. Write a program
 - a. in Java to find the volume of a box using this keyword.
 - b. Write a program in Java to find the average of three numbers using the method overloading
 - c. Write a program in Java to find average of three numbers using method overriding.
 - d. Create a class figure. Create two subclasses rectangle and triangle. Find the area of a rectangle and half the area of the rectangle using the reference of the figure.
7. Write a program
 - a. Create an interface area. Find the area of a circle.
 - b. Write a program in Java to find the sum and average of three numbers using the super keyword.
12. Write a program

	<ul style="list-style-type: none"> a. in Java to find the volume of a box using constructor overloading. b. Write a program in Java to demonstrate exception handling in case of variable/constant divided by zero. <p>13. Write a program in Java</p> <ul style="list-style-type: none"> a. to implement multiple inheritance using the interface. b. Write a program in Java to check if a given string is palindrome or not. <p>14. Write a program in Java</p> <ul style="list-style-type: none"> a. for sorting a given list of strings in ascending order. b. Write a program in Java to find the factorial of a number using the package. <p>15. Write a program in</p> <ul style="list-style-type: none"> a. Java to import the package. b. Write a program in Java to implement thread. c. Write program to implement Flow, Grid and Border Layout using swing. d. Write program to demonstrate following events Action Mouse Key 	
	Module 2	30 Hrs
	<ul style="list-style-type: none"> 1. Configuring LAN setup <ul style="list-style-type: none"> a. Planning and Setting IP networks b. Configuring subnet c. Using, linux-terminal or Windows-cmd, execute following networking commands and note the output: ping, traceroute, netstat, arp, ipconfig, Getmac, hostname, NSLookUp, pathping, SystemInfo 2. IPv4 Addressing and Subnetting <ul style="list-style-type: none"> a. Given an IP address and network mask, determine other information about the IP address such as: <ul style="list-style-type: none"> a. Network address • Network broadcast address • Total b. number of host bits • Number of hosts b. Given an IP address and network mask, determine other information about the IP address such as: c. The subnet address of this subnet • d. The broadcast address of this subnet • e. The range of host addresses for this subnet • f. The maximum number of subnets for this subnet mask • g. The number of hosts for each subnet • h. The number of subnet bits •The number of this subnet 3. Configure Static IP routing using . 4. Configure IP routing using RIP. 5. Configuring Simple and multi-area OSPF 6. Configuring BGP protocol (Multi-Autonomous) 7. Configuring server and client. <ul style="list-style-type: none"> a. Configure DHCP b. Configure DNS c. Configure HTTP d. Configure Telnet e. Configure FTP 8. Configure basic security features for networks 9. Using Wireshark, network analyzer, set the filter for ICMP, TCP, HTTP, UDP, FTP and perform respective protocol transactions to show/prove that the 	

	network analyzer is working 10.create a wireless network of multiple PCs using appropriate access point. 11.IPV6 Addressing Basics	
10 & 11	Text Books& References Books :	
	1. Java: The Complete Reference Herbert Schildt MC-Graw HILL 12th EDITION 2022 2. Core Java, Volume I: Fundamentals Hortsman Pearson 9th 2013 3. Core Java, Volume II: Advanced Features Gary Cornell and Hortsman Pearson 8th 2008 4. Cisco CCNA 200-301 Official Cert Guide	
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 totaling 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	

Semester-IV
Minor
Statistical Method-II

Sr. No.	Heading	Particulars
1	Description the course : Including but Not limited to :	Introduction: Statistical Methods-II paper covers basic concept of probability and probability distribution which is useful to gain in-depth knowledge of probability and standard discrete distributions of other than statistics students of same faculty.
2	Vertical :	Minor
3	Type :	Theory
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

Credit:2	MINOR SUBJECT STATISTICAL METHODS-II	No. of Hours:30
	<p>CO2: Students will be able to,</p> <ol style="list-style-type: none"> 1. Understand the fundamental concepts of continuous probability distributions. 2. Study the concept of estimate and estimator. 3. Understand the concept of testing of hypothesis and large sample test. <p>OC2: Students Should be able to,</p> <ol style="list-style-type: none"> 1. Explain the continuous probability distributions such as Uniform, Exponential, Normal distributions and apply to real life applications. 2. Compute mean, variance and standard deviations for continuous probability distributions. 3. Apply testing of hypothesis technique to solve statistical problems. 	
Unit	Continuous Probability Distributions	Lectures

I	<ul style="list-style-type: none"> • Concept of continuous random variable, probability density function and its properties. Cumulative distribution functions of continuous random variables and its properties. • Definition and derivation of mean, variance and median of Uniform and Exponential distributions. Memory less property of Exponential distribution. • Normal distribution. Properties of Normal distribution (without proof). Normal approximation to Binomial and Poisson distribution (statement only). Properties of Normal curve. Use of normal tables. 	10
Unit	Estimation	Lectures
II	<ul style="list-style-type: none"> • Sampling from a distribution: Concept of a statistic, parameter, estimate and estimator, sampling distribution of statistic. • Concept of bias and standard error of an estimator. • Central Limit theorem (statement only). 	10
	<ul style="list-style-type: none"> • Sampling distribution of sample mean and sample proportion. (For large sample only) • Standard errors of sample mean and sample proportion. • Point and Interval estimate of single mean, single proportion from sample of large size. • Point and interval estimate of difference between two means and proportions. 	
Unit	Testing of Hypothesis and Large Sample Test	Lectures
III	<p>Testing of hypothesis:</p> <ul style="list-style-type: none"> • Concept of hypothesis • Simple and composite hypothesis • Null and alternate hypothesis • Test statistic, Critical region, Types of error, Level of significance and power of the test. <p>Large sample tests:</p> <ul style="list-style-type: none"> • For testing specific value of population mean • For testing specific value in difference of two means • For testing specific value of population proportion • For testing specific value of difference of population proportion (development of critical region is not expected) 	10

Reference Books

1. Agarwal B. L, Basic Statistics, New Age International P Ltd. Delhi, 2015
2. Saxena S., Kapoor J. N., Mathematical Statistics, Sultan Chand & Sons, Delhi, 2010
3. Gupta S. P, Statistical Methods, Sultan Chand and Sons, New Delhi, 2002
4. Kapoor V. K, Gupta S. C, Fundamental of Mathematical Statistics, S Chand & Sons, Delhi, 2008
5. Grewal P. S. Methods of Statistical Analysis, Sterling Publishers, 1990
6. Mukhopadyay P., An Introduction to the theory of Probability, World Scientific Publishing Company, 2011

Format of Question Paper:

Internal Continuous Assessment: (20 marks)

Assignment/viva Quizzes, Class Tests, presentation, project, role play, creative writing, assignment etc.(at least 3)	Class Test	Total
05	15	20

Semester End Examination: (30 marks)

Semester End Examination will be of 30 marks of 01 hour duration covering entire syllabus of the semester. All questions are Compulsory.

Theory Question Paper Pattern:

Q 1	Attempt any one question out of two questions (Module I and II)	Max. marks: 10
Q 2	Attempt any two questions out of three questions (Module I)	Max. marks: 10
Q 3	Attempt any two questions out of three questions (Module II)	Max. marks: 10

Syllabus (Sem.- IV)

Title of Paper : Data Analysis with SAS / SPSS /R

Sr. No.	Heading	Particulars
1	Description of the course : Including but Not limited to :	Data Analysis with SAS / SPSS /R course provides hands-on training in data analysis techniques using industry-standard tools — SAS, SPSS, or R. It covers essential skills such as data importing, cleaning, transformation, and visualization, along with performing statistical analysis like t-tests, ANOVA, chi-square tests, and regression. Learners will gain practical experience in managing datasets, applying statistical methods, and generating professional reports, preparing them for real-world data analysis tasks across various domains.
2	Vertical :	Minor
3	Type :	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: CO 1. To understand the SAS/SPSS/R as a tool to data analysis. CO 2. Understand different techniques of data manipulation. CO 3. Use different functions for descriptive statistics. CO 4. To generate the reports after data manipulation.	
8	Course Outcomes: OC 1. To Understand the basis of data analytics using a software tool. OC 2. To use data from multiple sources relevant for Data Analytics. OC 3. To Categorize and utilize data for inferential data analytics. CO 4. To integrate the statistical tool with an analytical problem to bring the proficiency.	

9

Modules:- Per credit One module can be created

Module 1: Data Handling, Preparation and Transformation (using SAS or SPSS or R)

- 1 Introduction to the SAS, SPSS and R environments – installation, interface overview, and loading data files.
- 2 Creating datasets from raw data (text files, CSV files, Excel sheets) and importing data into SAS/SPSS/R.
- 3 Exploring data: Displaying datasets using PROC PRINT (SAS), Data Viewer (SPSS), and View() or print() (R).
- 4 Applying conditional filters using IF, WHERE, and IF-THEN in SAS; Select Cases in SPSS; and subset() or filter() in R.
- 5 Sorting data using PROC SORT in SAS, Sort Cases in SPSS, and arrange() in R.
- 6 Combining and appending datasets using MERGE in SAS, Merge Files in SPSS, and merge() or bind_rows() in R.
- 7 Selecting and dropping variables using KEEP, DROP in SAS, Variable View in SPSS, and select() in R.
- 8 Applying basic data cleaning functions: handling missing values using MISSING (SAS), Define Missing Values (SPSS), and na.omit()/replace_na() in R.
- 9 Performing text manipulation using substr, scan (SAS), String functions (SPSS), and str_sub(), str_split() (R).
- 10 Creating new variables using transformations and calculations (all three software).
- 11 Reshaping data using PROC TRANSPOSE (SAS), Restructure Data Wizard (SPSS), and pivot_longer()/pivot_wider() (R).
- 12 Combining datasets vertically (concatenation) using SET statement (SAS), Merge Files - Add Cases (SPSS), and rbind() (R).
- 13 Identifying and handling duplicates using PROC SORT NODUPKEY (SAS), Identify Duplicate Cases (SPSS), and distinct() (R).
- 14 Extracting date components using DATE functions (SAS), Date & Time Wizard (SPSS), and lubridate:: functions (R).
- 15 Generating basic summaries using PROC CONTENTS (SAS), Variable View (SPSS), and str() or summary() (R).

Module 2: Statistical Analysis and Reporting (using SAS or SPSS or R)

- 1 Generating descriptive statistics using PROC MEANS (SAS), Descriptive Statistics (SPSS), and summary() or describe() (R).
- 2 Generating frequency tables using PROC FREQ (SAS), Frequencies (SPSS), and table() or count() (R).
- 3 Creating cross-tabulations and two-way tables using PROC FREQ (SAS), Crosstabs (SPSS), and table() (R).
- 4 Performing one-sample t-tests using PROC TTEST (SAS), T-Test (SPSS), and t.test() (R).
- 5 Performing independent two-sample t-tests using PROC TTEST (SAS), T-Test (SPSS), and t.test() with grouping (R).
- 6 Performing paired t-tests using PROC TTEST (SAS), Paired Samples T-Test (SPSS), and t.test(paired=TRUE) (R).
- 7 Performing one-way ANOVA using PROC ANOVA (SAS), One-Way ANOVA (SPSS), and aov() (R).
- 8 Performing two-way ANOVA using PROC GLM (SAS), Univariate Analysis (SPSS), and aov() (R).
- 9 Conducting Chi-square tests using PROC FREQ (SAS), Crosstabs with Chi-Square (SPSS), and chisq.test() (R).

