

III B.Tech II Semester Supplementary Examinations, Apr/May 2006
FOUNDRY AND WELDING
(Production Engineering)

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. (a) What is draft allowance ? How it is provided for patterns. [8]
(b) Explain with neat sketches different types of cores. [8]
2. Explain the following [6+5+5=16]
 - (a) Oxygen Enriched blast in cupola
 - (b) Use of calcium carbide in cupola
 - (c) Coke less cupola
3. For ease of molding it is decided to replace a spherical riser of diameter 100 mm by a cylindrical riser. Determine the size of the cylindrical riser that will have the identical solidification time. (Assume blind risering : Ratio of h/d of cylinder is 2:1). [16]
4. Discuss the importance of design of weld Joints in service life of welds and weld quality. [16]
5. (a) Describe the various fluxes used in brazing process. [8]
(b) With a neat sketch explain the process of explosive welding. [8]
6. (a) Explain with sketches the following types of weld defects. [4x2=8]
 - i. Under cut
 - ii. Lack of fusion
 - iii. Lack of penetration
 - iv. Porosity.
(b) What are the causes and remedies for the above with respect to arc welding. [8]
7. (a) Why a screw type injection moulding machine is better than a ram type injection moulding machine. [8]
(b) Sketch and explain the principle of vacuum forming process for plastics. [8]
8. (a) Which method will you recommend for the manufacture of powders of the metals and why? [3x3=9]
 - i. Fe
 - ii. Mg
 - iii. W

- (b) What is sintering? What conditions must be satisfied for obtaining a good sintered product? [7]
