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

Question Paper Code: 33702

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

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. Differentiate soldering and brazing.
4. Draw three types of welding flame and indicate the zones.
5. What is stretch forming?
6. Write the limitations of hot working process.
7. Differentiate between piercing and blanking.
8. What is the difference between stretch forming and bending?
9. Write the difference between thermoplastic and thermo set.
10. Write any two limitations of Electro-magnetic forming process.

PART - B (5 x 16 = 80 Marks)

11. (a) Draw a neat diagram of a cupola furnace, indicate important parts and show various stages. (16)

Or

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

12. (a) Sketch the three types of Oxy-acetylene flames and state their characteristics and applications. (16)

Or

(b) Briefly explain about laser and friction welding process with neat sketches. (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) With neat sketch, explain the working of a pneumatic hammer for forging. (16)

14. (a) Describe the various methods of rubber forming. Where are these processes used. (16)

Or

(b) Briefly explain the following special forming process with its advantages

(i) Explosive forming (8)

(ii) Super plastic 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)