SRM Institute of Science and Technology
College of Engineering and Technology
School of Computing

Mode of Exam
OFFLINE

DEPARTMENT OF COMPUTING TECHNOLOGIES
SRM Nagar, Kattankulathur – 603203, Chengalpattu District, Tamil Nadu
Academic Year: 2024 - 2025 - Odd Semester

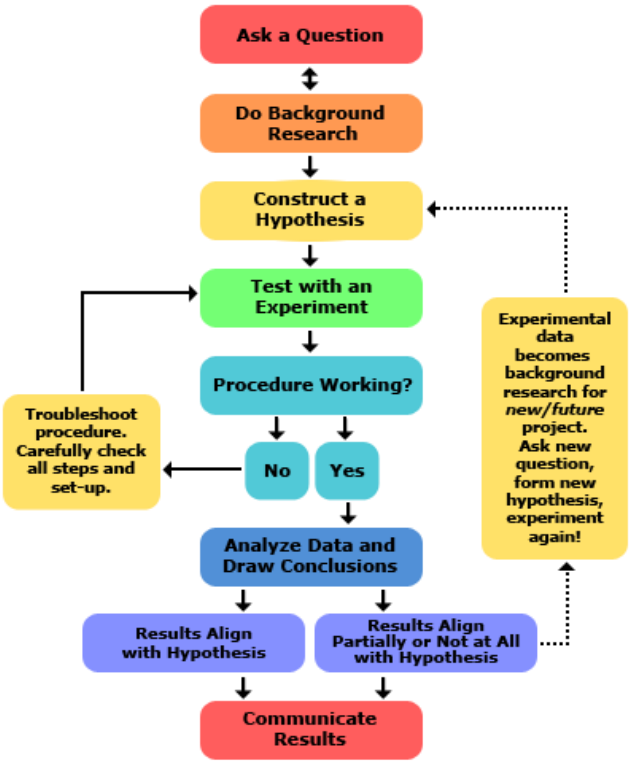
Test: CLAT3 **Batch 1 – SET A** **Date: 11.12.2024**
Course Code & Title: 21GNH101J Philosophy of Engineering **Duration: 60 min**
Year & Sem: I year & I Sem **Max. Marks: 35**
Registration Number:

Part – A
(10 * 1 = 10 Marks)
Instructions: Answer all the Questions

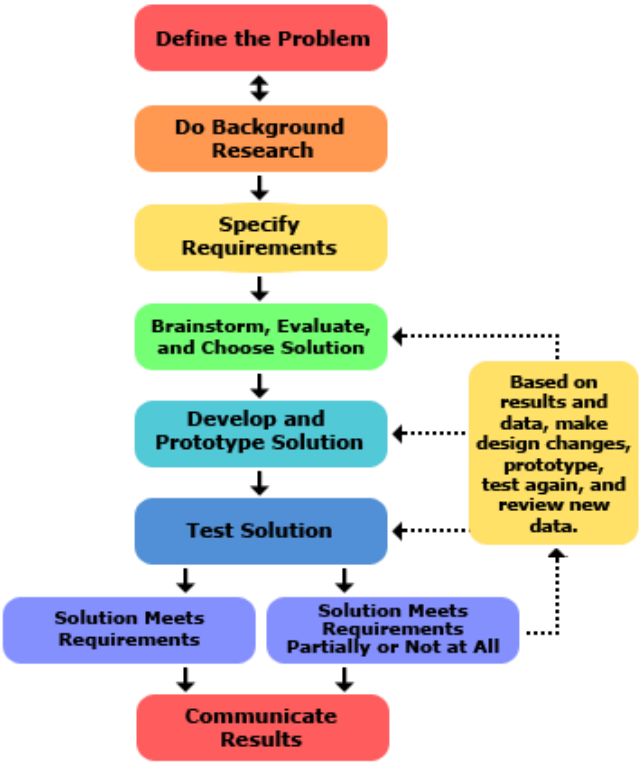
Q. No	Question	Marks	BL	CO	PO
1	_____ performs experiments using the scientific method. a) Engineers b) Doctors **c) Scientists** d) Students	1	1	4	1
2	The _____ of the data the system operates on is of the highest consideration when designing a reliable and fault-tolerant architecture. a) Security **b) Integrity** c) Consistency d) Reliability	1	1	4	1
3	Hypothesis testing _____ method a) Engineering **b) Scientific** c) Addie d) CIDO	1	1	4	3
4	The prototype creation is involved in _____ phase of Addie model. a) Evaluation phase b) Implementation phase c) Development phase **d) Design phase**	1	1	4	1
5	The course of action that is carried out for checking the stability of individual components and its design is called_____ a) Integration testing b) Derived testing **c) Unit testing** d) Recovery testing	1	1	4	1
6	What is the fundamental principal of the engineer's code of ethics? a) Maximize profits as any cost b) Prioritize personal interests over public safety **c) Hold paramount the safety, health and**	1	2	5	1

