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B.Tech. (M.E.) 4th Semester F. Scheme

Examination, May–2015

MANUFACTURING TECHNOLOGY–I

Paper–ME-202-F

Time allowed : 3 hours]   *[Maximum marks : 100*

Note : ***Question No. 1 is compulsory.*** *Attempt any* ***five*** *questions selecting at least* ***one*** *question from each section.*

1.   (a)   Define Rack angle.   20
       (b)   What do you mean by crater wear ?
       (c)   What do you mean by foreword slip ?
       (d)   Define metrology.
       (e)   What is function of core ?
       (f)   What is the purpose of gating system ?
       (g)   What is forming ?
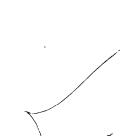   (h)   What are the material for electrode in welding ?

Section–A

2.   The following data have been observed for an orthogonal cutting test.   20
       (i)   Depth of cut = 1.5 mm
       (ii)   Width of cut = 5 mm
       (iii)   Rack angle = 15°
       (iv)   Cutting speed=25m/min
       (v)   Chip thickness ratio=0.4
       (vi)   Shear stress=150 N/mm^2
       Find Shear plane angle, Friction angle, Chip flow speed, Shear force, Power of tool.

3. Explain the elements of machining cost. Discuss the geometry of single point cutting tool. 20

Section–B

4. What do you understand by "degree of freedom" in regards to Jig and Fixtures design ? Briefly describe the "Principles of location". What is the main function of a locating device ? 20

5. Write short notes on : 20
   (a) Micro and macro deviation
   (b) Surface finish and its measurement
   (c) Auto-Collimator

Section–C

6. Differentiate between drilling and boring operation. Also explain indexing in milling operation. 20

7. Explain the different types of sand casting defects and their remedies. 20

Section–D

8. Explain the working principal of electro slag welding. Differentiate between brazing and soldering. 20

9. Explain the principle of hot working and cold working. Explain the Shearing, blanking, and piercing operation. 20

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