

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

Paper ID : 187855

Roll No.

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B.TECH.

Theory Examination (Semester-VIII) 2015-16

POLYMER COMPOSITES

Time : 3 Hours

Max. Marks : 100

Section-A

- 1. Attempt all parts. All parts carry equal marks. Define each part in short.** **(2×10 = 20)**

- (a) Interpenetrating Networks (IPNs)
- (b) SiC fibres
- (c) Pultrusion
- (d) Polyester resin
- (e) Glass transition temperature
- (f) Whiskers

- (g) Carbon nanotubes
- (h) Hybrid composites
- (i) Reinforcement
- (j) Aspect ratio

Section-B

2. Attempt any five questions from this section.

(10×5 = 50)

- (a) Give in brief the characteristics of polyether ether ketone (PEEK).
- (b) Write in brief the preparation of carbon fibre from polyacrylonitrile (PAN).
- (c) Briefly discuss in what respect conventional materials differ from composites.
- (d) Discuss in detail the evaluation of strength and failure criteria of composites materials.
- (e) Discuss briefly natural fiber characteristics as a reinforcing material for composites.

- (f) Discuss briefly sandwich type of composites.
- (g) Write in short about micromechanical behaviour of laminated composites.
- (h) Discuss the effect of fibrous reinforcement on composite strength.

Section-C

Note: Attempt any two questions from this section.

(15×2 = 30)

- 3. What are the various processing and production techniques. Give a detailed account of bag moulding.
- 4. Write in detail about sheet and dough moulding compounds and their processings.
- 5. Give a detailed account of effect of environment on the performance of composites materials.