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**Question Paper Code : 21557**

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 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. Compare the advantages of metal moulds over sand (expendable) moulds.
2. What are the functions of flux in melting metals and alloys?
3. What is the minimum distance maintained between two successive spot welds made by resistance welding? Why?
4. Write short notes on transferred and non transferred arc in plasma arc welding.
5. What is ironing?
6. What is meant by fullering?
7. Define spring back.
8. Why is it necessary to provide proper clearance between the punch and die in a shearing operation?
9. What is polymerization?
10. What is calendaring in processing of plastics?

PART B — (5 × 16 = 80 marks)

11. (a) (i) What are the allowances given while making pattern? Explain. (8)  
(ii) Describe the process of Investment casting. What process controls are needed in this case? (8)

Or

- (b) (i) Briefly explain the Principle, operation, advantages, disadvantages and application of CO<sub>2</sub> moulding. (8)
- (ii) Describe with a neat sketch of cold chamber die casting machine. Give its Advantages and Limitations. (8)
12. (a) (i) Explain any four major ways to control the output of arc welding transformer. (8)
- (ii) Explain the three variables involved in Continuous drive friction welding. (8)

Or

- (b) (i) What are the nondestructive tests used in welding inspection? Explain any one method. (8)
- (ii) Explain with a neat sketch the Equipment and process of submerged arc welding. (8)
13. (a) (i) Briefly explain about seamless rolled ring forging. (8)
- (ii) Briefly explain flat strip rolling operation. (8)

Or

- (b) (i) Explain Hot working and Cold working with their advantages and limitations. (8)
- (ii) Explain with a neat sketch the process of wire drawing. (8)
14. (a) (i) Explain the basic nomenclature of tube bending with a simple sketch. (8)
- (ii) Discuss Super plastic forming with necessary sketches. (8)

Or

- (b) (i) What are the different types of stretch forming? Explain any one. (8)
- (ii) Explain with a neat sketch the principle and operation of magnetic pulse forming. (8)
15. (a) (i) What is rotational moulding? State its advantages and limitations. (8)
- (ii) Explain briefly any two bonding methods of thermoplastics. (8)

Or

- (b) Explain briefly with neat sketches two commercially used methods of blow moulding for blowing of plastics bottles and mention their specific advantages. (16)