

USN

--	--	--	--	--	--	--	--	--	--

10AU663

Sixth Semester B.E. Degree Examination, Dec.2015/Jan.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. Explain the classification of composites. (04 Marks)
b. List the advantages and disadvantages of composite materials. (06 Marks)
c. Distinguish between Thermoplastic and Thermoset polymers. (10 Marks)
- 2 a. With a neat sketch, explain the process of Filament winding. (07 Marks)
b. With a neat sketch, explain the process of Pultrusion Technique. (07 Marks)
c. With a neat sketch, explain the process of Blow moulding. (06 Marks)
- 3 a. With a neat sketch, explain the process of Water Jet cutting. (10 Marks)
b. With a neat sketch, explain the process of Laser Beam cutting. (10 Marks)
- 4 a. Explain the Application of composites in Marine Industry and Recreational and Sport Goods. (10 Marks)
b. Explain the current status and future potential for composites. (10 Marks)

PART – B

- 5 a. List the Important requirements of reinforcement materials, used in Metal Matrix Composites. (10 Marks)
b. What is the need for developing Metal Matrix Composites ? (05 Marks)
c. Write a note on Selection of base Metal, in Metal Matrix composites. (05 Marks)
- 6 a. With a neat sketch, explain the process of powder Metallurgy Technique. (10 Marks)
b. With a neat sketch, explain the process of OSPREY Technique. (10 Marks)
- 7 a. Explain the Mechanical characteristics of Al - SiC composites. (10 Marks)
b. Explain the influence of shape, size and distribution of particles of Mechanical properties of MMC's. (10 Marks)
- 8 a. Explain any two Applications of shape memory alloys. (12 Marks)
b. Explain Pseudo Elasticity in Shape Memory Alloys. (08 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.