Total No. of Questions : 8]

SEAT No. :

PE2694

[Total No. of Pages : 2

[6583]-244

T.E. (Robotics & Automation)

FLEXIBLE MANUFACTURING SYSTEMS

(2019 Pattern) (Semester-VI) (311510A)

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) ***Neat Diagram must be drawn wherever necessary..***
3) ***Assume Suitable data if necessary.***
4) ***Use of Logarithmic Table, Slide rule is Electronic pocket calculator is allowed.***
5) ***Figures to the right indicates full marks.***

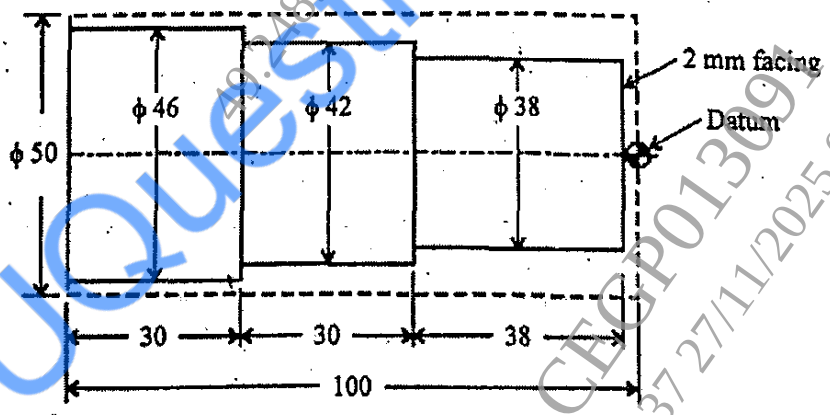
Q1) a) Describe various G and M codes used in CNC machines. **[8]**

b) Define NC machine and write the advantages of NC machine system over manual methods. **[9]**

OR

Q2) a) Write a note on preset and qualified tools. **[8]**

b) Prepare part programming of following component. **[9]**



Raw workpiece = ϕ 50 × 100 mm

..... (Dotted line) = Raw workpiece

_____ (Continuous line) = Final part (Finished part)

All the Dimentions are in mm.

P.T.O.

Q3) a) Explain in brief benefits obtained by CIM. **[9]**

b) Explain the concept of ERP. **[9]**

OR

Q4) a) What is a material requirement planning? Explain the various inputs to the MRP system? **[9]**

b) Explain the term Rapid Product Development and Manufacture. **[9]**

Q5) a) Explain the basic components of a robotic system. **[9]**

b) Explain the following terms. **[9]**

i) Unit load AS/RS

ii) Mini load AS/RS

iii) Carousel AS/RS

OR

Q6) a) Explain the importance of automated work-in-process storage systems. **[9]**

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

Q7) a) Explain the term Tool Monitoring and Fault Detection. **[8]**

b) Write note on Mass Exchange, Tool Sharing and Tool Migration. Give suitable example to each. **[9]**

OR

Q8) a) Describe Tool Preset, Identification and Data Transfer. **[8]**

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