

GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER-VI • EXAMINATION – SUMMER- 2015

Subject Code: 163406**Date: 18/05/2015****Subject Name: Composite Technology****Time: 10.30am-01.00pm****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) What are composites? Give advantages and disadvantages of composites **07**
 (b) Explain about phenolic and vinyl ester resins with its applications **07**
- Q.2** (a) Explain the production of carbon fibers with the support of a neat sketch **07**
 (b) Discuss about graphite fibers and polyethylene fibers with its advantages and disadvantages **07**
- OR**
- (b) What is the role of accelerators? Give detail description on various accelerators used in resin system **07**
- Q.3** (a) Explain BMC and TMC with neat sketches along with its applications **07**
 (b) Discuss the various additives of composites **07**
- OR**
- Q.3** (a) Explain briefly about hand layup and spray up processes with suitable sketches **07**
 (b) Explain SMC and DMC processes with suitable sketches **07**
- Q.4** (a) Explain vaccum bag and pressure bag moulding with suitable sketches **07**
 (b) Briefly explain the working of centrifugal casting with necessary illustrations **07**
- OR**
- Q.4** (a) Explain resin transfer moulding with a suitable sketch **07**
 (b) Explain manufacturing of Unsaturated polyester resin used as matrix in composites **07**
- Q.5** (a) What is meant by pultrusion? Explain the process of working involved in pultrusion **07**
 (b) Explain briefly the determination of shelf life and gel time **07**
- OR**
- Q.5** (a) Describe ultrasonic testing method for non destructive testing of composites **07**
 (b) Give various applications of FRP products in the fields of chemicals, railways and electrical and electronic industries **07**
