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**Question Paper Code : 27352**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Third Semester

Mechanical Engineering

ME 6302 — MANUFACTURING TECHNOLOGY – I

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

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the ideal profile of a sprue?
2. What do you mean by core print?
3. Why shielding of weld area during welding is required?
4. How does the seam welding is an application of spot welding?
5. What do you mean by Lateral Extrusion?
6. What do you mean by angle of bite?
7. List out test methods for testing formability of material.
8. Distinguish between piercing and blanking.
9. What is the need for Rotational moulding in manufacturing plastic components?
10. Make a note on Polymerization.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain operation of cupola furnace with necessary sketch. (8)  
(ii) Explain any four casting defects, causes and remedies. (8)

Or

- (b) (i) Explain the various types of pattern used in Mould making. (8)  
(ii) Enumerate the steps in sequence for producing Shell Moulding. (8)
12. (a) (i) Explain the equipment of an Oxy-Acetylene gas welding. (8)  
(ii) Explain about the equipment and operation of GTAW process. (8)

Or

- (b) (i) Explain the variants of Thermit welding process. (8)  
(ii) Explain the Resistance spot welding process with a neat sketch. (8)
13. (a) (i) Explain with neat sketches various types of rolling stand arrangement. (8)  
(ii) Explain with a neat sketch the process of wire drawing. (8)

Or

- (b) (i) Discuss the advantages and limitations of hot working and cold working. (8)  
(ii) Explain the steps involved in drop forging with neat sketches. (8)
14. (a) (i) Explain any one stretch forming method. (8)  
(ii) Explain the advantages and limitations of compound dies over progressive dies. (8)

Or

- (b) (i) Briefly explain with a neat sketch hydroforming. (8)  
(ii) Elucidate process variables in Explosive forming. (8)
15. (a) (i) Explain how plastic sheets are manufactured by thermo forming method. (8)  
(ii) Explain the process of transfer moulding and its applications. (8)

Or

- (b) (i) Enumerate various methods of bonding thermoplastics. (8)  
(ii) Enumerate injection moulding of plastic products. (8)