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Question Paper Code: 31372

B.E. / B.Tech. DEGREE EXAMINATION, MAY 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. State any four pattern allowances.
2. Mention the specific advantages of CO_2 process.
3. What is the function of flux and filler materials in welding?
4. State the principle of electron beam welding.
5. What do you understand by forging? What are the two basic types of forging process?
6. State the defects in rolled parts.
7. Why it is necessary to provide proper clearance between the punch and die in shearing operation?
8. What are the advantages of rubber pad forming process?
9. Mention any four differences between thermosetting and thermoplastics.
10. Describe the principle of film blowing.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Explain the various properties required for the moulding sand. (8)
(ii) List any five casting defects, their causes and suggest suitable remedies. (8)

Or

- (b) Explain the following process with neat sketch
- (i) Shell casting
 - (ii) Investment casting (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
 - (ii) TIG welding (16)
13. (a) (i) With neat sketch, explain the working of a pneumatic hammer for forging. (10)
- (ii) List out and explain the various forging defects. (6)

Or

- (b) (i) Describe the principle of hydrostatic extrusion. (8)
- (ii) With a neat sketch explain the process of wire drawing. (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) Write short notes on the following:
- (i) Metal spinning
 - (ii) Magnetic pulse forming
 - (iii) Super plastic forming (16)
15. (a) (i) Describe briefly the process of injection moulding as used for producing plastic components. (8)
- (ii) Explain in detail the thermoforming process. (8)

Or

- (b) Write short notes on
- (i) Rotational moulding
 - (ii) Compression moulding
 - (iii) Transfer moulding (16)