

***B.Tech. Degree III Semester Examination
November 2004***

SE 302 MANUFACTURING PROCESSES
(2002 Admissions onwards)

Time: 3 Hours

Maximum Marks: 100

(All questions carry EQUAL marks)

- I. Explain in detail the mechanical properties of materials used in engineering applications.
- OR**
- II. Write short notes on the following:
- (i) Interstitial solid solution
 - (ii) Malleable cast iron
 - (iii) Stainless steels
 - (iv) Normalizing
 - (v) Carburising
- III. (a) Describe the process of Submerged Arc Welding (SAW) with a neat sketch. List the process capabilities.
(b) Explain any five common welding defects and the methods of preventing their occurrence.
- OR**
- IV. (a) With neat sketches explain the different types of flames and the uses of gas welding.
(b) Describe the TIG welding process giving the process capabilities, with a neat sketch.
- V. (a) What are the desirable properties of moulding sand?
(b) What are the various tests for assessing the qualities of moulding sand? Describe any two tests in detail.
- OR**
- VI. (a) Describe the process of making a green sand mould for a simple casting with a neat sketch.
(b) Explain the die casting process with a neat sketch. List out the merits of this process.
- VII. What is hot working? What are the different methods of hot working? Describe any two hot working processes with neat diagrams. Explain the merits and demerits of hot working.
- OR**
- VIII. Write notes on the following with neat sketches:
- (i) Steam hammers
 - (ii) Explosive forming
 - (iii) Wire drawing
 - (iv) Hydro forming
- IX. With the help of a neat figure, explain the construction and working of shaper. List out the advantages and disadvantages of shaping machine.
- OR**
- X. (a) Describe the AJM process with a neat figure.
(b) What are the different materials used for cutting tools? Explain in detail giving the composition and other characteristics.

