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10AU663

Sixth Semester B.E. Degree Examination, June/July 2016
Composite Materials

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. Define Composite Materials and give the broad classification of it. (08 Marks)
b. List and explain different types matrix materials used in polymer matrix composites. (08 Marks)
c. What are the advantages and limitations of composites? (04 Marks)
- 2 a. List different methods used in production of FRP's. Briefly explain general steps involved in the production of FRP's. (10 Marks)
b. With a neat sketch, explain hand layup technique and sprayup technique. (10 Marks)
- 3 a. With a neat sketch, explain the following process :
i) Pultrusion ii) Blow Molding. (10 Marks)
b. With a neat sketch, explain pulforming. (10 Marks)
- 4 a. Explain the different methods used for composite cutting. (10 Marks)
b. List the different types of composites joining process and explain any one process. (10 Marks)

PART – B

- 5 a. Briefly explain the applications of composites. (10 Marks)
b. Explain with a neat sketch, any one of the solid state processing of composites. (10 Marks)
- 6 a. Briefly explain different types of reinforcement materials used in MMC's. (10 Marks)
b. With a neat sketch, explain vacuum bag molding process highlighting its advantages. (10 Marks)
- 7 a. With a neat sketch, explain the powder metallurgy technique for fabrication of composites. (10 Marks)
b. Classify liquid state processing methods and briefly explain squeeze infiltration method. (10 Marks)
- 8 Write short notes on any four of the following :
a. Shape Memory Alloys.
b. Application of MMC's.
c. Filament winding.
d. Particle size and apparent density.
e. Hot Iso static pressing. (20 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.