

**(B.E.(Full-TIME) DEGREE END SEMESTER EXAMINATIONS- NOV./DEC. 2011
MECHANICAL ENGINEERING BRANCH
III SEMESTER - (REGULATION 2008)
ME 9201 – MANUFACTURING TECHNOLOGY-I
(Common to Industrial Engg. and Tamil Medium Mechanical Engg.)**

Time : 3 Hours

Max. Marks : 100

Answer ALL Questions

PART-A (10 x 2 = 20 Marks)

1. What is the need for riser in a mould ?
2. What are the properties of moulding sand?
3. What are the three types of flames that can be produced by varying the oxygen fuel ratio?
4. Sketch the two polarities of D.C supply in D.C. arc welding.
5. What is upset forging?
6. What do you mean by extrusion ratio?
7. Differentiate between punching and blanking.
8. What do you mean by deep drawing?
9. What are thermoplastics and thermosetting plastics?
10. What is a "Parison"?

PART – B (5 x 16 = 80 MARKS)

- 11 i) Describe the steps involved in sand moulding. (8)
ii) Discuss about atleast 4 casting defects. (8)
- 12.a) i) Explain the principle of operation of electro-slag welding processes with the help of a neat sketch. (10)
ii) With the help of a neat sketch explain the principle of operation of spot welding. (6)
(OR)
- b) i) Explain various flame settings and their applications in Oxy-acetylene welding. (10)
ii) Distinguish between "welding", "brazing" and "soldering process". (6)
13. a) i) Describe and specify the merits and limitations of the different kinds of rolling mills. (10)
ii) Differentiate between hot working and cold working of metals. (6)
(OR)
- b) i) With the help of a suitable sketch, explain the working of Board drop hammer forging. (8)
ii) Describe the common defects in forging and write about the causes of each. (6)
14. a) i) With a neat sketch explain the operations involved and the type of die used to manufacture a washer. (10)
ii) Discuss about clearance in a die set with a neat sketch. (6)
(OR)
- b) i) Describe the metal spinning process with suitable sketch. (8)
ii) Explain the principle of explosive forming with suitable sketch. (8)
15. a) i) Sketch and explain the "Compression moulding" and "Transfer moulding" process. (10)
ii) Describe the calendaring process of plastics. (6)
(OR)
- b) i) Describe the injection moulding of plastics with suitable sketch. (12)
ii) List the limitation of injection moulding processes. (4)