

Reg. No. :

Question Paper Code : 53302

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Third/Fourth Semester

Mechatronics Engineering

ME 6352 — MANUFACTURING TECHNOLOGY

(Common to : Aeronautical Engineering/Automobile Engineering)

(Regulation 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Name any four pattern allowances in sand casting.
2. List out the various casting defects.
3. Name two characteristics of oxy acetylene welding process?
4. What are the primary functions of flux in a welding process?
5. Differentiate between shaping and planing process.
6. Give the applications of Abrasive Jet Machining.
7. What is the main advantage of injection molding for thermoplastic parts as compared with Hot Compression moulding?
8. Define thermoplastic materials.
9. Classify the types of extrusion.
10. Distinguish between open die forging and closed die forging.

PART B — (5 × 13 = 65 marks)

11. (a) (i) Explain the steps involved in making green sand mould. (7)
- (ii) Describe any two types of patterns in the casting process. (6)

Or

- (b) (i) Explain the working principle of Centrifugal Casting. (9)
- (ii) Compare Centrifugal & Semi Centrifugal Casting. (4)

12. (a) Classify the various types of Welding defects, their causes and remedies and describe them in detail.

Or

- (b) With aid of a neat sketch, explain the Electron Beam Welding process. List its applications and merits.

13. (a) Outline the common operations performed in the following machine with simple sketches:

- (i) Lathe. (8)
(ii) Shaper. (5)

Or

- (b) Discuss the working principle of the Ultrasonic Machining. List its merits and demerits. (11 + 2)

14. (a) Explain the injection moulding process with the neat sketch. (13)

Or

- (b) Describe in detail the Compression Blow Moulding with the neat sketch. (13)

15. (a) With the help of a neat sketch, describe the Wire Drawing Process. (13)

Or

- (b) Describe the principle steps involved in Powder Metallurgy process with a flow chart and list its applications also. (13)

PART C — (1 × 15 = 15 marks)

16. (a) With a case study, explain any one of the Welding Process carried out in industry.

Or

- (b) What is the application of cylindrical grinding in an industry? Explain the importance of cylindrical grinding with a case study.