[4958]-1020

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

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

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