- 10 Creating graphical reports using PROC REPORT (SAS), Chart Builder (SPSS), and ggplot2 (R).
- 11 Generating histograms and box plots using PROC SGPLOT (SAS), Graphs (SPSS), and ggplot2 (R).
- 12 Generating correlation matrices using PROC CORR (SAS), Correlation (SPSS), and cor() (R).
- 13 Performing linear regression analysis using PROC REG (SAS), Regression (SPSS), and lm() (R).
- 14 Performing logistic regression using PROC LOGISTIC (SAS), Binary Logistic Regression (SPSS), and glm() (R).
- 15 Exporting results into external files (Excel, CSV, PDF) using ODS (SAS), Export Wizard (SPSS), and write.csv()/writexl (R).

- 10 Text Books:**
- 1. The Little SAS Book: A Primer – Lora D. Delwiche & Susan J. Slaughter
 - 2. Learning SAS by Example: A Programmer's Guide – Ron Cody
 - 3. Discovering Statistics Using IBM SPSS Statistics – Andy Field
 - 4. IBM SPSS for Introductory Statistics: Use and Interpretation – George A. Morgan, Nancy L. Leech,
 - 5. R for Data Science – Hadley Wickham & Garrett Golemund
 - 6. The Book of R: A First Course in Programming and Statistics – Tilman M. Davies

- 11 Reference Books:**
- 1. Applied Statistics and the SAS Programming Language – Ron P. Cody & Jeffrey K. Smith
 - 2. Data Analysis with IBM SPSS Statistics – Kenneth Stehlik-Barry & Anthony J. Babinec
 - 3. Hands-On Programming with R – Garrett Golemund

12	Internal Continuous Assessment: 40%	External, Semester End Examination 60% Individual Passing in Internal and External Examination
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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.

QUESTION PAPER PATTERN (External and Internal)

Design Practical Examination Slips

Q1. Based on Module 1 -- 15 marks
Q2. Based on Module 2 -- 15 marks

Sd/-

**Sign of the BOS
Chairman
Dr. Srivaramangai R
BOS in Data Science**

Sd/-

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

Sd/-

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

AC – 28/03/2025
Item No. – 7.8 (N) (4b) Sem. IV

As Per NEP 2020

University of Mumbai



Syllabus for Basket of OE Vertical 3	
Faculty of Commerce & Management	
Board of Studies in Business Management	
Second Year Programme	
Semester	IV
Title of Paper	Credits
I) Management Skills	2
From the Academic Year	2025-26

Title of Paper - Management Skills

Sr. No.	Heading	Particulars
1	Description the course : Including but Not limited to :	<p>1. Introduction</p> <p>Management skills are essential for personal and professional success, covering areas such as self-management, teamwork, time management, and decision-making. These skills help individuals become more confident, responsible, and efficient in handling tasks. Learning management skills improves discipline, emotional control, and problem-solving abilities. They are practical in nature, allowing individuals to apply them immediately in their studies, jobs, and personal lives.</p> <p>2. Relevance</p> <p>In today's fast-paced world, strong management skills are more important than ever. Employers actively seek individuals who can manage their time, work well in teams, and make sound decisions. The ability to handle emotions, pride, and ego is crucial for maintaining a positive and professional work environment. Developing these skills helps individuals stay focused, reduce stress, and increase their productivity. Whether in education, business, or personal life, management skills are relevant and beneficial for everyone.</p> <p>3. Usefulness</p> <p>Management skills play a key role in achieving personal and professional goals. Strong self-management helps individuals stay motivated, disciplined, and goal-oriented.. Good decision-making allows individuals to analyze situations, solve problems quickly, and make better choices. Time management ensures that tasks are completed on time, reducing workload stress and improving efficiency.</p> <p>4. Application</p> <p>Management skills are widely applicable in both personal and professional settings. Leaders and managers use them to build high-performing teams and make strategic decisions. Students apply time management and self-</p>

discipline to complete their studies and meet deadlines efficiently. Entrepreneurs use decision-making and self-management to run their businesses successfully. Professionals across various industries rely on these skills to meet deadlines, collaborate effectively, and solve challenges.

5. Interest

Management skills are engaging because they focus on real-life situations and practical problem-solving. Learning how to manage time, control emotions, and make smart decisions is both interesting and rewarding. The development of these skills includes interactive exercises and case studies, making the learning process more engaging.

6. Connection with Other Courses

Management skills are closely related to business management, psychology, leadership studies, and human resource management. They complement subjects like organizational behavior, project management, and corporate training by providing practical knowledge. . Even in fields like law, medicine, and engineering, these skills are valuable for handling responsibilities and working with others.

7. Demand in the Industry

Companies today highly value employees who have strong management skills, including self-discipline, teamwork, and leadership qualities. Organizations prefer individuals who can manage their time effectively, meet deadlines, and work independently. Management skills are applicable across all sectors, including IT, healthcare, finance, education, and marketing, making them essential for career success.

8. Job Prospects

Mastering management skills opens up numerous career opportunities across different industries. Professionals in management, human resources, team leadership, and project coordination benefit greatly from developing these

		skills. Teamwork and leadership skills help individuals advance to higher positions within their organizations.. Having expertise in management skills gives job seekers a competitive edge, increasing their chances of securing desirable positions.
2	Vertical :	Open Elective
3	Type :	Theory
4	Credit:	2 credits (1 credit = 15 Hours)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives: <ol style="list-style-type: none"> 1. Identify personal strengths and weaknesses to develop self-discipline, goal-setting, and emotional control strategies. 2. Apply active listening, feedback techniques, and non-verbal communication skills to enhance team collaboration. 3. Use structured decision-making techniques like SWOT analysis and Cost-Benefit Analysis for problem-solving. 	

8	Course Outcomes: <ol style="list-style-type: none"> 1. Implement self-management strategies to improve productivity through better Time planning and emotional regulation. 2. Demonstrate effective team management by fostering clear communication And mentoring within a team. 3. Apply decision-making frameworks to analyse real-world business or personal Challenges efficiently. 	
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9	Modules
	<p>Module 1: <u>Self-Management & Time Management</u></p> <p>A. Self-Management: Concepts Self-Evaluation- Self Discipline - Self Criticism, Self-Awareness.- Personal Development and Self-Management Identifying one’s strengths and weaknesses, Planning & Goal setting. - Managing self – emotions, ego, pride.</p> <p>B. Self-Management Skills Meaning of Self-Management skill, Importance of Self-Management, Key Self-Management Skills</p> <p>C. Time Management: Definition, the process of organizing and planning how to divide your time between tasks effectively, Core principles, Efficiency vs. effectiveness</p>
	<p>Module 2: <u>Team Management and Decision Making</u></p> <p>A. Team management; Meaning and definition of team management, importance of team management, The importance of clear communication in teams, Active listening and feedback techniques, Non-verbal communication and body language.</p> <p>B. Team Development Objectives, Identifying skill gaps and providing training opportunities, Coaching and mentoring for professional growth, Building high-performing teams and improving team dynamics.</p> <p>C. Decision Making: Concept, Definition, Importance of Decision Making, Process of Decision Making, Techniques of Decision Making.</p>
10	<p>Reference Books:</p> <ul style="list-style-type: none"> • Covey, S. R. (1989). <i>The 7 Habits of Highly Effective People: Powerful Lessons in Personal Change.</i> Free Press. • Tracy, B. (2017). <i>Eat That Frog!: 21 Great Ways to Stop Procrastinating and Get More Done in Less Time.</i> Berrett-Koehler Publishers. • Goleman, D. (1995). <i>Emotional Intelligence: Why It Can Matter More Than IQ.</i> Bantam Books. • Lencioni, P. (2002). <i>The Five Dysfunctions of a Team: A Leadership Fable.</i> Jossey-Bass. • Robbins, S. P., & Judge, T. A. (2019). <i>Organizational Behavior.</i> Pearson. • Bazerman, M. H., & Moore, D. A. (2012). <i>Judgment in Managerial Decision Making.</i> Wiley.

11	Internal Continuous Assessment: 40%	External, Semester End Examination 60% Individual Passing in Internal and External Examination
12	Continuous Evaluation through: Quizzes, Class Tests, presentation, project, role play, creative writing, assignment etc.(at least 3)	20 Marks

QUESTION PAPER PATTERN (External and Internal)

For 2 Credits paper of 50 Marks

PAPER PATTERN- EXTERNAL

Time: 1 hr

Total Marks: 30

Any 2 out of 3 Questions

Q. No	Questions	Total
Q1	a. b.	15
Q2	a. b.	15
Q3	a. b.	15

Note

- A) Questions can be set from any module
- B) Equal weightage is to be given to all the modules.

PAPER PATTERN- INTERNAL

Continuous Evaluation: Internal (20 marks)

	Assessment/ Evaluation	Marks
1	Class Test during the lectures. (Physical/ Online mode) (Short notes/ MCQ's/ Match the Pairs/ Answer in one sentence/ Puzzles)	10
2	Participation and paper presentation in Workshop/ Conference/Seminar, Assignment	5
3	field visit, case study, group discussion, presentation, Certificate Course	5

Sd/-
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Chairman
Dr. Megha Somani
Board of Studies in
Business
Management

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

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Offg. Associate Dean
Prof. Kavita Laghate
Faculty of
Commerce &
Management

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Offg. Dean
Prin. Ravindra
Bambardekar
Faculty of
Commerce &
Management

SEC

Syllabus

B. Sc. (Information Technology)

(Sem.- IV)

Title of Paper: Computer Graphics

Sr.No	Heading	Particulars
1	Description the course : Including but Not limited to:	Computer Graphics Practical is a hands-on course designed to introduce students to the foundational principles of computer graphics, including 2D transformations, graphical modelling, and basic animations. The course focuses on applying mathematical concepts like translation, rotation, scaling, and shearing to create and manipulate graphical objects. Students will learn to use programming tools such as Python (Matplotlib, Pygame, OpenCV) or C/C++ libraries to implement these concepts. Through practical assignments, they will develop the skills to create simple 2D animations, simulate real-world objects, and design graphical scenes. The course bridges the gap between theoretical concepts and real-world applications, fostering creativity and problem-solving in visual computing.
2	Vertical :	Skill Enhancement Course
3	Type :	Practical
4	Credits :	2 credits (30 Hours of Practical work in a semester)
5	Hours Allotted :	30
6	Marks Allotted:	50 Marks
7	Course Objectives(CO):	<p>CO1: Introduce foundational concepts of 2D transformations, geometric modelling, and rendering techniques in computer graphics.</p> <p>CO2: Develop skills to apply 2D transformations (translation, rotation, scaling, shearing, reflection) and basic animations.</p> <p>CO3: Enable students to simulate real-world objects and create simple animations.</p> <p>CO4: Equip students to understand graphics pipelines, coordinate systems, and basic rendering principles.</p> <p>CO5: Foster creativity and logical thinking by implementing graphical scenes and animations.</p>
8	Course Outcomes (OC):	<p>OC1: Understand and apply 2D transformation matrices to graphical objects.</p> <p>OC2: Implement simple graphics primitives and manipulate them using transformations.</p> <p>OC3: Create basic 2D animations (e.g., bouncing ball, rotating shapes).</p> <p>OC4: Understand and utilize color models, coordinate systems, and graphical libraries.</p> <p>OC5: Develop basic graphical applications using lightweight tools and programming languages.</p>

