

END TERM EXAMINATION

FIRST SEMESTER [B.TECH.]– DECEMBER 2008

Paper Code:ETME107

Subject: Manufacturing Processes

Paper ID: 36107

(Batch: 2004-2008)

Time : 3 Hours

Maximum Marks :75

Note: Attempt five questions in all including question no.1 which is compulsory.

(10x2.5)

- Q.1 (a) Name the various moulding materials used in foundry. (6.5)
 (b) List the essential constituents of moulding sand.
 (c) Write the requirements of a good pattern.
 (d) Why the section of sprue reduces downwards?
 (e) Why the cleaning of a joint is important before welding?
 (f) Write short note on "coding" of electric arc electrodes.
 (g) Sketch three types of flame used in oxy-acetylene gas welding.
 (h) Differentiate between smithy and forging
 (i) Sketch the ball peen hammer and straight peen hammer.
 (j) List the commonly used materials in sheet metal work.
- Q.2 (a) Sketch and describe the use and advantages of gated pattern. (6.5)
 (b) Do you agree with the statement, natural sand is often not suitable for moulding purposes? Justify your answer. (6)
- Q.3 (a) Explain with neat sketch the working of cupola furnace. (7.5)
 (b) What are the major drawbacks of the casting processes and how they are overcome? (5)
- Q.4 (a) Do you think it is possible to forge all the materials? Justify your answer. (6)
 (b) Compare forged component with cast component. (6.5)
- Q.5 (a) Explain the metals used in sheet metal work. (6.5)
 (b) List the sheet metal operations and explain two of them. (6)
- Q.6 (a) State the advantages and limitations and arc welding. (6)
 (b) Explain with an example, the situation in which joining process becomes essential when compared to other manufacturing processes. (6.5)
- Q.7 (a) Distinguish between "welding", "brazing" and "soldering" processes. (6)
 (b) With the help of neat sketches explain the following welding methods. (6.5)
 (i) Flash Butt Welding (ii) Percussion Butt Welding
- Q.8 (a) What metals can be joined by shielded arc welding? What are some important advantages of this welding? (6.5)
 (b) Write short note on following: - (6)
 (i) Gas welding equipment
 (ii) Spot welding
 (iii) Friction welding