

III B.Tech II Semester Supplementary Examinations, April/May 2005
FOUNDRY AND WELDING
(Production Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) What are the advantages of using plastics as pattern material.
(b) Explain the composition of moulding sand.
(c) Write short notes on synthetic sands.
2. (a) Is it, Possible to obtain a sound casting of a solid bar by centrifugal casting Process? Give reasons in support of your answer.
(b) Explain why most die castings not made out of high strength materials?
(c) 'Large parts can't be manufactured by the Centrifuging process'. Comment on the statement.
3. (a) What are the factors through which directional solidification of castings can be controlled?
(b) What are the advantages of blind riser over conventional type riser?
(c) What are the various elements that comprise of the gating system?
4. Develop the equations for the tensile load that can be applied on
 - (a) Single V groove butt Joint
 - (b) Lap Joint with transverse filled weld.
5. (a) A fusion weld is to be carried out on a grey iron casting. State the precautions to ensure that the weld zone will be of grey cast iron after welding.
(b) Give the causes of hot cracking in carbon-steel fusion welds.
(c) State the difficulties which may be encountered when manual metal arc welding dissimilar metals.
6. (a) Explain the defects found in
 - i. Arc welding
 - ii. Gas welding.
(b) Explain the various destructive tests conducted on weld joints.
7. (a) Discuss the applications of plastics in automotive and electrical functions.
(b) What are the raw materials used for production of polymers? Discuss in detail.
8. (a) Explain briefly the basic steps in Powder Metallurgy process.
(b) What is powder metallurgy? What are its advantages and disadvantages.
