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R09

Code No: R09220301

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD

B.Tech II Year II Semester Examinations, May-2013

Production Technology

(Common to ME, MCT, AME)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

- 1.a) What are the materials that are generally used for making patterns? Explain the reasons for their choice. [15]
- b) What are the common allowances provided on patterns? Why and how they are provided? Give suitable examples. [15]
- 2.a) Describe the solidification of a pure metal with a neat sketch. [15]
- b) What are different zones in cupola? Explain. [15]
- 3.a) Explain the process of thermit welding and discuss its advantages. [15]
- b) Explain Oxy-Acetylene Gas Cutting process with a neat diagram. [15]
- 4.a) State the causes for welding defects and suggest remedies. [15]
- b) Distinguish between TIG welding and MIG welding? [15]
- 5.a) Compare the properties of cold and hot worked parts. [15]
- b) On a certain mill the rolling load for 25% reduction is 7KN/mm of width. What is the rolling load when front and back tensions of 120 and 150MPa are applied? $\sigma_0 = 13\text{KN/mm}^2$ and $\alpha = 2\beta$. [15]
- 6.a) Differentiate among wire drawing, tube drawing and deep drawing operations. [15]
- b) Distinguish between embossing and coining.
- c) How the process of spinning is performed. [15]
- 7.a) Sketch and explain the following press tools. [15]
 - i) Progressive die
 - ii) Compound die
 - iii) Combination die.
- b) What is roll forging? Explain in detail with a neat diagram. [15]
- 8.a) Select suitable raw material and manufacturing process for any two common plastic components giving reasons. [15]
- b) State the advantages and limitations of plastics compared to metals as engineering material. [15]

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