9	Module 1	30 Hrs
	<p>Module 1: Basic Setup and 2D Graphics Fundamentals</p> <ol style="list-style-type: none"> 1. Installing Required Software <ul style="list-style-type: none"> • Objective: Install and configure Python, Matplotlib, OpenCV, or Pygame for computer graphics. • Task: Verify the installation and create a "Hello, Graphics!" window. 2. Drawing Basic Shapes <ul style="list-style-type: none"> • Objective: Draw lines, circles, rectangles, and polygons using graphical primitives. • Tool: Python with Matplotlib or OpenCV. 3. Line Drawing Algorithms <ul style="list-style-type: none"> • Objective: Implement the DDA (Digital Differential Analyzer) algorithm. • Tool: Python or C++. 4. Bresenham's Line Drawing Algorithm <ul style="list-style-type: none"> • Objective: Implement Bresenham's line drawing algorithm. • Tool: Python or C++. 5. Circle Drawing Algorithms <ul style="list-style-type: none"> • Objective: Implement the Midpoint Circle algorithm. • Tool: Python or C++. 6. Polygon Filling <ul style="list-style-type: none"> • Objective: Implement the boundary-fill and flood-fill algorithms. • Tool: Python or C++. 7. Translation Transformation <ul style="list-style-type: none"> • Objective: Shift a 2D object using translation matrices. • Tool: Python with Matplotlib. 8. Rotation Transformation <ul style="list-style-type: none"> • Objective: Rotate a 2D object about a fixed point or origin. • Tool: Python with Matplotlib. 9. Scaling Transformation <ul style="list-style-type: none"> • Objective: Scale a 2D object up or down using scaling matrices. • Tool: Python with Matplotlib. 10. Reflection Transformation <ul style="list-style-type: none"> • Objective: Reflect a 2D object across x-axis, y-axis, and diagonal. • Tool: Python with Matplotlib. 11. Shearing Transformation <ul style="list-style-type: none"> • Objective: Apply x-axis and y-axis shearing to a 2D object. • Tool: Python with Matplotlib. 12. Composite Transformations <ul style="list-style-type: none"> • Objective: Combine translation, rotation, and scaling on a 2D object. • Tool: Python with Matplotlib. 13. Clipping Algorithms <ul style="list-style-type: none"> • Objective: Implement the Cohen-Sutherland line clipping algorithm. 	

	<ul style="list-style-type: none"> • Tool: Python or C++. <p>14. Window-to-Viewport Transformation</p> <ul style="list-style-type: none"> • Objective: Map a 2D object from a window to a viewport. • Tool: Python or C++. <p>15. Basic Interactive Graphics</p> <ul style="list-style-type: none"> • Objective: Create a simple interactive graphics program (e.g., moving a rectangle with arrow keys). • Tool: Python with Pygame. 	
Module 2		30 Hrs
	<p>1. Simple Animation</p> <ul style="list-style-type: none"> • Objective: Animate a moving ball across the screen. • Tool: Python with Pygame. <p>2. Bouncing Ball Animation</p> <ul style="list-style-type: none"> • Objective: Create a bouncing ball with collision detection. • Tool: Python with Pygame. <p>3. Rotating Object Animation</p> <ul style="list-style-type: none"> • Objective: Animate a rotating triangle or square. • Tool: Python with Pygame or Matplotlib. <p>4. Scaling Animation</p> <ul style="list-style-type: none"> • Objective: Create an animation showing pulsating objects (grow/shrink). • Tool: Python with Matplotlib. <p>5. Multiple Object Animation</p> <ul style="list-style-type: none"> • Objective: Animate multiple objects moving independently. • Tool: Python with Pygame. <p>6. Color Models</p> <ul style="list-style-type: none"> • Objective: Experiment with RGB and HSI color models. • Tool: Python with OpenCV. <p>7. Bezier Curves</p> <ul style="list-style-type: none"> • Objective: Draw and animate a Bezier curve. • Tool: Python with Matplotlib. <p>8. 2D Game Development Basics</p> <ul style="list-style-type: none"> • Objective: Create a simple 2D game (e.g., a ball avoiding obstacles). • Tool: Python with Pygame. <p>9. Scene Creation</p> <ul style="list-style-type: none"> • Objective: Design a basic 2D scene (e.g., a house, tree, and sun). • Tool: Python with Matplotlib. <p>10. Parallax Scrolling Animation</p> <ul style="list-style-type: none"> • Objective: Implement parallax scrolling for a background in 2D graphics. • Tool: Python with Pygame. <p>11. Path Animation</p> <ul style="list-style-type: none"> • Objective: Animate an object moving along a predefined path. 	

	<ul style="list-style-type: none"> • Tool: Python with Matplotlib. <p>12. Collision Detection</p> <ul style="list-style-type: none"> • Objective: Implement collision detection between 2D objects. • Tool: Python with Pygame. <p>13. Interactive Graphics with Mouse Input</p> <ul style="list-style-type: none"> • Objective: Create an interactive program where shapes follow mouse clicks. • Tool: Python with Pygame. <p>14. Text Rendering</p> <ul style="list-style-type: none"> • Objective: Render and animate text in a 2D graphical environment. • Tool: Python with Pygame. <p>15. Final Project</p> <ul style="list-style-type: none"> • Objective: Combine multiple concepts to create a complete animated 2D scene. • Example: A car moving on a road with a rising sun and trees. <p>Tool: Python with Matplotlib or Pygame</p>	
10 & 11	Reference and Text Books: <ol style="list-style-type: none"> 1. Python Graphics: A Reference for Creating 2D and 3D Images, Bernard Korites, Apress, 2nd Edition 2023. 2. Computer Graphics from Scratch: A programmer's Introduction to 3D Rendering, Gabriel Gambetta, no starch press, 2021 3. 2D Computer Graphics: Modern C++ and Standard Library, Hakan Blomqvist, 2023 	
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 totaling 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	

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

Title of Paper Mobile Programming

Sr.No	Heading	Particulars
1	Description the course : Including but Not limited to:	This course introduces the fundamentals of Flutter and Dart for building cross-platform mobile applications. Students will learn to create responsive user interfaces, manage app state, handle user inputs, and implement navigation and animations. The course also covers integrating APIs, working with databases, and deploying functional mobile apps for Android and iOS.
2	Vertical :	Skill Enhancement Course
3	Type :	Practical
4	Credits :	2 credits (30 Hours of Practical work in a semester)
5	Hours Allotted :	30
6	Marks Allotted:	50 Marks
7	Course Objectives(CO):	<p>CO1: Understand the fundamentals of Flutter and Dart programming for mobile app development.</p> <p>CO2: Learn how to set up the Flutter SDK and development environment.</p> <p>CO3: Develop skills to create basic Flutter applications using widgets like Text, Row, and Column.</p> <p>CO4: Explore the use of StatelessWidget and StatefulWidget for managing app states.</p> <p>CO5: Master the implementation of responsive UIs using MediaQuery and layouts.</p> <p>CO6: Gain knowledge of form creation, input handling, and validation in Flutter apps.</p> <p>CO7: Learn to navigate between screens and implement app navigation features like drawers.</p> <p>CO8: Understand how to use Flutter animations, including AnimatedContainer and FadeTransition.</p> <p>CO9: Explore database integration with APIs using packages like http and FutureBuilder.</p> <p>CO10: Build apps with themes, user interactions (e.g., taps and long presses), and custom styling.</p>

8	<p>Course Outcomes (OC):</p> <p>OC1: Demonstrate the ability to configure Flutter and build a functional development environment.</p> <p>OC2: Create and run basic Flutter apps with appropriate UI components.</p> <p>OC3: Develop responsive and adaptive UIs for multiple screen sizes.</p> <p>OC4: Implement interactive features like counters, sliders, and switches in Flutter apps.</p> <p>OC5: Design and validate user input forms using TextFormField.</p> <p>OC6: Develop navigation flows between screens and integrate drawers for better usability.</p> <p>OC7: Create animations for smooth transitions and enhanced user experiences.</p> <p>OC8: Build applications that fetch and display data from public APIs asynchronously.</p> <p>OC9: Apply effective state management strategies to handle app states efficiently.</p> <p>OC10: Demonstrate the ability to debug, test, and optimize Flutter apps for deployment.</p>	
9	Module 1	30 Hrs
	<ol style="list-style-type: none"> 1. Install Flutter SDK on your computer and run the flutter doctor command to check your setup. 2. Create a "Hello, World!" Flutter application and run it on an emulator. 3. Modify the app's title and primary color in the MaterialApp widget. 4. Create a StatelessWidget that displays a greeting message. 5. Write a Dart program to calculate the sum of two numbers entered by the user. 6. Implement a Dart program that uses if-else statements to determine if a number is odd or even. 7. Demonstrate the use of a switch-case statement in Dart. 8. Write a program to print a multiplication table using a for loop. 9. Create a Flutter app with a Text widget that displays your name. 10. Build an app with a Column widget to arrange multiple Text widgets vertically. 11. Use a Row widget to arrange three buttons horizontally. 12. Create a Flutter app using Scaffold with an AppBar, Body, and a FloatingActionButton. 13. Create a simple counter app using StatefulWidget to increment and display a number. 14. Implement a TextField widget to accept user input and display it using a Text widget. 15. Design a Flutter app with a Container widget and customize its padding, margin, and color. <p>Use the Stack widget to overlay a Text widget on an Image.</p>	
	Module 2	30 Hrs
	<ol style="list-style-type: none"> 1. Build a responsive UI using MediaQuery to adapt to different screen sizes. 2. Create a Flutter form with TextFormField widgets to accept a username and password. 3. Implement form validation to ensure the fields are not empty. 4. Add navigation between two screens in Flutter using the Navigator class. 	

