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

Question Paper Code: 31732

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

Third Semester

Mechanical Engineering

01UME302 - MANUFACTURING TECHNOLOGY-I

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. List out pattern material used in casting process.
2. Mention the purpose of runner and riser in casting process.
3. What is the function of flux and filler materials in welding?
4. Draw three types of welding flame and indicate the zones.
5. What do you understand by forging? What are the two basic types of forging process?
6. List down the various steps involved in drop forging.
7. What is the working principle of magnetic pulse forming?
8. What are the advantages of rubber pad forming process?
9. Name any four thermosetting plastics used in industries.
10. Write any two limitations of Electro-magnetic forming process.

PART - B (5 x 16 = 80 Marks)

11. (a) With neat sketch explain the steps for making a green sand mould for casting a tapper cylindrical block. (16)

Or

(b) Define centrifugal casting. Write down the working principle in detail with neat sketch. (16)

12. (a) (i) With a help of a neat sketch describe the electro slag welding process. (8)

(ii) Explain with a neat sketch the equipment and process of submerged arc welding. (8)

Or

(b) With neat sketch explain the following welding process: (i) Plasma arc welding and (ii) TIG welding. (16)

13. (a) (i) Why is it not desirable to provide a blank for drop forging of such size that no flash is produced? Explain the purpose of the flash gutter. Why is it sometimes necessary to trim the flash once or even twice during drop forging? (8)

(ii) What are the usual defects in rolled parts? Also explain different types of rolling mills. (8)

Or

(b) (i) With the help of a neat diagram, explain the forward extrusion process. (8)

(ii) What are the main characteristics of the hot working as compared with cold working processes. (8)

14. (a) (i) Describe the hydro forming process with the help of neat diagram. (8)

(ii) Explain the rubber pad forming process. (8)

Or

(b) Briefly explain the following processes with the help of neat diagrams

(i) Electro hydraulic forming (8)

(ii) Magnetic pulse forming (8)

15. (a) What are the processes used for processing of thermoplastic? Explain any one process with suitable sketches. (16)

Or

(b) (i) Describe different types of plastics with applications of each type. (8)

(ii) How do thermoplastics differ from thermosetting plastics? (8)