

1128
M.E. (Mechanical Engineering)
First Semester
Elective - I
MME-105(b): Manufacturing Science

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, selecting atleast two questions from each Unit.

x-x-x

UNIT - I

- I. Discuss composition, properties and applications of different types of stainless steels. (10)
- II. Discuss the selection criteria of materials for design and fabrication of engineering product. (10)
- III. What is oblique cutting? Explain the mechanism of chip flow deviation from the orthogonal plane during oblique cutting and briefly discuss its effects. (10)
- IV. Discuss the principle of milling operation and from cutting force analysis give expression of thrust force and torque. (10)

UNIT - II

- V. Explain solidification process of alloys and derive an expression for solidification time of a large casting in an insulating mould. (10)
- VI. Discuss with sketches causes and effects of various defects in castings. (10)
- VII. Define arc structure of welding operation and discuss different modes of metal transfer in arc welding? (10)
- VIII. Explain principle, working, applications and merits of ultrasonic welding. (10)

x-x-x