	<ol style="list-style-type: none"> 5. Create a Drawer widget for app navigation with three menu options. 6. Display a list of items in a ListView widget. 7. Use the GridView widget to display a grid of images. 8. Add a GestureDetector to detect taps and display a message in the console. 9. Implement a LongPress event to change the color of a container. 10. Create a basic animation using the AnimatedContainer widget. 11. Implement a FadeTransition to animate the opacity of a widget. 12. Use a Slider widget to select a value between 0 and 100 and display the value. 13. Create a Switch widget to toggle between two themes (light and dark). 14. Use the http package to fetch and display data from a public API. <p>Create a FutureBuilder widget to display data asynchronously.</p>	
10 & 11	<p>Reference and Text Books:</p> <ol style="list-style-type: none"> 1. Mastering Flutter: A Beginner’s Guide, by Sufyan bin Uzayr, CRC Press, 1st, 2023 2. Flutter for Beginners, by Alessandro Biessek, Packt Publishing, 1st edition (2019). 3. Flutter Cookbook, by Simone Alessandria, Packt Publishing, 2nd Edition, 2023 4. Beginning App Development with Flutter, by Rap Payne, Apress, 1st edition (2019). 5. Flutter Apprentice, by Michael Katz, Kevin David Moore, and Vincent Ngo, Kodeco, 1st edition (2021). 6. Flutter Complete Reference 2.0, by Alberto Miola, Independently published, 2nd edition (2023). 7. Flutter in Action, by Eric Windmill, Manning Publications, 1st edition (2020). 8. Programming Flutter, by Carmine Zaccagnino, O'Reilly Media, 1st edition (2020). 	
12	Internal Continuous Assessment: 40%	Semester End Examination: 60%
13	<p>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 totaling to 50 marks and can be converted to 20 marks.</p>	30 marks practical exam of 2 hours duration
14	<p>Format of Question Paper: Duration 2 hours. Certified copy of Journal is compulsory to appear for the practical examination</p> <p>Practical Slip: Q1. From Module 1 13 marks</p>	

	Q2. From Module 2 12marks
	Q3. Journal and Viva 05 marks

AC-20/05/2025

Item No.- 5.45 (N)

Sem-IV 5(a)

As Per NEP 2020

University of Mumbai



Syllabus for Basket of AEC	
Board of Studies in English	
UG First Year B.sc Programme	
Semester	IV
Title of Paper	Credits
Introduction to Communication Skills in English II	2
From the Academic Year	2025-2026

Sr. No.	Heading	Particulars
1	Description of the course: Including but Not limited to:	Introduction to Communication Skills in English II Effective academic communication skills are essential for success in scholarly pursuits. In the academic realm, proficiency extends beyond verbal articulation to encompass precise and coherent written expression. Students are not only required to engage in thoughtful discussions and articulate complex ideas verbally but must also demonstrate their understanding through well-crafted written assignments, and presentations. Academic communication involves the mastery of scholarly conventions, such as adherence to academic writing styles, and the ability to engage in dialogue with peers and scholars. It encompasses the skillful navigation of academic discourse, fostering an environment where ideas are shared, challenged, and refined. Developing strong academic communication skills empower individuals to contribute meaningfully to intellectual conversations, enriching both their academic journey and the broader scholarly community. This course with its 30:20 pattern will also help in accomplishing this goal. The course is aimed at honing their cognitive, analytical, linguistic and creative skills. It is hoped that by the end of the academic year, the learners will have developed confidence in using the English language both for oral and written communication as well as develop interest in enhancing these skills later on.
2	Vertical:	AEC (Ability Enhancement Course)
3	Type:	Theory
4	Credit:	2 credits (1credit=15Hours for Theory in a semester)
5	Hours Allotted:	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives:	<ol style="list-style-type: none"> 1. To cultivate a comprehensive understanding of English Usage in Communication 2. To enhance reading proficiency with a diverse range of written texts with different genres and styles of written communication. 3. To help learners with better comprehension of a variety of oral texts by inculcating listening skills through practical exercises. 4. To train learners in group discussion and interview skills 5. To provide practical experience in formal and creative writing.

8 Course Outcomes:

At the end of the course the learner is able to:

- Demonstrate an understanding of English Usage in Communication
- Exhibit the ability to Read a variety of written text using subskills such as analyzing and interpreting text.
- Show competence in comprehending a variety of oral texts.
- Actively participate in group discussion, and research and prepare for the interview effectively
- Display advanced formal (email writing, report writing) and creative writing skills.

9 Modules: -

Module1:(15 Lectures)

A) English Usage in Communication

- Appropriacy in the Use of English
- Distinction between American English and British English
- Indianism and Indian English
- Elevator Pitch
- Modes and Types of Interview

B) Enhancing Reading Competencies:

- Augmenting active vocabulary
- Understanding relations between parts of a text
- Understanding concepts and arguments,
- Developing skills in analysis and interpretation
- Rewriting a passage from a defined perspective
- Reading critically (presenting a reasoned argument that evaluates and analyses what you have read)

A variety of passages of 200-250 words may be taken such as extracts from academic texts literary texts, magazines, newspapers, reports, documents. The passages should have complex text type, function and lexis. The learners may be encouraged to gather meaning contextually or by referring to offline and online sources such as dictionary, thesaurus, and encyclopedia.

C) Listening Skills

- Predicting content and guessing meaning
- Making inferences from the audio-visual text
- Listening for opinion/argument/counter-arguments etc.

- Taking notes

A variety of relevant audio/visual texts as samples may be drawn from various sources. Listening skills in English should be developed through various activities along with the practice done while teaching in the class.

Module2: (15 Lectures)

A. Group Discussion

- Formal and informal discussion
- Elements of group discussion
- Using appropriate language: Initiating, seeking and giving opinions, suggesting, responding to a suggestion, agreeing, disagreeing, interrupting, requesting, clarifying, summing up
- Types of discussion: Giving and sharing opinions of a given topic, making decisions, problem solving (case study)

B. Interview Skills

- Attending an Interview (Job/Entrance): Researching the organization, reviewing career-profile and your bio-data, preparing for standard questions, Responding to questions
- Analyzing Interviews

Students can be tested on forming actual interview frameworks including questions. Teachers must form the groups and conduct actual interviews involving full strength of students.

C. Writing Skills:

- Emails: applying for admission, accepting and joining (academic institution), Cancelling admission, registering a complaint
- Report Writing: Activity/Event report, Academic Report
- Creative Writing: Personal Essay, Memoir, Short Speech on the given occasion/ event, Story writing

10 **Text Books: N.A.**

11 **References:**

- Bellare, Nirmala. *Reading & Study Strategies*. Books. 1 and 2. Oxford University Press, 1997, 1998
- Bellare, Nirmala. *Easy Steps to Summary Writing and Note-Making*. Amazon Kindle Edition, 2020
- Comfort, Jeremy, et al. *Speaking Effectively: Developing Speaking Skills for Business English*. Cambridge University Press, 1994.

- Das, Bikram K., et. al. *An Introduction to Professional English and Soft Skills*. Cambridge University Press India Pvt. Ltd., 2010
- Das, Yadjnaseni & R. Saha (eds.) *English for Careers*. Pearson Education India, 2012.
- Dimond-Bayir, Stephanie. *Unlock Level 2 Listening and Speaking Skills Student's Book and Online Workbook: Listening and Speaking Skills Student's Book+ Online Workbook*. Cambridge University Press, 2014.
- Doff, Adrian and Christopher Jones. *Language in Use* (Intermediate and Upper Intermediate). CUP, 2004.
- Glendinning, Eric H. and Beverley Holmstrom. Second edition. *Study Reading: A Course in Reading Skills for Academic Purposes*. CUP, 2004
- Goodale, Malcolm. *Professional Presentations Video Pack: A Video Based Course*. Cambridge University Press, 1998.
- Grellet, F. *Developing Reading Skills*. Cambridge: Cambridge University Press, 1981
- Grussendorf, Marion. *English for Presentations*. Oxford University Press, 2007.
- Hamp- Lyons, Liz and Ben Heasley. Second edition. *Study Writing: A Course in Writing Skills for Academic Purposes*. CUP, 2006
- Labade, Sachin, Katre Deepa et al. *Communication Skills in English*. Orient Blackswan, Pvt Ltd, 2021.
- Lewis, N. *How to Read Better & Faster*. New Delhi, Goyal Publishers & Distributors Pvt. Ltd, 2006.
- McCarthy, Michael and Felicity O'Dell. *English Vocabulary in Use*. Cambridge: Cambridge University Press, 2001.
- Mohan, RC Sharma Krishna. *Business Correspondence and Report Writing*. Third edition. Tata McGraw-Hill Education, 2002.
- Murphy, Raymond, et al. *Grammar in use: Intermediate*. Cambridge University Press, 2000
- Raman, Meenakshi, and Singh, Prakash. *Business Communication*. India, Oxford University Press, 2006.
- Richards, Jack C., and Chuck Sandy. *Passages Level 2 Student's Book*. Cambridge University Press, 2014.
- Sadanand, Kamlesh & S. Punitha. *Spoken English: A Foundation Course*. (Part 1 & 2). Orient Blackswan. 2009.
- Sasikumar, V., et al. *A Course in Listening & Speaking I*. 2005. Cambridge University Press India Pvt. Ltd. (under the Foundation Books Imprint), 2010
- Savage, Alice, et al *Effective Academic Writing*. Oxford: OUP, 2005
- Sethi, J. *Standard English and Indian usage: Vocabulary and grammar*. PHI Learning Pvt. Ltd., 2011.
- Taylor, Grant. *English Conversation Practice*. 1967. Tata McGraw-Hill, 2013
- Turton, Nigel D. *A B C of Common Grammatical Errors*. 1995. Macmillan India Ltd., 1996
- Vas, Gratian. *English Grammar for Everyone*. Mumbai, Shree Book Centre, 2015
- Watson, T. *Reading Comprehension Skills and Strategies: Level 6*. Saddleback Educational Publishing, 2002

Web link Resources:

