

**III B.Tech II Semester Supplementary Examinations,
November/December 2005
FOUNDRY AND WELDING
(Production Engineering)**

Time: 3 hours

Max Marks: 80

**Answer any FIVE Questions
All Questions carry equal marks**

1. (a) Explain how metal casting units (Foundries) are classified? [8]
(b) Compare the construction, applications and limitations of sweep Pattern with Skeleton Pattern giving sketches. [8]
2. (a) What are the factors which govern the selection of a particular type of furnace for melting a particular metal. [6]
(b) What are the crucible furnaces ? Where they are preferred and why? [5]
(c) With a neat sketch explain the working of a pit furnace. [5]
3. (a) Suggest and Explain methods to get uniform grain size in a casting having thick and thin sections. [7]
(b) Distinguish fully among the following: [3x3=9]
 - i. Liquid contraction
 - ii. Solidification contraction
 - iii. Solid contraction.
4. (a) Explain the factors to be considered in selection of weld joint [6]
(b) Explain various welding positions [5]
(c) Explain various types of welds with neat sketches [5]
5. Explain the following: [8+8=16]
 - (a) Laser welding.
 - (b) Induction welding.
6. Give the classification of testing of welds. Explain any one important non-destructive test. Indicate the reasons for choosing the test. [16]
7. (a) With a neat sketch explain the compression moulding process of plastics. [8]
(b) Explain the various advantages and disadvantages of plastics. [8]
8. (a) Among the Various methods used for the manufacture of metal powders which method do you think to be superior ? Why? [8]
(b) Write a detailed account on liquid phase sintering. [8]