	welfare of the public. d) Follow ethical guidelines only when convenient.				
7	The international engineering consortium was established in _____ a) 1922 **b) 1944** c) 1966 d) 1988	**1**	**2**	**5**	**1**
8	In _____ phase the project is reviewed and revised according to any feedback given. **a) Development** b) Requirement analysis c) Deployment d) Brainstorm	**1**	**1**	**5**	**1**
9	_____ are involved in planning and managing projects. a) Actors b) Teachers c) Doctors **d) Engineers**	**1**	**2**	**5**	**1**
10	Point out the professional duty which is not listed in fundamental canons. a) Hold paramount the safety and health b) Perform services in all areas of their competence c) Issue public statement only in an objectives **d) Act for each employee**	**1**	**2**	**5**	**2**
Part – B **(1* 10 = 10 Marks)** **Instructions: Answer any ONE Question**					
11	**Differentiate the scientific method and engineering design method.** **DIFFERENCE BETWEEN SCIENTIFIC METHOD AND ENGINEERING DESIGN**	**10**	**2**	**4**	**1**

Scientific Method



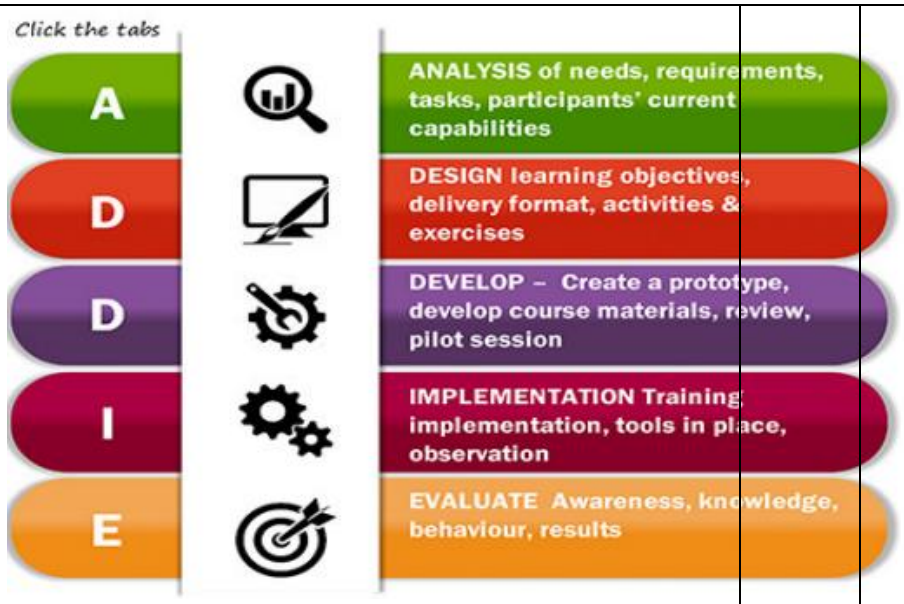
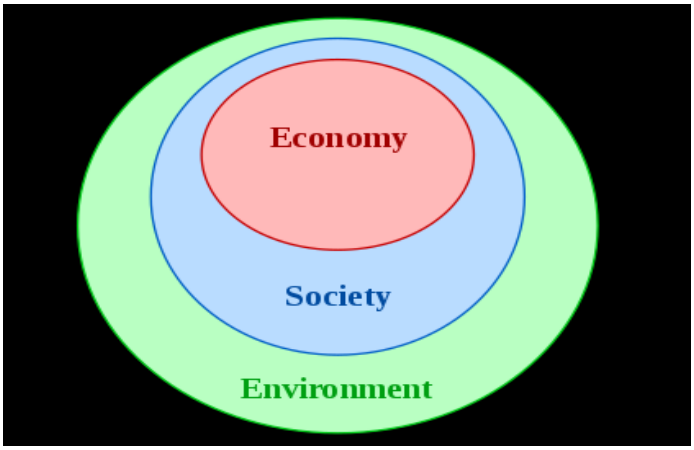
Engineering Method



