Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 72137

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2017.

Third/Fifth Semester

Mechanical Engineering

ME 6302 — MANUFACTURING TECHNOLOGY – I

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

(Regulations 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is meant by permanent mould casting?
2. What is the cause of the casting defect called" Hot tear"?
3. Sketch an Oxidizing flame in Oxy acetylene gas welding.
4. What are the two types of Plasma arc welding?
5. How can you reduce the "roll force" in a roiling process?
6. Differentiate between hot and cold forging?
7. What are the two most common shearing operations?
8. What is meant by Spring back in sheet metal work?
9. Define Thermo forming process?
10. Mention any two applications of Blow moulding process?

PART B — (5 × 13 = 65 marks)

11. (a) With neat sketches, explain the sand casting process. (13)

Or

(b) With a neat sketch, explain the principle of the Investment casting process. (13)

12. (a) Explain the principle and equipment of Gas tungsten arc welding process with neat sketches. (13)

Or

(b) (i) Sketch and name the various component of the Thermit welding process. (8)

(ii) Explain any two important defects in welding process. (5)

13. (a) Sketch and explain the various types of Rolling mill arrangements used in a Rolling process. (13)

Or

(b) Sketch and explain the differences between impression die forging and precision forging (near net shape forging) operation. (13)

14. (a) With neat sketches explain the Sequence of the Stretch forming process. (13)

Or

(b) With a neat sketch explain the Explosive forming process. (13)

15. (a) Explain the Rotational molding process used in manufacturing plastics, with a neat sketch. (13)

Or

(b) Explain the Compression molding process with a neat sketch. (13)

PART C — ($1 \times 15 = 15$ marks)

16. (a) Explain the design considerations to be followed when designing a part for the casting process.

Or

(b) Sketch and explain the sequence of steps in manufacturing a connecting rod using the forging process.

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