1. A rendezvous with Simi Garewal: Ratan Tata:
<https://www.youtube.com/watch?v=ozetTgOHu78&t=510s> Here Ratan Tata discusses his personal life, his expectations, his experience as a CEO of Tata and sons.
2. A rendezvous with Simi Garewal: Kiran Bedi: <https://youtu.be/vX2NyKvEAXQ> In this video, Kiran Bedi shares her daring adventures, her field, her passion for career with Simi Garewal.
3. In Conversation: Rajiv Mehrotra with J.R.D.Tata: <https://youtu.be/68otfg601HI> J. R. D. Tata discloses his dream of India, his experiences with Pandit Nehru, Mahatma Gandhi, Sardar Patel and his contribution to modern India.
4. The Tharoor Guide To Indian English: <https://youtu.be/NsyI9LIXbFM> Shashi Tharoor talks of new words like “defenstrate”, “brinjol”; talks about Indian English, ethnicity and so on.
5. Dr. A.P.J Abdul Kalam on Discovery, invention and innovation: <https://youtu.be/9CKCfiX3u00> Dr. Kalam addresses IIT Delhi students.
6. Malala Yousafzai’s speech on the occasion of her Nobel Peace Prize (2014) on education: <https://youtu.be/c2DHzkUI6s>
7. Kailash Satyarthi’s speech on the occasion of Nobel Peace Prize(2014) on the innocence of children; he gives voice to voiceless in his speech: https://youtu.be/wt0LSCeuc_M
8. Speech by Mr. Ratan Tata: <https://youtu.be/m7-tKX7aZXM>
9. “I Have a Dream” speech by Martin Luther King Jr. HD (subtitled)
<https://www.youtube.com/watch?v=vP4iY1TtS3s> “I Have a Dream” is a public speech that was delivered by American civil rights activist Martin Luther King Jr. during the March on Washington for Jobs and Freedom on August 28, 1963, in which he called for civil and economic rights and an end to racism in the United States.
10. Speech by Emma Watson on Gender Equality : <https://youtu.be/nIwU-9ZTTJc> 11. Imaginative science video: Could humans live in underwater cities?
<https://youtu.be/GUGtU7Ii1yk>
12. A conversation about household appliances: <https://youtu.be/rAPI0fSborU> 13. Video on psychology: Why do we dream? <https://youtu.be/2W85Dwxx218>
14. Video on space: Solar system 101: <https://youtu.be/libKVRa01L8>
15. Video on evolution: How Apocalypses paved the way for Humans
<https://youtu.be/libKVRa01L8> 16. Video on biology: Why Bats Aren't as Scary as You Think https://youtu.be/D6e_qh3YRPs
17. Video on social media: What is a social media influencer?
<https://youtu.be/39A3og7enz8>
18. Tips on communication (TED Talk): The Secrets of Learning a New Language https://youtu.be/o_XVt5rdpFY

	<p>19. Expressing opinions: If Cinderella Were a Guy: https://youtu.be/p4OyCNctKXg</p> <p>20. Telling stories without words: Partly Cloudy https://youtu.be/ix13P9NqBjo</p> <p>21. Telling stories without words: Tree of Unity https://youtu.be/sAo41Gyl6hY 17</p> <p>22. Bonding over the Radio: A special storytelling series by the much loved author Ruskin Bond: akashvaniair https://youtu.be/oxf60BIR2Q4 https://youtu.be/ISX7rUOJOms https://youtu.be/rrC_s0XPXKI https://youtu.be/FUML3q1ncF0 https://youtu.be/3by_ninqRzg</p> <p>23. Video on the English language: Where did English come from? https://youtu.be/YEaSxhcns7Y</p> <p>24. Video on biology: The science of skin colour: https://youtu.be/r4c2NT4naQ</p> <p>25. Video on advertising: The Science of Persuasion https://youtu.be/cFdCzN7RYbw</p> <p>26. "The Happy Prince" Oscar Wilde Michael Mills Classic Animated Short 1974 https://www.youtube.com/watch?v=q3RZh1yaqxM Learners may be encouraged to watch animated stories such as this one and questions asked later on.</p>	
12	Internal Continuous Assessment: 40%	Semester End Examination: 60%
13	<p>Continuous Evaluation through:</p> <ul style="list-style-type: none"> • Performance in activities on Module 2 A & B during lectures: (10 marks) The class may be divided into batches to participate in Group Discussion and mock interview by creating formal schedule for the same before the semester End Examination. • Participation in classes during lectures: (05 marks) (Learners' response during the teaching and the tasks involving Listening skills (Module 1 C) will be assessed) • Overall attendance in lectures (05 marks) (Percentage of learners' attendance in class to be considered) 	
14	<p>Format of Question Paper: for the final examination</p> <p>Q.1. Short Notes on Module 1 A (2 out of 4) 10 Marks</p> <p>Q.2. Unseen Passage (200-250 words) (Module 1 B) 10 Marks</p> <p>Q.3 Writing Skills on Module 2 C – Writing an email or a Report or Creative Writing 10 Marks</p>	

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AC –

Item No. –

University of Mumbai



Syllabus for Extension Work in Vertical VI - CC

Board of Studies in Extension Work

UG Second Year Program

Semester

IV (Two)

Title of Paper

Credit 2/4

Extension Work

2 Credits

From the Academic Year

2025-26

Introduction

The National Education Policy (NEP) 2020 is a comprehensive framework introduced by the Government of India to revamp the country's education system. It has replaced the previous National Policy on Education, which has aim to ensure universal access to quality education from preschool to higher education, including vocational education. NEP 2020 emphasizes a more holistic, multidisciplinary, and flexible curriculum which lay emphasis on conceptual understanding rather than rote learning allowing students to choose subjects across disciplines without strict boundaries.

The National Education Policy (NEP) 2020 of India addresses the role of higher education institutions in fostering community engagement and extension work. It highlights the social responsibility of higher education institutions towards their communities. It encourages institutions to engage with local communities, address societal challenges, and contribute to sustainable development. The policy promotes the implementation of outreach programs by higher education institutions to disseminate knowledge, provide services, and support community development. These programs may include literacy campaigns, career development programs, social issues awareness programs, health and hygiene initiatives, skill development workshops, and technology-oriented activities. The policy suggests integrating extension work into the curriculum of higher education programs. This allows learners to gain practical experience, develop leadership skills, and contribute to community development while pursuing their studies. It recognizes incentives to encourage active engagement in community service and extension activities.

Overall, NEP 2020 recognizes the significant role of higher education institutions in promoting community engagement, social responsibility, and sustainable development through extension work. By integrating extension activities into their mission and operations, institutions can contribute to building inclusive and resilient societies.

Extension work in the context of education refers to the activities and programs conducted by educational institutions to engage with communities, address societal needs, and promote social development.

Aim of Extension Work under NEP:

- Extension work aims to identify and address the specific needs and challenges faced by communities. NEP 2020 encourages higher education institutions to engage with local communities and contribute to their development by offering programs and services that

address social needs, such as literacy programs, health awareness campaigns, and vocational training.

- Extension work aims to empower communities by providing them with the knowledge, skills, and resources they need to address their own requirements and improve their quality of life.

Key objectives of Extension Work under NEP:

- To ensure equal access to quality education and educational opportunities to aspirants.
- To support the government initiatives in achieving universal foundational literacy and numeracy as per sustainable development program.
- To organize remedial programs to address the learning breaches among the youth and provide unending education opportunities.
- To offer more holistic, multidisciplinary, and flexible curricular activities with an emphasis on conceptual understanding and personality development.
- To offer a wide range of activities & promote critical thinking, creativity, and innovation.
- To provide aspirants with multiple pathways for skill development and employment.
- To implement outreach programs to disseminate knowledge, provide services, and support community development.

Extension Work Activities:

Extension Work activities introduced by DLLE are a crucial aspect of the educational environment, offering multifaceted benefits that extend beyond academic learning. Many extension activities focus on social issues, sustainability, and environmental conservation. These activities educate the communities on sustainable practices which promote inclusivity and social justice. These activities focus especially on training women in various skills, including entrepreneurship and digital literacy through various vocational skill-oriented projects offered by the department. These activities have significantly contributed to skill development among community members, leading to improved employment opportunities and personality development. Learners participate in extension work activities as part of their curriculum, to gain practical experience and to contribute to community development. Thus, engaging in extension work fosters a sense of social responsibility and civic engagement among the learners and facilitators.

Given below are the activities / programs to be conducted by the colleges as a part of Extension Work as enlisted topics. The learner will focus on enlisted topics and participate in following activities during Semester IV in this academic year.

ACTIVITIES FOR SEMESTER IV = 2 Credits

Sr. No.	Unit	No. of Lectures
1.	<p><u>Organising & Participation in Training Session</u></p> <p>Every learner should attend the orientation / training session organised by their college for orientation of annual extension work program. Attendance is compulsory. In this session the learners will be oriented about the activities to be conducted during the semester followed by question-and-answer session. The learner must read resource material and guideline carefully and plan his / her activities for the semester during academic year.</p>	2 Lectures
2.	<p><u>Participation in Project /Activities</u> (as given below)</p> <p>In this session learners will be oriented about any 5 Topics selected by college (preferably which are not taken in Semester 1 2, and 3) for awareness under Extension Work. The college may select more than 5 topics if the enrolment of learners is more than 200. The learners will participate in activities based on these topics selected by college.)</p> <ol style="list-style-type: none"> 1. Election Literacy 2. Nasha Mukti 3. My Career. 4. Physical Education and Yoga. 5. Discipline and Civic Sense. 6. Sustainable Health Practices & Precautions. 7. Care for Senior Citizens 8. Palliative Care for patients. 9. Child Care 10. Stress Management 	22 Lectures including guidance for practice session, preparations and actual conduct of program.

11. Positive Thinking.
12. Communal Harmony
13. Book Reading Practices
14. Journalism and Media
15. Sustainable Natural Resources
16. Career Opportunities in NEP 2020
17. Indian Scientists and Their Contributions
18. Women Entrepreneurs & Leadership in India
19. Digital India and Technological Innovations
20. Stop Food Waste

Learners will be oriented and motivated to participate in minimum four activities given below based on above topics:

1. Seminar /conferences, discussion sessions, debate, rallies
2. Competitions (essay/creative writing, elocution, poster/ video/ rangoli making etc. – Minimum 2 competitions)
3. Extension Work group activities of other groups in the college.
4. Prepare your PPT, design your posters / charts.
5. Survey / short term academic courses / innovative programs.
6. Field visit / field work / case studies / developing innovative engineering models / projects
7. Participation in Street Plays
8. Event / hospitality / human resource management program /assignment
9. Novel formulation development (pharmacy),
10. Self-medication survey (pharmacy),

Learners are required to prepare short videos (duration 3-4 minutes) of the activity where the college will organize such competition.

The learners will be oriented about various career development opportunities in University of Mumbai, and schemes of student development by the Government.

	<p><u>Learners will be oriented and given an opportunity for:</u></p> <ul style="list-style-type: none"> - Script writing / Direction for street play. - Composing / Singing (Songs, Powada) - Playing Musical Instrument during the event. - Participation in various college and university level competitions. - Participate in Cultural Performance / Organising Committee for Festival / Programs / Event Management. 	
3	<p><u>Participation Video / Stage Performance / Assignment / Report Writing and submission</u></p> <ul style="list-style-type: none"> - Present your report / video during the college program. - All learners enrolled in Extension Work can make activity video or stage performance (3-4 minutes duration) creating awareness about any social issues / topics enlisted here followed by assignment / report writing as per format. - College will organise a program in the hall / classroom for all learners and give them an opportunity to present their assignment / report with PPT / video presentation followed by question answer session / test / interview by the college. 	6 Lectures including guidance for practice session, preparations and actual conduct of program.

Evaluation Pattern

Internal Assessment

Sr. No.	Assessment Criteria	Maximum Marks
1	Attendance, punctuality, completion of hours, participation in programs, presentations and feedback.	10
2	Proficiency in required skill sets, overall performance, submission of written report / assignments and expected development.	10
	Total	20 Marks

External Assessment

(Based on Extension Work guidelines and five enlisted topics chosen by the college.)

