

24261

B. Tech. 5th Semester (ME) Examination, December-2015

MANUFACTURING TECHNOLOGY-II

Paper-ME-309-F

*Time allowed : 3 hours]*

*[Maximum marks : 100*

*Note : Attempt five questions. Question number 1 is compulsory and attempt at least one question from each Section.*

1. Explain the following :

- (a) Mechanism of metal cutting
- (b) Group technology
- (c) ECM
- (d) Locating devices.

4×5=20

**Section-A**

- 2. Explain in detail the mechanism of chip formation, built up edges and mechanism of orthogonal cutting. 20
- 3. Enumerate the various requirements of cutting tool materials and how the selection of cutting tool material is done. Explain it by considering all factors. 20

**Section-B**

- 4. Explain ECM on the basis of principal, system analysis equipment, Dielectric fluid, Electrodes, Process characteristics, advantages, disadvantages and applications with neat sketch. 20

5. Define jigs and fixtures. Explain in detail about location and location devices, principal of location and advantages of using jigs and fixtures. 20

### Section-C

6. Explain in detail, CNC and DNC control of machine tools by explaining the machining centre with neat and clean diagram. 20
7. Explain the part programming procedure in detail with a suitable example. 20

### Section-D

8. Discuss in detail the concept of group technology in an industry with all its components. 20
9. What are the various steps taken in planning of group technology ? What is group technology layout and what are the advantages of group technology layout ? 20