

Reg. No. :

Question Paper Code : 70895

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2023.

Fourth Semester

Mechanical Engineering

ME 8451 – MANUFACTURING TECHNOLOGY – II

(Common to : Industrial Engineering/Industrial Engineering and Management/Mechanical Engineering (Sandwich)/Mechanical and Automation Engineering)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List any two factors which can influence surface finish of metals during cutting operations.
2. What is the function of chip breakers?
3. What is the function of lead screw in lathes?
4. Write any four work holding devices.
5. Compare mechanical shaper with hydraulic shaper.
6. What is thread milling?
7. Write the composition of corundum used in the manufacture of abrasive wheels.
8. What is meant by truing?
9. Classify NC Machines.
10. What is PTP system?

PART B — (5 × 13 = 65 marks)

11. (a) Compare orthogonal metal cutting and oblique metal cutting.
Or
(b) Write the expression for tool life and discuss the factors which can affect tool life.
12. (a) Describe about various methods of taper turning with neat sketches.
Or
(b) What is a swiss type automatic screw machine? What are its functions and important applications?
13. (a) Explain about three types of feed in milling operation with relevant sketches and numerical expressions.
Or
(b) Discuss the working of Hobbing machine with suitable sketches.
14. (a) Discuss gear cutting by formed tool.
Or
(b) Describe about the uses of cutting fluids in grinding.
15. (a) List and explain M and G codes for milling and turning operations.
Or
(b) Compare NC machines with CNC machines.

PART C — (1 × 15 = 15 marks)

16. (a) (i) Sketch single point cutting tool and designate the same using ASA tool signature. (8)
(ii) Discuss the influence of rake angle, relief angle and cutting edge angle in affecting the cutting forces during machining operation. (7)
Or
(b) Analyse and explain the various types of special attachments in lathe with neat sketches. (15)
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