

**FACULTY OF ENGINEERING****B.E. 3/4 (AE) I-Semester (Main) Examination, November / December 2012****Subject : Production Technology****Time : 3 Hours****Max. Marks: 75****Note: Answer all questions of Part - A and answer any five questions from Part-B.****PART – A (25 Marks)**

1. What are the advantages and disadvantages of true centrifugal casting? (2)
2. Name the various defects which occur in sand castings and state their probable causes and remedies? (3)
3. Explain the principle of atomic hydrogen welding. (2)
4. Give the advantages, limitations and applications of gas welding. (2)
5. Explain briefly about blow moulding and injection molding. (2)
6. Make a neat sketch to explain the principal of drawing operation. What are the various drawing processes? (3)
7. Explain various types of chips and the favourable conditions under which they are obtained. (3)
8. What are the basic properties of good cutting tool materials? Mention different cutting tool materials? (3)
9. Differentiate between capstan and turret lathe. (2)
10. Define lapping, honing and super finishing operations? (3)

**PART – B (5x10=50 Marks)**

11. Describe the complete step by step procedure of investment casting. What are the main advantages, disadvantages and applications of investment casting? (10)
12. Write short notes on the following with the help of neat sketches: (10)
  - (a) Forward extrusion
  - (b) Backward extrusion
  - (c) Hydrostatic extrusion
13. What is meant by solid state welding process? What are different solid state welding processes? Explain the working of any two processes with the help of neat sketch. (10)
- 14.(a) What are the electrodes used in arc welding made of? What is electrode coating and why are they provided? (5)
  - (b) Sketch the three types of gas welding flames and give differences between them. Also mention where these flames are used. (5)
15. Explain Merchant's analysis of cutting forces. Also draw the Merchant's circle diagram and show various forces in it. (10)
- 16.(a) List out various machining operations performed on the following machines (6)
  - (i) Lathe (ii) Drilling machine (iii) Shaper
  - (b) Differentiate between shaper and planer. (4)
- 17.(a) With the help of a neat sketch explain the column and knee type milling machine. Also explain the various operations performed. (6)
  - (b) Differentiate between up milling and down with the help of neat sketches. (4)

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