

Total No. of Questions : 10]

SEAT No. :

P2845

[4958]-1020

[Total No. of Pages :2

T.E.(Mechanical Engg.)

MANUFACTURING PROCESS-II

(2012 Course)(Semester-II)(302051)(End Sem)

Time :2½Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Solve Q1 or Q2,Q3or Q4, Q5 or Q6 , Q 7 orQ 8, Q 9 or Q10.*
- 2) *Figures to the right side indicate full marks.*
- 3) *Use of electronics pocket calculatar is allowed*
- 4) *Assume suitable data if necessary.*

- Q1)** a) List the various types of chips produced during metal cutting. [4]
b) Discuss the geometry of Broach teeth with neat sketch. [6]

OR

- Q2)** a) Draw and explain in brief merchant's force diagram. State the assumptions made in development of such diagrams. [4]
b) List out the various operations carried out on milling machine. Explain any two with neat sketch. [6]

- Q3)** a) What are the factors that affect tool life? Briefly describe their influence.[4]
b) Explain the factors in the selection of grinding wheel. [6]

OR

- Q4)** a) Prove the relation between chip thickness ratio, rake angle & shear angle. [4]
b) Explain Honing process with neat sketch. [6]

- Q5)** a) Explain with the help of a neat sketch Ultrasonic machining process& state its process characteristics. [8]
b) Draw a sketch and explain principle of AJM. Discuss various parameters that influnec the material removal rate of the process. [8]

OR

P.T.O.

Q6) a) Explain with neat sketch LBM process. State its advantages, limitations and applications. [8]

b) Explain 'ECM' with neat sketch. Also explain effect of the following parameters on MRR. [8]

i) Tool feed rate

ii) Electrolyte concentration

Q7) a) What are basic components of CNC system? Explain the function of each. [8]

b) Write short notes on following. [8]

i) DNC System

ii) Types of machining centers

OR

Q8) a) Describe between absolute & incremental positioning system in CNC. [6]

b) Write a note on "Automatic Tool Changer". [6]

c) What are G codes and M codes? Explain with an example [4]

Q9) a) Define Jigs and Fixtures. Differentiate between them. [6]

b) Explain with neat sketch any two "Indexing Methods" used in Jigs & Fixtures. [6]

c) State various types of clamping devices used in Jigs & Fixtures & explain any one. [6]

OR

Q10) a) List types of Jigs. Explain any two with neat sketch [6]

b) Write short notes on. [12]

i) Milling Fixture

ii) 3-2-1 Principle of location

iii) Pokayoke concept in Jigs and Fixtures

