

Enrolment No.



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Legacy Of Nurturing Excellence Since 1990
(Established under Govt. of Maharashtra Act No. V of 2023)



SCHOOL OF ENGINEERING & TECHNOLOGY

Unit Test-I February- 2025

Date:

Program: SOM	SOE	Batch :	2023-27	Semester :	IV
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Course Code & Name:	USMEI 101, Entrepreneurship Venture Development
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Maximum Marks:	20	Time:	1 Hrs
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Course Outcomes:

1. To identify key entrepreneurship concepts, theories and principles, including knowledge of different types of entrepreneurs
2. To explain the product related opportunities and do feasibility checks
3. Apply knowledge of the various perspectives of entrepreneurship that reflect sustainable value for business and society through launches
4. Analyze the strategies of an existing business venture and leverage role of support organizations and small businesses
5. To evaluate industry relevant success stories and technology developments

Instructions:

- All questions are compulsory.
- Assume missing data suitably, if any.
- Draw well labeled diagrams wherever necessary

QUESTIONS		CO	BTL	Marks
Q.1 Attempt the following (Any 2)		Max Marks: 10 (2*5)		
A ✓	Define 'Entrepreneur'. What are the qualities of a successful entrepreneur?	CO1	B2	05
B ✓	What are the various types of Entrepreneur?	CO1	B1	05
C	What are the Entrepreneurship Opportunities & Challenges?	CO1	B1	05
Q.2 Attempt the following (Any 2)		Max Marks: 10 (2*5)		
A	What factors affect entrepreneurship growth?	CO2	B1	05
B ✓	List and explain the 5 steps of an entrepreneurial process	CO2	B2	05
C ✓	What is the importance of entrepreneurship from economical, social and psychological perspective?	CO2	B1	05

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SOM/EVD/130 | Minor

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SCHOOL OF ENGINEERING & TECHNOLOGY

Unit Test-I February- 2025

Date: _____

Program:	SY-B.Tech.	Batch:		Semester:	IV
Course Code & Name:	UBTCE212 - Java Programming				
Maximum Marks:	20	Time:	1 Hrs		

Course Outcomes:

1. Understand and apply fundamental Java programming concepts to write simple Java programs.
2. Develop and implement object-oriented programming constructs such as classes, objects, methods, constructors, inheritance, and polymorphism to design modular and reusable Java applications.
3. Analyze and apply Java interfaces, packages, and exception handling mechanisms to build robust and modular software systems.
4. Implement multithreading concepts and establish database connections using JDBC to create concurrent and data-driven Java applications.
5. Design and manage data efficiently using Java collection frameworks, file handling mechanisms, and event-driven programming to develop real-world Java applications.

Instructions:

- All questions are compulsory.
- Assume missing data suitably, if any.
- Explain the answers with examples wherever applicable

QUESTIONS

CO	BTL	Marks
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Q.1 Attempt the following (Any 2)

Max Marks: 10 (2*5)

A	Question	CO	BTL	Marks
	Write a Java program to calculate the sum of the first n natural numbers using a loop. Explain the significance of natural numbers in mathematical computations.	CO1	B3	05
✓	Develop a Java program to generate and display the multiplication table of a given number. Explain how loops are used in generating repetitive calculations.	CO1	B5	05
✓	Demonstrate the principles of Object-Oriented Programming (OOP) in Java by defining key concepts and implementing an example program.	CO1	B3	05

Q.2 Attempt the following (Any 2)

Max Marks: 10 (2*5)

A	Question	CO	BTL	Marks
	Compare and contrast Abstract Classes and Interfaces in Java by explaining their differences.	CO2	B3	05
✓	Develop a Java program to define an Employee class with fields id, name, and salary. Use a parameterized constructor to initialize these fields and display the employee details, demonstrating object initialization with constructor parameters.	CO2	B5	05
✓	Write a Java program that implements inheritance by creating a base class Vehicle with a method move(). Extend this class with subclasses Car and Bike, overriding the move() method with specific implementations. Demonstrate runtime polymorphism by calling the move() method on different object types and explain how polymorphism works in method overriding.	CO2	B4	05

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Unit Test-I February- 2025

Date: _____

Program:	SY B.Tech	Batch :	2024-2025	Semester :	IV
Course Code & Name:	Database Management Systems(UBTCE210)				
Maximum Marks:	20	Time:	1 Hrs		

Course Outcomes:

1. Ability to design entity relationship and convert entity relationship diagrams into RDBMS and ability to identify the data models for relevant problems.
2. Apply normalization for the development of application software's
3. Develop understanding concepts of Relational Database design and query languages.
4. Demonstrate effective Query processing and Transaction Processing.
5. Summarize concurrency control protocols and recovery algorithms.

