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Question Paper Code : 31557

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Third Semester

Mechanical Engineering

ME 2201/ME 32/10122 ME 302/PR 1204/080120005 — MANUFACTURING
TECHNOLOGY — I

(Common to Industrial Engineering and Industrial Engineering and Management)

(Regulation 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Differentiate shrinkage and porosity.
2. List the various sand casting defects.
3. What is the purpose of flux in welding?
4. Write short notes on thermit welding.
5. What is the difference between hot and cold forging?
6. Differentiate extrusion and forging.
7. Define spring back effect in sheet forming process.
8. List the advantages of superplastic forming processes.
9. What are the different type's compression moulds?
10. Define pulforming.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain any four casting defects and its remedies. (8)
(ii) Explain shell moulding with sketches and also list the advantages over other casting methods. (8)
- Or
- (b) (i) Explain how pipes and cylinder liners are made by centrifugal casting process. (8)
(ii) Explain lost wax processes with neat sketch. (8)
12. (a) (i) Differentiate electro gas welding and electro slag welding with its principles and applications. (8)
(ii) Explain the gas metal arc welding processes with neat sketch and its process capabilities. (8)
- Or
- (b) Explain the following welding process with neat sketch
(i) Resistance seam welding
(ii) Friction Stir welding. (16)
13. (a) (i) Explain the steps involved in the forging operation. (8)
(ii) Explain the precision forging process with neat sketch and also compare with closed die forging process. (8)
- Or
- (b) (i) Explain the various defects present on the rolled plate surfaces with suitable sketch. (8)
(ii) Write short notes on impact extrusion and hydro static extrusion. (8)
14. (a) (i) Explain the various sheet metal forming process with its important characteristics. (10)
(ii) Describe forming limit diagram. (6)
- Or
- (b) (i) Explain the explosive forming process with neat sketch. (10)
(ii) How curvatures are made on thin sheet metals, explain the suitable process with neat sketch. (6)
15. (a) Explain compression moulding and transfer moulding process with neat sketch. (16)
- Or
- (b) Explain the various moulding process for reinforced plastics. (16)