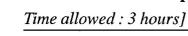
B.Tech. (M.E.) 4th Semester F. Scheme

Examination, May-2015

MANUFACTURING TECHNOLOGY-I

Paper-ME-202-F



[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.

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- (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.
 - (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/mm²

Find Shear plane angle, Friction angle, Chip flow speed, Shear force, Power of tool.

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[P.T.O.

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?
- 5. Write short notes on:

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

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.

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