Instructions:

- All questions are compulsory.
- Assume missing data suitably, if any.
- Draw well labeled diagrams wherever necessary

QUESTIONS		CO	BTL	Marks
Q.1 Attempt the following (Any 2)		Max Marks: 10 (2*5)		
A \	Draw and explain the database system architecture?	CO1	B1	05
B ✓	Design Entity Relationship Model using ER Diagram for Banking system. Consider different entities, entity set, attributes and constraints.	CO1	B4	05
C ✓	Explain the different types of keys with example?	CO1	B1	05
Q.2 Attempt the following (Any 2)		Max Marks: 10 (2*5)		
A	Illustrate the Extended Relational algebra? State its types?	CO2	B3	05
B ✓	Characterise normalization and explain 2NF with example?	CO2	B2	05
C \	Describe the functional dependency with an example?	CO2	B2	05

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SCHOOL OF ENGINEERING & TECHNOLOGY

Unit Test-I February- 2025

Date:

Program: SY B. Tech - CSE

Batch: 2023-2027

Semester: IV

Course Code & Name:

UBTCE221A/OE-II, Internet of Things

Maximum Marks:

20

Time:

1 Hrs

Course Outcomes:

1. Comprehend the fundamentals and need of IOT.
2. Apply IoT enabling technologies for developing IoT systems
3. Apply design methodology for designing and implementing IoT applications
4. Analyse IoT protocols for making IoT devices communication
5. Design cloud based IoT systems

Instructions:

- All questions are compulsory.
- Assume missing data suitably, if any.
- Draw well labelled diagrams wherever necessary

QUESTIONS		CO	BTL	Marks
Q.1 Attempt the following (Any 2)		Max Marks: 10 (2*5)		
A ✓	List and explain the four main technical building blocks of IoT system.	CO1	B1	05
B ✓	Explain how IoT devices differ from traditional computers in terms of functionality and design.	CO1	B2	05
C	How can IoT be applied to improve energy efficiency in smart homes? Illustrate with an example.	CO1	B2	05
Q.2 Attempt the following (Any 2)		Max Marks: 10 (2*5)		
A ✓	How can you design an IoT-based smart lighting system for a home? List the devices needed and explain how they work together.	CO2	B2	05
B ✓	Explain how IoT helps in smart agriculture. How do sensors and actuators work together to automate irrigation?	CO2	B2	05
C	Explain how Edge Computing and Cloud Computing work together in an IoT-based smart home automation system.	CO2	B2	05

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SCHOOL OF ENGINEERING & TECHNOLOGY

Unit Test-I February- 2025

Date: _____

Program:	SY BTech	Batch:	2023-27	Semester:	IV
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Course Code & Name:	UBTCE219/PCC Computer Organization and Architecture				
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Maximum Marks:	20	Time:	1 Hrs
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Course Outcomes:

1. Student will learn the concepts of computer organization for several engineering applications.
2. Student will develop the ability and confidence to use the fundamentals of computer organization as a tool in the engineering of digital systems.
3. An ability to identify, formulate, and solve hardware and software computer engineering problems using sound computer engineering principle
4. To impart the knowledge on micro programming
5. Comprehend the concepts of advanced pipelining techniques.

Instructions:

- All questions are compulsory.
- Assume missing data suitably, if any.
- Draw well labeled diagrams wherever necessary

QUESTIONS		CO	BTL	Marks
Q.1 Attempt the following (Any 2)		Max Marks: 10 (2*5)		
A	Explain Von-Neumann architecture with diagram? Also explain its key features?	CO1	B2	05
B	Draw the flowchart for Booth's Algorithm? Also solve 2*6 using Booth's Algorithm?	CO1	B4	05
C	Explain Bus Structure in detail?	CO1	B2	05
OR				
Q.2 Attempt the following (Any 2)		Max Marks: 10 (2*5)		
A	Write a short note on : a) SRAM b) DRAM	CO2	B2	05
B	Describe the concept of Memory hierarchy with neat and labeled diagram.	CO2	B3	05
C	Illustrate the Main memory with its basic types. Explain its advantages.	CO2	B3	05

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SCHOOL OF ENGINEERING & TECHNOLOGY

Unit Test-I Examination – Feb 2025

Program :	SY B.Tech	Batch :	2023-2027	Semester:	IV
Course Code & Name :	Applied Statistical Techniques (UBTCE220)				
Maximum Marks :	20	Time:	1 Hrs		

Course Outcomes (CO):

1. Identify the advanced terms in statistics.
2. Explain the estimation & its techniques.
3. Apply knowledge of hypothesis techniques to test large and small samples.
4. Apply non-parametric tests on practical situations.
5. Analyze parametric and non-parametric inference

Instructions :

- All questions are compulsory.
- Assume missing data suitably, if any.
- Draw well labelled diagrams wherever necessary

QUESTIONS		CO	BTL	Marks
Q 1) Solve any two questions.		Max Marks: 10 (2*5)		
A.	List names of random sampling techniques and explain any one with example.	CO1	B2	05
B.	Health authorities asked an epidemiologist to find out the prevalence of anemia in high school children of standard VI to X in a district of an African country. There are 60 schools in this district. And each school has standard VI to X classes. He wanted to use multistage sampling method to estimate the prevalence of anemia in high school children of standard VI to X in that district? How he would have done multistage sampling method in this situation.	CO1	B3	05
C.	A researcher uses subjects that are selected from a clinic, a class or an institution that are easily accessible to the researcher. The researcher also chooses five other people based on their being the first five names of students listed alphabetically in his class as participants for the study as well. Identify samp. tech. and why?	CO1	B3	05

Q 2) Solve any two questions.		Max Marks: 10 (2*5)		
A.	Differentiate between point estimation and interval estimation?	CO2	B2	05
B.	A random sample of size $n = 100$ is taken from a population with $\sigma = 5.1$. given that the sample mean is $\bar{x} = 21.6$, construct a 95% confidence interval for the population mean μ ?	CO2	B3	05
C.	Using the mean of a random sample of size 150 to estimate the mean mechanical aptitude of mechanics of a large workshop and assuming $\sigma = 6.2$. What can we assert with 0.99 probability about the maximum size of the error?	CO2	B3	05

*****All the Best*****

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