Question Paper Pattern

Time: 1.00 Hours

Total Marks 30

Instructions: 1. All questions are compulsory.

2. Figures to the right indicate maximum marks.

Q.1. Rewrite the following statement by choosing correct alternative given below. - 06 Marks
(6 statements. One mark each)

Q.2. Write short Notes On (Any Two out of Four) - 06 Marks

Q.3. Answer the following questions. (Any Three out of Five) - 18 Marks

References:

- Agricultural Extension: Principles and Methods" by "Ray V. Herren (2008)
- Agricultural Extension by G. S. R. Murthy (2010)
- Agricultural Extension in Developing Countries by R. W. Snapp (2012)
- 'Community Development: Theory and Practice' by Margaret Ledwith (2020)
- Extension Communication and Management by B. M. Panda (2016)
- Extension Education: Principles and Practice by Dahama and Bhatnagar (2017)
- Guidelines for Extension Work published by Department of Lifelong Learning and Extension, University of Mumbai.
- Introduction to Agricultural Extension by S. S. Acharya (2015)
- 'Innovation in India: Combining Economic Growth with Inclusive Development' edited by Sunil Mani and Henny Romijn.
- 'Participatory Extension Approaches for Sustainable Development' by Chambers and Guijt (2019)
- 'Rural Development and Extension Education' by Singh and Swanson (2018)
- 'Social Work and Community Development' by Pawar and Cox (2019)

Semester IV

As per NEP 2020

Integrated Theatre Production: Stage Craft, Costume, Music and Technology

Syllabus for Two Credits Programme

With effect from Academic Year 2025-2026

Aims and Objectives

- Theorize the semiotic and emotional functions of lighting and costume design within various theatrical traditions.
- Critically examine the historical evolution and theoretical paradigms of lighting and costume design in stagecraft.
- Explore the interplay between visual design elements and narrative dramaturgy in theatrical performance.
- Understand technical terminologies and design documentation processes from a theoretical perspective.
- Discuss the role of modern technologies (e.g., DMX, lighting consoles) and their theoretical implications on visual design aesthetics.
- Evaluate costume design strategies in relation to character psychology, period accuracy, and genre conventions.

Learning Outcomes

The course will enable the learner to

- **Define and describe** key theoretical concepts related to lighting and costume design in theatre.
- **Interpret** the narrative and symbolic meanings conveyed through visual design elements in performance.
- **Analyze** lighting and costume designs using appropriate theoretical and historical frameworks.
- **Discuss** the interrelationship between text, character, and design from a theoretical standpoint.
- **Compare and contrast** design practices across different theatrical genres and periods.
- **Evaluate** how technological advancements have influenced theoretical approaches to stage design.

Modules at Glance Semester IV

Module No.	Unit	Content	No. of Hours
1	I	Stage Lighting Design and Documentation	07
	II	Principles and Practice of Costume Design	08
2	III	Background Music and Sound Design	07
	IV	Technological Tools in Theatre Production	08
Total No. of Hours			30

Module No.	Unit	Content
1	I	<p>Stage Lighting Design and Documentation</p> <ul style="list-style-type: none"> • Introduction to lighting as a narrative and emotional tool in theatre • Preparation and documentation: <ul style="list-style-type: none"> ○ Lighting layout plan ○ Ground plan ○ Cue sheet making • Study of light placement, intensity, color, and timing • Introduction to modern lighting technology: <ul style="list-style-type: none"> ○ Use of computerized and automated lighting systems (DMX, consoles, software) • Integration of lighting with sound and stage movement.
	II	<p>Principles and Practice of Costume Design</p> <ul style="list-style-type: none"> • Elements and principles of costume design: texture, silhouette, line, color, proportion • Costume construction techniques: fabric selection, stitching, pattern-making • Embellishment and ornamentation: embroidery, painting, appliqué • Costumes for theatrical styles: <ul style="list-style-type: none"> • Realistic/Representational theatre: historically and culturally accurate costume design • Stylized/Presentational theatre: symbolic, abstract, and thematic design approaches
2	III	<p>Background Music and Sound Design</p> <ul style="list-style-type: none"> • Objectives and importance of background music in theatre production. • Methods of using sound: <ul style="list-style-type: none"> • Live performance effects vs. recorded effects • Synchronizing sound with cues, lighting, and performance • Introduction to musical instruments used in theatre:

		<ul style="list-style-type: none"> • String instruments (e.g., sitar, violin) • Wind instruments (e.g., flute, shehnai) • Percussion instruments (e.g., tabla, drums) • Music cue sheets: structure, timing, and application in live performance.
	IV	<p>Technological Tools in Theatre Production</p> <ul style="list-style-type: none"> • Overview of sound equipment: microphones, mixers, speakers • Integration of computers and software in sound and music production • Use of digital platforms in cueing, editing, and managing technical aspects of performance • Case studies/examples from contemporary and traditional performances integrating modern technology.

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 IV (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

- Angeloglou, M. (1970). *A history of make-up*.
- Malvil, H. (n.d.). *Magic of makeup for stage*.
- Strenkovsky, S. (1937). *The art of make-up*. Frederick Muller.
- Pilbrow, R. (2008). *Stage lighting design: The art, the craft, the life*. Quite Specific Media Group.
- Dasgupta, G. N. (1986). *Guide to stage lighting*. Annapurna Dasgupta.
- Corry, P. (1958). *Lighting the stage*. Pitman.
- Welker, D. (1969). *Theatrical set design: The basic techniques*. Allyn and Bacon

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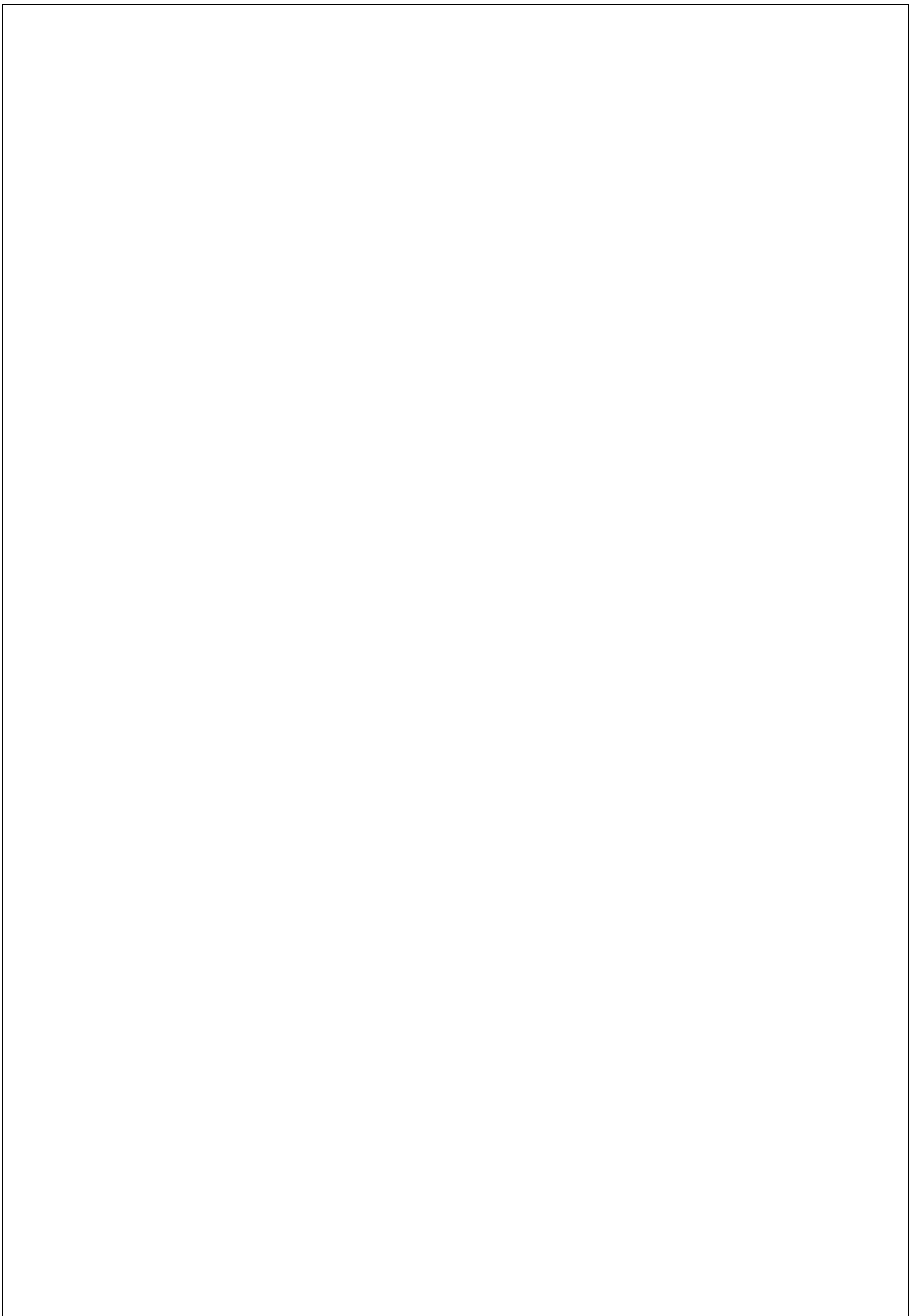
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Offg. Associate Dean
Dr. C.A.Chakradeo
Faculty of
Interdisciplinary
Studies**

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Faculty of
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Studies**



UNIVERSITY OF MUMBAI

Semester IV

(w.e.f. June, 2025)

Sub: - NSS- Youth and Disaster Management

Credits: 02

Lectures: 30

Marks:50

Unit Number	SEMESTER 4 Title of the Unit	No. of Lecture	No. of Credits
1	Youth and Disaster Management- Meaning and Types of Disasters – Natural and Man-Made disasters, preparedness, Disaster Risk reduction: Preparedness, Mitigation, Response, Relief, Rehabilitation, Reconstruction.	10	
2	Project:	20	
	• Project work is mandatory for all the students in IV semester.		
	• They can carry out project work under the supervision of the teacher in-charge of NSS and at the end of the semester a project report shall be presented and viva voce shall be conducted.		
	• The Project work can be carried out independently or in a group.		
	The project work shall be community based and selected preferably from the adopted villages/ slums/ neighborhoods.		
Project Submission and Presentation VIVA-VOCE			

Note:

- Above Paper will be exempted if the learner is involved in NSS as Volunteer and Successfully completes 60 hours in each Semester.
- 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.
-

NSS Project Report Format

(For Projects in Adopted Area / Village)

➤ **Cover Page**

- Name of the Institution
- Title of the Project (e.g., "Cleanliness Drive in XYZ Village")
- Name(s) of Student Volunteer(s)
- Name of Programme Officer
- Duration of the Project
- Date of Submission

➤ **Certificate**

- Issued by the Programme Officer/NSS Coordinator certifying the successful completion of the project.

➤ **Acknowledgment**

- Brief section to thank authorities, community members, NSS coordinators, peers, etc.

