

Exam.Code:0940

Sub. Code: 6714 ✓

2054

B.E. (Mechanical Engineering)

Fourth Semester

MEC-404: Manufacturing Technology ✓

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:-

- (a) Define rake angle and clearance angle of a cutting tool
- (b) Define shear angle in an orthogonal chip formation.
- (c) List different taper turning methods used on centre lathe.
- (d) Define alphanumeric system of specifying a grinding wheel with an example.
- (e) Describe principle of up and down milling. (5x2)

UNIT - I

- II. Draw Merchant Circle Diagram and derive relationship for thrust force and cutting force during machining with single point cutting tool assuming single shear plane. Give expression for the power consumption during machining. (10)
- III. How do you define the tool life? Explain the parameters that control the tool life of a single point cutting tool. (10)
- IV. What are the differences between compound and differential indexing? Explain their relative merits and applications. (10)

UNIT - II

- V. What is difference between form cutting and gear generation? Explain the principal of gear hobbing process with sketch and give its applications. (10)
- VI. With sketch discuss different key operations that generate surfaces of revolution by turning and boring operations during machining. (10)
- VII. Discuss different elements of screw threads, their specifications and errors. (10)

x-x-x