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**Question Paper Code: 33702**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 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. State the essential properties of moulding sand.
2. What is the principle employed in precision investment casting?
3. Distinguish MIG and TIG welding process.
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. How do thermoplastics differ from thermo-setting plastics?

PART - B (5 x 16 = 80 Marks)

11. (a) Discuss the properties of moulding sand in detail. (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) With neat sketch explain the following welding process: (i) Plasma arc welding and (ii) TIG welding. (16)

13. (a) Describe the principle of rolling. Explain the various kinds of rolling mills along with their applications. (16)

Or

(b) With neat sketch, explain the working of a pneumatic hammer for forging. (16)

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 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) Elaborate blow moulding process with neat sketch. (16)