Roll No. .....
Printed Pages : 2

34115

BT-4 / M-18

PRODUCTION TECHNOLOGY-I

Paper–ME–202N

Time allowed : 3 hours] *[Maximum marks : 75*

Note :- *Students will attempt five questions selecting at least one question from each unit.*

Unit–I

1. (a) Explain orthogonal rake system in detail. 8
   (b) Discuss the importance of Back and Side Rake Angle. 7
2. Explain forces in metal cutting and Merchant force circle diagram. 15

Unit–II

3. (a) Write down the mechanism of tool wear. 8
   (b) Explain different types of cutting fluid. 7
4. (a) Discuss the elements of cost in manufacturing. 7
   (b) A bar of 85 mm diameter is turned down to 80 mm. If mean length of cut chip is 83 mm, rake angle 12°, and cutting is orthogonal, find cutting ratio and shear angle. 8

Unit–III

5. (a) Explain principal parts of milling machine. Differentiate between up milling and down milling. 10
   (b) Discuss Column and knee type of milling machine. 5
6. (a) At what speed a 15 mm dia. Drill will run, to drill a hole

through a brass plate 20 mm thick, in order to cut the material at surface speed of 60 m.p.m. Also calculate the feed used, per rev. 10

(b) Explain the main parts of an upright drilling machine. 5

Unit–IV

7. Write short note on the following: 7½×2=15
   (a) Specification of grinding machines.
   (b) Micrometer Caliper
8. Write short note on the following: 7½×2=15
   (a) Optical comparator.
   (b) Moving coil type profilometer used to measure roughness.