Code No. 2133 / O

FACULTY OF ENGINEERING

B.E. 3/4 (Prod.) I – Semester (Old) Examination, Nov. / Dec. 2012

Subject : Machine Tool Engineering

Time : 3 hours **Max. Marks : 75**

Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.

PART – A (25 Marks)

1. Briefly explain the built up edge phenomena and its effect on surface finish.
2. What are the functions of cutting fluids?
3. Enlist the types of cutting tool failures.
4. Define rake angle and relief angle.
5. Sketch the basic kinematic structure of threed cutting lathe.
6. List the various operations performed on lathe.
7. Differentiate between gear hobbing and gear shaping.
8. What is the purpose of dividing head on milling machine?
9. Suggest a grinding wheel for machining of mild steel, aluminium and brass.
10. Why return stroke is faster than the forward stroke in shaper and planner?

PART – B (50 Marks)

11.a) What are the types of chips produced during machining? (5)
b) Discuss the cutting forces in turning and milling. (5)

12.a) Explain the tool wear mechanism. (5)
b) Discuss the tool nomenclature of single point cutting tool. (5)

13.a) Differentiate between capstan and turret lathe. (5)
b) Explain the basic kinematic structure of milling machine. (5)

14.a) Explain various operations performed on milling. (5)
b) Explain the differential indexing process. (5)

15.a) Explain any one of the quick return mechanism used in shaper. (5)
b) What are the different abrasives used in grinding wheels? (5)

16.a) List the desirable properties of cutting fluids. What are the role of additives? (5)
b) Explain the selection of size and angles of S.I. tools. (5)

17. Write short notes on any two of the following : (10)
   a) Selection of grinding wheel
   b) Drilling operations
   c) Thread rolling machine
   d) Chip breakers

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