Question Paper Code: R18A32ME01

R18

ANURAG Engineering College

(An Autonomous Institution)

III B.Tech II Semester Supplementary Examinations, December-2024

ADVANCED ENGINEERING MATERIALS

(CIVIL ENGINEERING)

Time: 3 Hours **Max. Marks: 75**

Section – A (Short Answer type questions) (25 Marks)

Answer All Questions

		Course Outcome	B.T Level	Marks
1.	What is a Ferrous Metal? Give some examples	CO1	L1	3M
2.	What are the standard for material selection?	CO1	L1	2M
3.	What is the difference between cast and wrought aluminum alloys?	CO2	L1	2M
4.	What is the importance of aluminium in industry?	CO2	L1	3M
5.	Define polymer? Explain the structure and different types.	CO3	L1	2M
6.	What are the different basic polymer properties required for the processing of plastics	CO3	L1	3M
7.	Explain the importance of fiber and matrix in a composite material	CO4	L2	2M
8.	Why composites are important in the manufacturing industry?	CO4	L2	3M
9.	What is intermetallic material? Give two examples.	CO5	L1	2M
10.	What is Silicide?	CO5	L1	3M

Section B (Essay Questions)

Answer all questions, each question carries equal marks. **(5 X 10M = 50M)**

11. A)	What are the factors in Selection of Materials for manufacturing process.	CO1	L3	10M
	OR			
B)	List typical application for each of the main categories of Ferrous based alloys	CO1	L3	10M
12. A)	Discuss about castable Aluminium alloys. Explain the composition and industrial uses of any one alloy.	CO2	L3	10M
	OR			
B)	Describe the Selection and Application of Copper Alloy Castings	CO2	L3	10M
13. A)	What is polymerization? Explain the different types of polymerization techniques.	CO3	L3	10M
	OR			
B)	Classify Plastic Additives and explain Mechanical Behaviour of Plastics.	CO3	L3	10M
14. A)	Classify Different types of composites with examples.	CO4	L3	10M
	OR			
B)	What is the role of composite in the aircraft industry? Explain with the help of properties.	CO4	L3	10M
15. A)	Describe the importance of titanium aluminides along with applications advantages and disadvantages	CO5	L3	10M
	OR			
B)	What is super alloy made of? Expalin the Properties, selection & engineering application of Nickel based super alloys.	CO5	L3	10M