Total No. of Questions : 8]

SEAT No. :

PB-4490

[Total No. of Pages : 2

[6262]-326R

T.E. (Robotics & Automation)

FLEXIBLE MANUFACTURING SYSTEMS

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

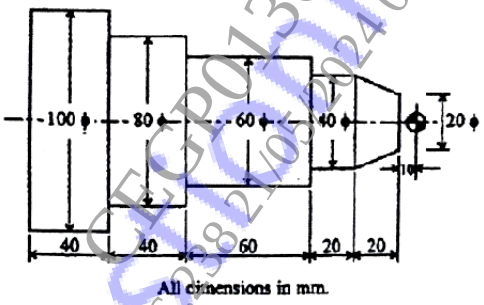
Time : 2½ Hours] *[Max. Marks : 70*

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) ***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) ***Figure to the right indicates full marks.***

Q1) a) Define NC machine and write the advantages of NC machine system over manual methods. **[8]**

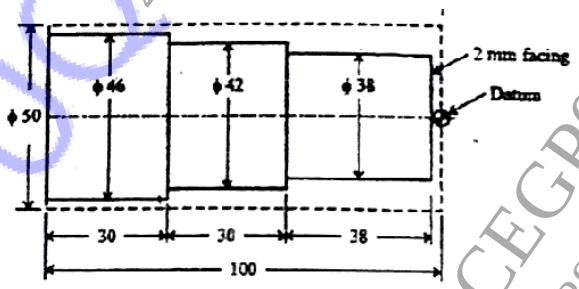
b) Prepare part programming of following component. **[9]**



OR

Q2) a) Discuss the several word functions in Numerical Control systems. Discuss the advantages of DNC over NC/CNC. **[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) What is a material requirement planning? Explain the various inputs to the MRP system? **[9]**

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

OR

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

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

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

b) What is robot? explain the benefits of using industrial robots. **[9]**

OR

Q6) a) Explain types of AGV and their principal of working. **[9]**

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

i) Unit load AS/RS

ii) Mini load AS/RS

iii) Carousel AS/RS

Q7) a) Give the concept of Tool Management. **[8]**

b) Describe Tool Preset Identification and Data Transfer. **[9]**

OR

Q8) a) What art the different types of tool strategies? Explain Each. **[8]**

b) Draw and explain block diagram offered detection in vibration. **[9]**

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