

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the materials generally used for pattern making. (8)
(ii) Describe the procedure to make a green sand mould. (8)

Or

- (b) (i) Briefly describe hot chamber die casting process. (8)
(ii) Explain the properties required for good moulding sand. (8)

12. (a) (i) Explain the process of Gas Metal Arc Welding (GMAW). (8)
(ii) Describe different types of flame in gas welding. (8)

Or

- (b) (i) Describe with neat sketch a resistance welding process. (8)
(ii) Explain the equipment and operation of Thermit welding process. (8)

13. (a) (i) Sketch variation in pressure during the extrusion process by direct and indirect methods. (8)
(ii) Explain in detail about the defects occurred in forging operations. (8)

Or

- (b) (i) Explain the various rolling stand arrangement in detail. (8)
(ii) Explain with a neat sketch the process of Rod drawing. (8)

14. (a) (i) Explain the working principle and typical applications of Hydro forming process. (8)
(ii) Why is it necessary to provide proper clearance between the punch and die in shearing operation? Give reasons. (8)

Or

- (b) (i) Briefly explain the test methods used for testing formability of sheet metal. (8)
(ii) Explain the factors governing the Explosive forming process. (8)

15. (a) (i) Explain how plastic sheets are manufactured by thermo forming method. (8)
- (ii) What is compression molding? Discuss its advantages and limitations. (8)

Or

- (b) (i) What is transfer molding? Discuss its advantages and limitations. (8)
- (ii) Explain the working principle and typical applications of Injection moulding process. (8)