➤ **Index**

- A table listing all sections with corresponding page numbers.

1. Introduction
2. Profile of the Adopted Area / Village
3. Objectives of the Project
4. Planning and Preparation
5. Implementation of Activities
6. Outcomes and Impact
7. Challenges Faced
8. Feedback
9. Conclusion and Suggestions

➤ **Annexures**

- Photographs (with captions)
- Survey forms or questionnaires used
- Newspaper clippings (if any)
- Charts, posters, or flyers prepared

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**UNIVERSITY OF MUMBAI
SYLABUS FOR (NEP-2020)**

CO-CURRICULAR COURSE IN SPORTS

Introduction to Sports, Physical Literacy, Health and Fitness and Yog

SEMESTER IV

(Syllabus to be implemented from, June 2025 onwards)

Course (Optional): Introduction to Sports, Physical Literacy, Health & Fitness and Yog**CBCS (Choice Based Credit System)
Second Year- Semester IV
Course Structure**

Semester	Paper	Title of Paper	No of lecture (Theory)	Internal Evaluation (IE)	End Semester Evaluation	Total Marks	Credits
Fourth	CC	Advanced Sports Training and Performance Evaluation	30	20	30	50	02
Total	-	-	30	20	30	50	02

University of Mumbai
Semester IV
(w.e.f. June, 2025)

Sub:- Advanced Sports Training and Performance Evaluation

Preamble:

In an era where fitness and sports are pivotal to the holistic development of individuals, an understanding of sports training and performance evaluation is essential. This course bridges the gap between theoretical knowledge and its practical application in sports and fitness domains. Students will gain hands-on experience in training methodologies, measurement techniques, and assessment strategies to excel in their chosen field of sports and fitness.

Objectives of the Course:

- To impart practical skills in sports training and evaluation techniques.
- To encourage participation in various sports and fitness activities.
- To develop a scientific approach to training and performance assessment.
- To enhance organizational and leadership skills through event planning and volunteering.
- To foster a deeper understanding of training intensity, recovery, and testing protocols.

Program Outcomes:

By the end of the program, students will:

- Gain practical knowledge of sports training principles and methods.
- Develop the ability to conduct, evaluate, and interpret various fitness and skill-based tests.
- Learn to design and implement personalized and professional training programs.
- Acquire experience in organizing and volunteering in sports and fitness events.
- Understand the role of psychological, fitness, and skill tests in enhancing performance.

UNIVERSITY OF MUMBAI

Semester – IV

(w.e.f. June, 2025)

Sub:- Advanced Sports Training and Performance Evaluation

Credits: 02

Practical Lectures: 60

Marks:50

Module No.	Unit No	Title of the Unit	No. of Practical hours	No. of Credits
1	I	Advanced Sports Training Fundamentals of Sports Training <ul style="list-style-type: none">• Warm-ups and cool-downs• Fitness training (strength, endurance, flexibility)	10	
	II	<ul style="list-style-type: none">• Group activities and game practice	15	
	III	Training Methods Practical Sessions <ul style="list-style-type: none">• Interval and circuit training sessions (Time, Type)• Plyometric and weight training demonstrations• Fartlek & Continuous training sessions• Flexibility training session Basic Guidelines for Designing Exercise Plans and Training Schedules (Practically to be done by the students on peer groups formed by the Sports Incharge) <ul style="list-style-type: none">• Current Health Status• Medical History• Level of Fitness• Training Load• Periodisation• Holistic/Integrated Approach• Person-Centred Approach• Training Intensity	5	1
		Total	30	1

UNIVERSITY OF MUMBAI

Semester – IV

(w.e.f. June, 2025)

Sub:- Advanced Sports Training and Performance Evaluation

Credits: 02

Practical Lectures: 60

Marks:50

Module No.	Unit No	Title of the Unit	No. of Practical hours	No. of Credits
1	I	<p>Performance Evaluation in Sports</p> <p>Practical sessions of Fitness & Skill testing (To be conducted by Coach/Fitness Instructor/Sports In charge/Any other P.E. Expert appointed by the College)</p>	10	
	II	<ul style="list-style-type: none"> • Practical demonstrations of fitness tests (e.g., Cooper’s test, 12-minute run, flexibility tests) • Basic skill tests/modified skills tests for popular sports in the college campus. 	15	
	III	<p>Practical sessions of Fitness & Skill testing</p> <ul style="list-style-type: none"> • Practical Testing Sessions • Skill-based tests: Dribbling, agility, passing (e.g., basketball, football) • Fitness tests: Speed, strength, and endurance measurements • Psychological Tests - Conducting motivation and stress assessments • Conduct of the above mentioned tests by students on the peer groups formed by Sports Incharge/ Sports Director of the college / Students Sport coordinator • Testing of the students must be held under the observation of Coach/ Fitness Instructor/ Sports In charge/Any other P.E. Expert appointed by the College <p>Evaluation of the tests</p> <ul style="list-style-type: none"> • Date analysis and reporting • Interpretation of test results • Writing of practical reports • Conclusion and recommendation 	5	1
		Total	30	1

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 IV (50 Marks - 2 Credits) Internal Evaluation (20 Marks)

Sr. No.	Particulars	Marks
1	Conduct of the practical test and demonstration	15
2	Attendance of all practical sessions conducted for Sports Training and performance evaluation/ Sports practice training session conducted by the college	5

Semester End Examination (30 Marks)

Evaluation type	Particulars	Marks
VIVA	Viva on Advanced Sports training & testing methods and evaluation protocols	20
Submission of report	Submission of psychological or fitness testing reports	10
Total		30*

*Note - OR

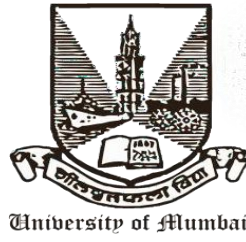
- Participation in Sports Competitions Conducted by University of Mumbai Sports Department (Students who have represented Mumbai University or College at Intercollegiate / Inter Zonal / West Zone Inter University / All Indi Inter University/ International tournament)
- Students who have represented in the above mentioned competitions should be exempted from VIVA & submission of report and should be evaluated on the basis of his/ her performance in the above mentioned competitions.

References -

1. Singh, Hardayal. *Science of Sports Training*. DVS Publication.
2. Bompa, Tudor. *Periodization: Theory and Methodology of Training*. Human Kinetics.
3. Sharma, J. P. *Principles of Sports Training*. Friends Publications.
4. Matveyev, L. P. *Fundamentals of Sports Training*. Progress Publishers.
5. Cooper, Kenneth H. *The Aerobics Program for Total Well-Being*. Bantam Books.
6. Clarke, Harrison. *Application of Measurement to Health and Physical Education*. Prentice Hall.
7. Fox, Edward L., and Donald K. Mathews. *The Physiological Basis of Physical Education and Athletics*. Saunders College Publishing.
8. Barrow, Harold M., and McGee, Rosemary. *A Practical Approach to Measurement in Physical Education*. Lea & Febiger.
9. Shephard, Roy J. *Fitness and Health*. Human Kinetics.
10. Verma, J. P. *A Textbook on Sports Statistics and Measurement*. Sports Publications.

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Sign of the BOS Chairman Dr. Sunil Patil Ad-hoc Board of Studies in N.C.C./N.S.S./Sports Co-Curricular	Sign of the Offg. Associate Dean Dr. C.A.Chakradeo Faculty of Interdisciplinary Studies	Sign of the Offg. Associate Dean Dr. Kunal Ingle Faculty of Interdisciplinary Studies	Sign of the Offg. Dean Prof. A. K. Singh Faculty of Interdisciplinary Studies

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University of Mumbai

**Guidelines for Community Engagement Projects (CEP)
for Undergraduate Students As per NEP 2020**

With effect from Academic Year 2025-2026

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1. Introduction:

The curriculum component of ‘community engagement projects’ is specifically incorporated as an integral part of NEP 2020 curriculum to acquaint the students about the socio-economic issues and challenges of the local and extended community so that the theoretical learnings can be supported by actual life experiences. India is a diverse country with heterogeneous communities and in this context the objective of the course is to encourage students to create and implement solutions to the real-life community level issues.

This course intends to assist the students to connect and interact with heterogeneous communities for identifying issues they face and try to provide probable solutions to community level problems. This approach is important in order to broaden opportunities of social responsibility, environmental sustainability, nation building and peace.

Community Engagement Projects work will provide students an opportunity to visit and observe situations in rural and urban contexts. The students are expected to observe and study actual field situations in socio economic contexts while doing their community engagement project. The course will create opportunities for students to understand the interconnection between theoretical knowledge and practical applications. Community Engagement Projects is expected to enhance their sensitivity to socio economic issues and improve their ability of problem solving as well as designing innovative solutions to the existing and emerging problems. Community Engagement Projects’ component will also broaden the possibilities of deeper learning and enhancing research acumen of students. Community Engagement projects will not only make students aware about various societal issues but will also sensitize them towards various problems and challenges in the society and how these can be dealt with.

2. Objectives

Community Engagement projects in general sets out to achieve objectives such as:

1. Align classroom learnings with awareness about societal issues.
2. Provide students an exposure to societal issues and align their experiences with contemporary problems/ concerns
3. Integrating theoretical and practical aspects to create blended learning experience under the guidance of their faculty.
4. Enhance research skills including knowledge discovery, analytical tools, methodologies,

and ethical conduct.

5. Facilitate problem-solving, decision-making, teamwork, and collaboration.
6. Foster ability to work in teams, develop social awareness and nurturing of human values in students.
7. Create collaboration between Higher Education Institutes (HEIs), social organization, Government and non-government institutes for impactful Community Engagement Projects.

3. Outcomes:

After the completion of the CEP course, the student will be able to:

1. Tackle/ Understand the societal issues more efficiently and effectively.
2. Apply concepts learned in classrooms to real-world socio-economic conditions enhancing their understanding and skills.
3. Show insights into the challenges, opportunities and culture of socioeconomic diversity, preparing them for future roles as responsible citizens.
4. Demonstrate evidence of research aptitude and skills of critical thinking, analytical skills, and ethical research conduct in field work.
5. Display problem-solving abilities in making informed decisions in complex scenarios through practical situations.
6. Work in teams and collaborate to achieve common goals in the work field environments through collaborative efforts.
7. Show integrity in their dealings with their work and the people that they interact with by upholding professional; principles and ethical standards.

4. Indicative list of areas for CEP:

The areas of field work can be decided by the head of the institution in consultation with CEP committee, CEP Coordinators and the faculty in respective subjects.

Indicative (yet non-restrictive) areas for engagement can be:

1. Community projects on Mangrove conservation, tree plantation, and eco-awareness campaigns.
2. Engagement in guided biodiversity trails and sustainability education campaigns.
3. Assistance in slum-based education and nutrition programs for children.
4. Improve public spaces and civic hygiene through youth-led volunteering
5. Use digital skills to implement socially impactful tech projects

5. Role and responsibilities

Head of the Department/Director/Principal:

1. Allotment of guides for the students for Community Engagement Projects should be done by Head of the Department/Director/Principal of the institute/college, as the case may apply.
2. While allocating the students under more than one guide- the principle of fairness in distribution should be followed.
3. In case, the number of in- house guides are not adequate then students can be allotted to competent external experts.
4. To provide resources and assistance to ensure effective carrying out of CEP.

