

B.Tech. 5th Semester Examination December-2013

**MANUFACTURING TECHNOLOGY-II**

**Paper-ME-309-F**

*Time allowed : 3 hours]*

*[Maximum marks : 100*

*Note : Attempt any five questions out of nine questions.*

*Q.No. 1 is compulsory.*

1. (a) What is the meaning of cutting speed of a tool?  
(b) What is the concept of group technology ?  
(c) Explain the purpose of cutting fluids.  
(d) Explain the principle of laser beam machining.  

4×5=20
2. Discuss different types of cutting fluids their properties and their selection criteria. 20
3. Explain the mechanism of chip formation discuss the mechanics of orthogonal and oblique cutting. 20
4. Discuss the process of Electro Chemical Machining. 20
5. (a) What factors influence the design of jigs and fixtures. 10  
(b) Describe different types of clamps. 10

6. Describe the main features of CNC Machines, which distinguish them from conventional machine tools. 20
7. What are the different components of Direct Numerical control (DNC) system ? Explain its principles functions also. 20
8. Explain classification and coding of parts group technology (GT) layout ? Also give some benefits of using GT Principles in Production Plants. 20
9. Write short note on any two :
- (a) Gear lapping
  - (b) Cemented carbides
  - (c) Merchant circle diagram.  $2 \times 10 = 20$