



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 187855

Roll No.

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B. Tech.

(SEM. VIII) THEORY EXAMINATION, 2014-15
POLYMER COMPOSITES

Time : 3 Hours]

[Total Marks : 100

Note: (1) Attempt all questions.

(2) All questions carry marks as shown against them.

1 Attempt any TWO parts of the following-

- (a) List the merits and demerits of composites in comparison to other material of construction. 10
- (b) Derive the expression for effect of fibrous reinforcement on composite strength. 10
- (c) Write a brief note on application of composites in aerospace. 10

2 Attempt any TWO of the following-

- (a) Classify composites along with names of various options available for fibers and matrix resins. 10
- (b) Explain various type of glasses used in composites along with various weaves used. 10
- (c) Write a brief note on synthesis and application of carbon fibers. 10

- 3 Attempt any TWO of the following -
- (a) How a matrix resin is selected to make composite for a particular application? 10
 - (b) Write a brief note on various modes of failures occurring in composites? 10
 - (c) Write a brief note on Epoxy resins as matrix resin for making advanced composites. 10
- 4 Attempt any TWO of following-
- (a) What are unique features of filament winding process ? Describe it's machine 10
 - (b) Describe Hand Layup process with its advantages and disadvantages. 10
 - (c) What are the common defects observed in composites and how they can be removed. 10
- 5 Write short notes on any FOUR of the following - 20
- (a) Hybrid composites
 - (b) Joining of composites
 - (c) Coupling Agents
 - (d) Dough Molding compounds
 - (e) IPNs
 - (f) Advantages of Prepregs
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