

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E –IIst SEMESTER–EXAMINATION – JULY- 2012

Subject code: 1722405

Date: 10/07/2012

Subject Name: Composites Material Technology

Time: 10:30 am – 13:00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define the term composites and explain the role of fibre and matrix in the composites **07**
(b) Write a short notes on **07**

1. Carbon fibres 2. Aramid Fibres

- Q.2** (a) Give a brief account of preparation, properties and applications of Unsaturated Polyester resins. **07**

- (b) Describe in detail about pultrusion process and write down their applications **07**

OR

- (b) What is Non- Destructive Techniques? Explain the Ultrasonic Technique used for testing of composites. **07**

- Q.3** (a) Write a note on following : 1. Gel time 2. Room and elevated temperature catalysts **07**

- (b) Explain the manufacturing process and properties of alkyd resins **07**

OR

- Q.3** (a) Write down the application of FRP in the field of Chemical and railway **07**

- (b) Explain the different mechanical testing used for testing of composites. **07**

- Q.4** (a) Write a note on 1. Boron fibre 2. Natural fibres **07**

- (b) Give a brief account of preparation, properties and applications of vinyl ester resins. **07**

OR

- Q.4** (a) Describe in detail about the filament winding process and give the advantages and disadvantages of FRP over metal **07**

- Q.4** (b) Write a notes on 1. SMC 2. BMC **07**

- Q.5** (a) Explain the manufacturing and types of glass fibre in detail. **07**

- (b) Define and discuss the following : 1. Prepregs 2. Nanocomposites **07**

OR

- Q.5** (a) Discuss the sizing agent and coupling agents and distinguish between them **07**

- (b) What is whisker? Explain the manufacturing process of any types of whisker **07**
