

Exam.Code:0939

Sub. Code: 7044

1129

B.E. (Mechanical Engineering)
Third Semester
MEC-305: Manufacturing Processes

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

- I. Attempt the following:-
- What are composites and alloys?
 - Draw the three types of patterns.
 - What are core and core prints?
 - What are the different types of solid solutions?
 - Define the term austenite?
 - Differentiate between ductile and brittle fracture.
 - Name any four welding defects?
 - List down any four functions performed by the coating of welding electrode?
 - Draw the Gate and Gating system with the help of a neat sketch?
 - Write down the applications of MIG welding. (10x1)

UNIT - I

- II. Draw iron-iron carbide phase diagram and mark on it all salient temperatures and composition fields. (10)
- III. a) Write down difference between hot working and cold working.
b) Explain working principles of forward and backward Extrusion process. (2x5)
- IV. a) What is drop forging? How it is different from machining forging and press forging
b) Describe the various defects occurred during forging? (2x5)

UNIT - II

- V. a) Explain the continuous casting process and give its applications.
b) Explain the process of nucleation and grain growth in metal casting. What is directional solidification? (2x5)

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(2)

- VI. a) Briefly explain the joining processes of soldering, brazing and braze welding. Clearly bring out the differences between them and give specific applications for each type. (2x5)
- b) Describe the principle of metal transfer in arc welding with the help of neat sketches? (2x5)
- VII. Differentiate between TIG and MIG welding. Discuss the role of inert gases in the processes and draw a comparison between the commonly used inert gases. (10)

x-x-x