The Scientific Method	The Engineering Design Process

		State your question / Define the problem Do background research / Do background research Formulate your hypothesis, identify variables / Specify requirements Design experiment, establish procedure / Create alternative solutions, choose the best one and develop it Test your hypothesis by doing an experiment / Build a prototype Analyze your results and draw conclusions / Test and redesign as necessary Communicate results / Communicate results				
12	**Explain in detail Sustainability and Diversity.** **Figure (3)**  **Environment (4)** • Equity and inclusion helps create equitable and inclusive processes. • Inclusive leaders possess higher cultural intelligence and skills to manage diversity. • Diversity helps build better strategies. • Diverse teams are more innovative and better prepared to take bold actions. **Ethics (4)** • Promoting Equity in the company, ensures that everyone has access to the same opportunities	**10**	**1**	**5**	**1**

	and treatment. • Inclusion leads to conscious decision making. • Inclusive workplaces have better psychological safety. • Diversity and Inclusion help the company reach a wider audience and avoid discriminatory pitfalls. **Economics (4)** • Diversity with inclusion is profitable for the business. • Inclusive organizations promote transparency. • Teams with higher empathy are better equipped to deal with conflict of interests and confrontations. Diverse and inclusive teams promote a trustworthy brand image.				
Part - C **(1* 15 = 15 Marks)** **Instructions: Answer any ONE Question**					
13	**Priya is a senior software engineer in a multinational company who works in a U.S. military project. She has chosen ADDIE model for her software development. Explain the ADDIE model with its phases and suggest your views of modifying the phases of the same model with reasons.** **Solution** The ADDIE model is the generic process traditionally used by instructional designers and training developers**.** The five phases—Analysis, Design, Development, Implementation, and Evaluation—represent a dynamic, flexible guideline for building effective training and performance support tools. While perhaps the most common design model, there are a number of weaknesses to the ADDIE model which have led to a number of spin-offs or variations. It is an Instructional Systems Design (ISD) model.. Analysis > Design > Development > Implementation > Evaluation **Diagram**	**15**	**2**	**4**	**4**

					
14	**What is the essential engineer role to achieve the sustainable development.** **ENGINEER'S ROLE TO ACHIEVE SUSTAINABLE DEVELOPMENT:** • Recognize that though their activity may be local and immediate, the potential impacts of their work may be global and long-lasting • have an understanding of other relevant social and cultural structures outside their own normal community of practice • understand their important role in the sustainable development of communities • recognize the impacts of an engineering project on communities, global or local, and incorporate the views and concerns of the communities  Apply professional and responsible judgment and take a leadership role Engineering is a profession with a strong ethical dimension. Engineers have an important role in providing solutions to the problems such as poverty, under-development and environmental degradation.	**15**	**1**	**5**	**1**

Course Outcome (CO) and Bloom's level (BL) Coverage in Questions