Total No. of Questions : 8]

SEAT No. :

P2805

[Total No. of Pages : 2

[6003]-530
T.E. (Robotics & Automation Engineering)
FLEXIBLE MANUFACTURING SYSTEMS
(2019 Pattern) (Semester - II) (311510 (A))

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

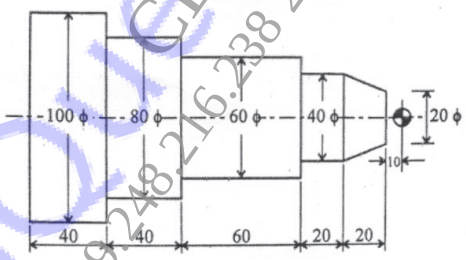
1) ***Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Figure to the right indicates full marks.***
3) ***Neat Diagram must be drawn wherever necessary.***
4) ***Assume suitable data, if necessary.***
5) ***Use of Logarithmic Table, Slide rule is Electronic pocket calculator is allowed.***

Q1) a) What are the basic components of the NC system and explain the function of each component? **[9]**

b) Describe various G and M codes used in CNC machines. **[9]**

OR

Q2) a) Prepare part programming of following component **[9]**



All dimensions in mm.

b) Discuss the several word functions in Numerical Control systems. Discuss the advantages of DNC over NC/CNC **[9]**

Q3) a) Explain with block diagram the main elements of CIM system. **[9]**

b) Explain about computer aided process planning (CAPP) **[8]**

OR

P.T.O.

Q4) a) What is computer aided inspection (CAI) and how can we control quality with the help of CAI? **[9]**

b) What is a material requirement planning? Explain the various inputs to the MRP system? **[8]**

Q5) a) What are the different types of material handling equipment? **[9]**

b) What are the components of the AS/RS system? **[9]**

OR

Q6) a) Explain the working principle of a robot with the help of a neat sketch. Also describe the components. **[9]**

b) What are different types of AGV Explain with their principle of working. **[9]**

Q7) a) What are the different types of tool strategies? Explain Each. **[9]**

b) Explain the term Tool Monitoring and fault Detection. **[8]**

OR

Q8) a) What do you know about tool Management? Write note on tool Room Service and Tool Allocation. **[9]**

b) Draw and explain block diagram offered detection in vibration. **[8]**