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FULL TIME

B.E /B.Tech END SEMESTER EXAMINATIONS, APR/MAY 2019

MANUFACTURING ENGINEERING

Fifth Semester

MF8004 Processing of Plastics and Composite Materials

(Regulation 2012)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. Make a Note on organic reinforcements.
2. Write down any two properties of thermoplastics.
3. Make a note on chemical bonding of plastics.
4. What are the requirements an extruder has to satisfy?
5. What is bag moulding process?
6. What is pre-preg?
7. What is the relationship between porosity and particle size in Powder Metallurgy route?
8. What are the advantages of centrifugal casting process in manufacturing MMC parts?
9. What is the principle of Lanxide Process?
10. Make a note on Sol-gel Techniques.



Part – B (5 x 16 = 80 marks)

11. i) Distinguish between metallic and ceramic fibres with respect to preparation and properties. (8)
ii) Discuss the importance of thermal effects (hysteretic heating) on fatigue of polymers. (8)
 12. a) i) Explain injection moulding process with neat sketches. (8)
ii) Enumerate with neat sketch Jet moulding process. (8)
- (OR)
- b) i) Enumerate casting of plastics. (8)
ii) Discuss machining parameters in the machining of plastics. (8)
13. a) i) Explain with a neat sketch continuous pultrusion process. (8)
ii) Enumerate with a neat sketch Filament winding (8)

(OR)

b) With sketches briefly explain the various methods used for welding of plastics. (8)

14. a) i) Explain with neat sketch, the diffusion bonding techniques in fabrication of MMC's. (8)

ii) Explain application of campo casting technique for MMC manufacturing. (8)

(OR)

b) Explain the following methods for the manufacture of metal matrix composites. (16)
i) Hot Isostatic pressing ii) Squeeze casting.

15. a) i) Enumerate Reaction bonding process of making Ceramic Matrix Composites (8)

ii) Explain Plasma spray technique for Manufacturing CMC's. (8)

(OR)

b) i) Describe chemical vapour deposition with neat sketch (8)

ii) Explain about Electroferrotic deposition (8)