CEP Committee:

1. To oversee the quality and effectiveness of the implementation of the CEP course.
2. To ensure that the CEP course program aligns with departmental and program academic objectives.
3. To establish continuous evaluation mechanisms for evaluating the course and to make required process improvements from time to time.

CEP Coordinator:

1. To play crucial role in coordinating and implementing the CEP course within college/ department / institute.
2. To act as a liaison entity between the department, students, faculty mentors and CEP supervisors (Host institute/ organization)

Student Coordinators:

To help the CEP coordinators/ Faculty Mentors in pre-, during and post-CEP activities.

Faculty Mentor:

1. To assist in identifying CEP opportunities and approve CEP plans.
2. To continuously monitor student progress and extend guidance.
3. To receive and provide regular feedback on student's progress in CEP
4. To evaluate CEP documents including CEP reports, presentations, or other expected academic deliverables.

6. Process of CEP implementation:

Flow chart

1. Formation of CEP Committee
2. Appointment of CEP Coordinators and Faculty Mentor
3. Community Engagement Projects orientation by the CEP committee and CEP Coordinator/s
4. Allotment of students under Faculty mentors.
5. Execution of CEP
6. Evaluation
7. Feedback

Mechanism for the implementation of CEP:

1. To facilitate effective implementation of the CEP program, Colleges/Departments/Institutes are encouraged to establish a CEP committee responsible for overseeing its smooth functioning. It will consist of the following: Head of the department, CEP Coordinator, Faculty Mentors and one/two student coordinators.
2. One teaching faculty member and one/two students from each undergraduate department will be nominated to serve as coordinators for the CEP program. These coordinators will play a crucial role in coordinating and implementing the program within their respective departments.
3. The CEP Committee and CEP coordinator will take the lead in preparing an action plan for the implementation of the CEP program.
4. To streamline the administrative process, the CEP Committee / CEP Coordinator will provide necessary formats to students for documentation related to the program.
5. Each Department/Centre should establish collaborations with relevant NGOs, community organizations, research institutes, etc., for CEP. These collaborations will serve as crucial avenues for facilitating CEP opportunities for students.
6. Effective communication is key to the success of the CEP program. Regular communication with heads and coordinators of the department/centre/Institute and maintaining proper records is essential. The faculty mentor and individual student will be responsible for maintaining relevant documents related to the program.
7. Before the commencement of the CEP program, an orientation session will be conducted by

the members of CEP committee / CEP coordinator/s. This session will serve to familiarize students with the purpose, process, and code of conduct associated with the program.

8. To ensure effective mentoring and support, an equal number of students will be allocated to each faculty member of the department. These faculty members will act as CEP mentors and will be responsible for monitoring and evaluating the progress of the allotted students.
9. Throughout the CEP period, students will maintain activity reports as per the provided format and get it validated by the supervisor.
10. Upon completion of the CEP program, students must submit a completion certificate duly signed by the faculty supervisor.

7.Credits and duration:

1. CEP will carry weightage of two credits.
2. Each student will be expected to carry out a minimum of 2-3 extensive community interactions.
3. The CEP program should be completed in appropriate Semester as per the program structure. If required CEP can also be carried out during the semester break.

8.Community Engagement Project Report:

The students are required to submit a report of the Community Engagement Projects at the end of the semester in the following suggested format.

All projects should be typed on *A4 sheets, Font Size 12, Times New Roman, one and a half spacing on executive bond paper*. The project report shall have appropriate chapter scheme and be presented in a minimum of 20 pages (Approximately minimum of 4000 to 5000 words).

Report should be arranged in the following order

Title Page

- Title of the Report (Font size 14)
- Name of the Student
- Roll number/Seat number
- Program Title
- Name of the Mentor
- Month of Submission

Certificate by the Institute

Certificate by Mentor

Student's Declaration

Acknowledgement

Abstract

A brief summary of the community interactions, key observations, and main conclusions (200-300 words)

Table of contents

- Include headings and subheadings with page numbers.

List of Figures and Tables

- List all figures and tables included in the report with corresponding page numbers.

Chapter 1: Introduction

- Purpose of the visit: Outline the objectives and expected outcome of the community interactions.
- Background Information: Provide context about the community interactions and its significance.
- Scope of the Report: Define the boundaries of what the report will cover.

Chapter 2: Literature Review

- Review relevant literature on the site(s) visited, focusing on previous studies, historical accounts, and critical analyses of the literary significance.

Chapter 3: Methodology

- Describe the approach and tools used for data collection during the visit (e.g., observational methods, interviews, archival research).
- Discuss the rationale behind the chosen methods.

Chapter 4: Description of the community interactions, Observations and Analysis

- Provide detailed descriptions of community interactions and engagements carried out.
- Include observations related to fieldwork: work's-relevance to topic selected.

- Use photographs, diagrams, and sketches, etc. to support the descriptions.
- Analyze the data collected in relation to the study objectives.

Chapter 5: Conclusion and Recommendations

- Discuss how the findings from the visits contribute to the understanding of subject area.
- Summarize the key findings and their significance.
- Offer recommendations based on the research findings for further study or preservation efforts.

References

- List all sources cited in the report in a consistent format.

Appendices

- Include additional data, interview transcripts, notes, or documents that are relevant to the report but not integral to its main text.

9. Evaluation Pattern

Evaluation during the CEP program involves two key components: External Evaluation (40%) and Internal Evaluation (60%).

(i) Internal Evaluation by Guide (Marks 20)

Criteria	Marks
Attendance, Community interactions completion and interaction with supervisor	10
Overall Report quality	10
Total	20

(ii) External Evaluation (Marks 30)

Criteria	Marks
Objectives, Literature Review, Methodology, Data Analysis, Conclusion and Recommendations	15
Overall Project Report Structure and Style	5
Presentation Skills & Communication	10
Total	30

Appendix I
GUIDE INTERACTION DIARY FORM

I, the undersigned Ms. /Mr. _____ Roll No. _____, currently enrolled in the _____ Year of _____ Full-time Program _____ at _____ institute/college, am undertaking my Community Engagement Project work under the guidance of Dr./Ms./Mr. _____, and I hereby confirm that I have met my Internal guide on the following dates mentioned below for Project Guidance:-

Sr. No.	Date	Signature of the Internal Guide

Signature of the Candidate

Signature of Internal Guide

IMPORTANT: It is expected that students will be meeting their guide at least five times for the CEP work interaction. The candidate should retain the above stated 'Project Guide Interaction Certificate Form' and submit the same with required signatures of the guide while submitting the Project to the Institute.

THE PROJECT REPORT WILL NOT BE ACCEPTED WITHOUT THE DULY FILLED PROJECT GUIDE INTERACTION CERTIFICATE.

Appendix II

Main Page Format of Project Report

Title of the Project

Name of the Student

(Name of Academic Course and Academic Year Details)

Example: Masters in Management Studies

Under the Guidance of

Name of Guide

Name of the Department/College/Institute

Academic Year – 2025-26

Appendix III

Name of the Department/College/Institute

Certificate

I hereby certify that Mr./Ms. _____, Student of _____ Institute/college studying in _____ program has completed a C. E. project titled _____ in the area of _____ specialization for the academic year 2025-2026. To the best of my knowledge the work of the student is original and the information included in the project is correct.

Internal Guide

Head of the Department

Principal

Annexure IV

Declaration

I, Mr./Ms. _____ Student of
_____Institute/college studying in
_____program, hereby declare that I have completed
the Community Engagement Project titled _____
during the academic year 2025-2026.

The report is original and the information/data included in the report is true emerging from the primary and/ secondary data gathered and analyzed as part of this Community Engagement project.

Due credit is extended on the work of Literature/Secondary Survey by endorsing it in the Bibliography as per prescribed format.

Signature of the Student with date

Name of Student

Annexure V
Student Feedback on CEP
(To be filled by Students after CEP completion)

Student Name:

Seat No. /Roll No.:

Email:

Department:

Name of the Mentor:

Title/Heading of Community Engagement Projects:

Brief description of CEP carried out:

Dates of CEP:

My internship experience was related to my major area of study/ academic program

1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree

Indicate the degree to which you agree or disagree with the following statements.

This experience has:	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Has increased my sensitivity towards societal problems					
Given me the opportunity to explore a career field delete					
Allowed me to apply classroom theory to practice					
Helped me develop my decision-making and problem-solving skills					
Expanded my knowledge about the work world before permanent employment delete					
Helped me develop my written and oral					

communication skills					
Provided a chance to use leadership skills (influence others, develop ideas with others, stimulate decision-making and action)					
Expanded my sensitivity to the ethical implications of the work involved					
Made it possible for me to be more confident in new situations					
Given me a chance to improve my interpersonal skills					
Helped me learn to handle responsibility and use my time wisely					
Helped me discover new aspects of myself that I didn't know existed before					
Helped me develop new interests and abilities					
Helped me clarify my career goals					
Allowed me to acquire information and/ or use equipment not available at my Institute					
Allowed me to realize socio-economic issues in the society repeated					

- The faculty mentor extended guidance and mentoring through-out the CEP process:

1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree

- Were you able to accomplish the initial goals, tasks and new skills that were set down in CEP plan?

1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree

- Considering your overall experience, how would you rate this CEP? (Circle one):

Poor/ Satisfactory/ Good/ Excellent

- Give suggestions as to how your CEP experience could have been improved."

(Please mark ✓ for areas that were satisfactory and ✗ for areas that need improvement)

Aspect of CEP Experience

- Clear orientation and briefing at the start
- Relevance of project to academic learning
- Availability and support from internal guide
- Adequate field exposure and hands-on engagement
- Clarity in roles and responsibilities
- Time provided for the completion of project

Signature of Student

Name

Date:

Under the Guidance of

Hon'ble Vice Chancellor

Prof. Dr. Ravindra Kulkarni

Hon'ble Pro-Vice Chancellor

(Prin.) Dr. Ajay Bhamare

CEP Guidelines Draft Committee

Prof. Shivram S. Garje

Off. Dean (Science and Technology)

Convener

Prof. Smita Shukla

Director, Alkesh Dinesh Mody Institute of Finance and Management Studies

Member

Prof. Manisha A. Karne

Off. Associate Dean (Humanities) and
Director, Mumbai School of Economics and Public Policy

Member

Prof. Priya Vaidya

Head, Department of Philosophy

Member

Dr. Suchitra Naik

Off. Associate Dean (Humanities) and
Principal, K.G. Joshi College of Arts & N.G. Bedekar College of Commerce

Member

Prof. Vishwanath Patil

I/c Director, National Centre for Nanoscience and Nanotechnology

Member
