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TED (10) – 4095

Reg. No.

(REVISION — 2010)

Signature

FIFTH SEMESTER DIPLOMA EXAMINATION IN POLYMER
TECHNOLOGY — MARCH, 2015

FIBRES AND COMPOSITES

[Time : 3 hours

(Maximum marks : 100)

PART—A

(Maximum marks : 10)

Marks

I Answer the following questions in one or two sentences. Each question carries 2 marks.

1. Give two examples of leaf fibres.
2. Define denier and Tex of a fibre.
3. Name of the monomers of Epoxy Resin.
4. What is centrifugal casting ?
5. What is prepeg ?

(5×2=10)

PART—B

(Maximum marks : 30)

II Answer any five of the following questions. Each question carries 6 marks.

1. Describe the production and applications of Jute fibre.
2. Explain the manufacture and applications of glass fibre.
3. Give the advantages and disadvantages of composite materials over other materials.
4. Describe vacuum bag moulding.
5. Explain the manufacture and applications of Nylon 6,6.
6. Explain the manufacture and uses of unsaturated polyester resin.
7. Explain the process of filament winding in composite products.

(5×6=30)

PART—C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

UNIT—I

- III (a) Explain the cell structure, production and applications of cotton fibre. 8
 (b) Describe the production and application of silk. 7

OR

- IV (a) Explain the production and application of coir. 8
 (b) Describe the collection, properties and applications of Asbestos fibre. 7

UNIT—II

- V (a) Explain the various steps for the production of Viscose Rayon. 8
 (b) Give the preparation and properties of Acrylic fibre. 7

OR

- VI (a) Write the production and applications of Carbon fibre. 8
 (b) Explain the production, properties and uses of Aramid Fibre. 7

UNIT—III

- VII (a) Explain the preparation and uses of P.F. Resin. 8
 (b) List the various additives in composite production. 7

OR

- VIII (a) Explain the properties and applications of Melamine-Formaldehyde Resin. 8
 (b) Give the preparation, properties and uses of Polyurethanes. 7

UNIT—IV

- IX (a) Describe the Hand lay up process with a neat figure. 8
 (b) Explain the manufacture of Bath Tubs. Justify the selectors of Resin and reinforcement. 7

OR

- X (a) Explain the process of Pultrusion with a neat sketch. 8
 (b) Describe Resin Injection moulding process for the FRP Product Manufacture. 7