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Question Paper Code : 97114

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

Third Semester

Mechanical Engineering

ME 6302 — MANUFACTURING TECHNOLOGY — I

(Common to Industrial Engineering, Industrial Engineering and
Management and Mechanical and Automation Engineering)

(Regulation 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is meant by grain fineness number?
2. Mention few applications of centrifugal casting.
3. What is meant by Nugget in Electric Resistance welding?
4. What are functions of flux used in welding electrodes?
5. Why is drop forging called so?
6. What does angle of bite in rolling mean?
7. What is shear angle? Why is it given in punches and dies?
8. What is flanging?
9. What is polymerization?
10. List out any four types of adhesives used in adhesive bonding of plastics.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain various properties required for the moulding sand. (8)
(ii) Describe the constructional feature of cupola furnace. (8)

Or

- (b) Explain the various steps involved in sand core manufacturing. (16)

12. (a) (i) Explain with neat sketch the components of oxy-acetylene gas welding equipment. (8)
(ii) Describe the process of Electro slag welding and identify their major applications. (8)

Or

- (b) (i) Explain the process of Rotary drive friction welding with its advantages and limitations. (8)
(ii) Briefly explain the principle of operation, advantages and limitations of Electron beam welding. (8)
13. (a) (i) With suitable sketches describe indirect and direct extrusion. (8)
(ii) Draw a simple sketch showing rolling process and make a short note on deformation of grains in rolling. (8)

Or

- (b) (i) Explain hot working and cold working with their advantages and limitations. (8)
(ii) Explain in detail about wire drawing. (8)
14. (a) (i) What is super plastic forming? Explain with a neat sketch. (8)
(ii) Enumerate Rubber Pad forming with suitable sketch. (8)

Or

- (b) (i) Enumerate with a neat sketch any two type of stretch forming operations. (8)
(ii) Describe Magnetic Pulse forming with a neat sketch. (8)
15. (a) (i) What is transfer moulding? Discuss its advantages and limitations. (8)
(ii) Explain positive, semi positive and flash type compression moulding. (8)

Or

- (b) Explain various types of thermoforming method shaping thermoplastics. (16)