Reg.

SET | B

SRM Institute of Science and Technology, Vadapalani Campus, Chennai 600026
Faculty of Engineering and Technology
CYCLE TEST – 02 / MARCH 2025

21GNH101J – Philosophy of Engineering
(For I yr / 02 sem B.Tech: CSE(E.Tech), ECE & Mechanical)

Date: 10.03.2025 **Duration:** 90 min. **Max.Marks:** 50

	COURSE OUTCOMES	PROGRAMME OUTCOMES														
		1 Engg knowledge	2 Problem analysis	3 Design and development	4 Analysis, design	5 Modern tool usage	6 Society & culture	7 Environment	8 Ethics	9 Individual & team work	10 Communication	11 Proj mgmt. & finance	12 Lifelong learning	13 PSO -1	14 PSO -2	15 PSO -3
CO-1	Analyze the relation between Arts, Mathematics, Science, Technology and Engineering and desired attributes of an engineer	1	-	-	3	-	1	-	1	3	3	-	3	-	-	-
CO-2	Build ontologies for systems engineering using concept/mind mapping techniques	3	-	-	3	3	-	-	-	3	3	-	3	-	-	-
CO-3	Analyze the knowledge base in engineering, distinctive features of engineering design and RIASEC model	3	-	-	3	-	-	-	-	3	3	-	3	-	-	-
CO-4	Illustrate the engineering design process for the given application, analyze the requirements of CDIO engineers	3	1	3	3	3	-	-	-	3	3	-	3	-	-	-
CO-5	Evaluate designs on their environmental and societal aspects and do organizational analysis on profession engineering organizations	3	3	3	3	-	3	3	3	3	3	-	3	-	-	-

Part –A(11 x 1 = 11 Marks)
Instructions: Answer All

Q. No.	Question	Marks	CO	BL	PO
1 B	_____ is sometimes referred to as the science of being and belongs to the major branch of philosophy known as metaphysics. A) Epistemology B) Ontology C) Axiology D) Concept Mapping	1	2	2	4
2 D	_____ are typically designed with some sort of computational application. A) Epistemology B) Reference Ontology C) Axiology D) Application Ontology	1	2	2	4
3 A	_____ avail themselves of Unbounded, arbitrarily nested quantifiers. A) Epistemology B) Reference Ontology C) Axiology D) Application Ontology	1	2	2	4

4	_____ is an assumption that every product goes through that involves the same pattern of introduction into the market, growth, maturity and decline. A) Product Cycle B) Product Life Cycle C) Product development D) Application Ontology	1	2	1	1
5	During _____ the product is widely available, and there are many competitors in the marketplace. A) Product Maturity B) Product Decline C) Product development D) Product Growth	1	2	1	9
6	In _____ stage product is losing market share, or becoming obsolete. It is well past its point of highest demand, and the demand decreases. A) Product Maturity B) Product Decline C) Product development D) Product Growth	1	2	1	9
7	_____is the study of the natural world as it is; _____ is creating new tools, devices, and processes based on scientific knowledge. A) Science, Engineering B) Engineering, Technology C) Science, Technology D) Engineering, Science	1	3	2	4
8	The _____ dimension of engineering sees engineers not just as technologists, but also as social experts, in their ability to recognize the eminently social nature of the world they act. A) Social B) Developer C) Designer D) Scientist	1	3	1	9
9	Design as _____ is related to the synthetic methodologies needed for the mental apprehension of appropriateness for change. A) Activity B) Planning C) Epistemology D) Ontology	1	3	1	12

10	The self-confident sociable enthusiastic, adventurous, impulsive, inquisitive, talkative, spontaneous, assertive, persuasive, energetic, popular, ambitious, and optimistic personalities comes under_____ of RAISEC model. A) Social B) Enterprising C) Artist D) Conventional	1	3	2	9
11	_____ is the sum total of all the engineered tools, devices and processes available. A) Science B) Technology C) Epistemology D) Engineering	1	3	1	4
	Part – B(3 x 8 = 24 Marks) **Answer ALL questions**				
12.a	What is ontology? Explain different ontological levels. Give the proper engineering example.	8	2	1	9
	OR				
12.b	With neat diagram explain product life cycle.	8	2	2	4
13.a	Explain the difference between Reference ontology and Application ontology.	8	2	2	12
	OR				
13.b	Considering rigour, creativity and change in Engineering, list the different suggestions at the time of product design and development.	8	3	3	12
14.a	Identify the characteristics of R, I and A type personalities in the RIASEC Model. Provide a detailed explanation of their focus, strengths, and abilities. Additionally, discuss how these traits influence their career paths.	8	3	3	4
	OR				
14 b	Distinguish how the engineer acts as sociologist, scientist, designer and doer with suitable illustration.	8	3	2	12
	Part – C(1 x 15 = 15 Marks) **Answer any ONE**				
15	With neat concept/mind map, explain engineering product development in manufacturing industry.	15	2	3	12
16	State and explain the four dimensions of engineering with neat diagram.	15	3	3	4