Code No. : 5189/S

FACULTY OF ENGINEERING
B.E. 3/4 (Prod.) (I Semester) (Suppl.) Examination, June 2012
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. Explain truing and dressing in grinding wheels. **3**
2. With a neat sketch, indicate the parts and various angles of a plain milling cutter. **3**
3. Differentiate between planer and shaper. **2**
4. List any three work holding and tool holding devices in planer. **2**
5. How a lathe is specified ? **2**
6. Explain the important features of multi spindle automats. **3**
7. What is tool life ? Which factors influence tool life ? **3**
8. Define chip thickness ratio. **2**
9. Explain machinability. **2**
10. What is BUE ? Enlist factors influence the formation of BUE. **3**

PART – B **(50 Marks)**

11. With neat sketches, explain the various methods involved in temperature measurement during metal cutting. **10**
12. a) Define : Rake Angle. Discuss the effect of rake angle in chip formation. When negative rake angles are preferred. **7**
    b) Explain the functions of chip breakers. **3**

13. a) Derive the expression for tool life for maximum production rate. 6

    b) Explain in detail the kinematic scheme for a machine tool. 4

14. a) Differentiate between Capstan lathe and Turret lathe. 4

    b) Differentiate and explain thread cutting and thread forming operations. 6

15. a) With neat sketches, explain types of indexing in milling machines. 6

    b) Explain gear hobbing. 4

16. a) Explain with sketch the constructional features of a boring machine. 5

    b) With necessary sketches, explain various hole making operations. 5

17. Write short notes on : 10

    a) Sketch the tool nomenclature in American system.

    b) Selection of grinding wheel.

    c) Form tools.
