

Exam.Code:1014
Sub. Code: 7754

1129
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 alloy steels. (10)
- II. Discuss how the properties of materials affect their selection for fabrication of engineering products. (10)
- III. Explain the mechanics of oblique cutting and discuss three factors that cause chip flow deviation from the orthogonal plane in machining. (10)
- IV. Draw and analyze various forces acting during drilling using a twist drill. Derive the relationship of thrust force and torque acting during drilling operation. (10)

UNIT – II

- V. Discuss the rate of solidification of casting and derive an expression for total 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. Discuss the principle and important factors governing the fusion welding. How heat can be controlled in the arc zone during different welding processes for obtaining sound welded joints. (10)
- VIII. Discuss with sketches causes and effects of various defects in welding joints. (10)

x-x-x