Total No. of Questions : 4]

SEAT No. :

PA-10076

[Total No. of Pages : 1

[6009]-369
T.E. (Mechanical) (Insem.)
COMPOSITE MATERIALS
(2019 Pattern) (Semester - II) (302052A) (Elective - II)

Time : 1 Hour] *[Max. Marks : 30*

Instructions to the candidates:

1) ***Answer Q1 or Q2 , Q3 or Q4.***
2) ***Figures to the right indicate full marks.***
3) ***Assume suitable data if necessary.***

Q1) a) Define composite material. Explain the roles of matrix and reinforcement in composites. **[5]**

b) State the properties of carbon fiber composites and list the advantages. **[5]**

c) Classify the composites on a reinforcement based and explain the particle-reinforced composites. **[5]**

OR

Q2) a) Discuss the need for composite materials. What are the applications of composite materials in automotive? **[5]**

b) State the different types of fibers. List the advantages and limitations of natural fiber. **[5]**

c) What do you mean by hybrid composite and list out the advantages of hybrid composite materials? **[5]**

Q3) a) Differentiate between thermoplastic and thermoset resin. **[5]**

b) How the composites are manufactured using the hand layup method. Briefly explain with processing steps. **[5]**

c) Discuss the Glass Fiber Reinforced Polymeric (GFRP) Composites and their applications. **[5]**

OR

Q4) a) What is polymer resin? Discuss the natural resin and synthetic resin. **[5]**

b) Explain compression moulding technique with a neat sketch. **[5]**

c) Explain the various failures that occurred in laminated composites with a neat sketch. **[5]**

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