

Total No. of Questions : 8]

PE2295

SEAT No. :

[Total No. of Pages : 3

[6584]-203

B.E. (Mechanical)

COMPUTER INTEGRATED MANUFACTURING

(2019 Pattern) (Semester - VIII) (402048)

Time : 2½ Hours]

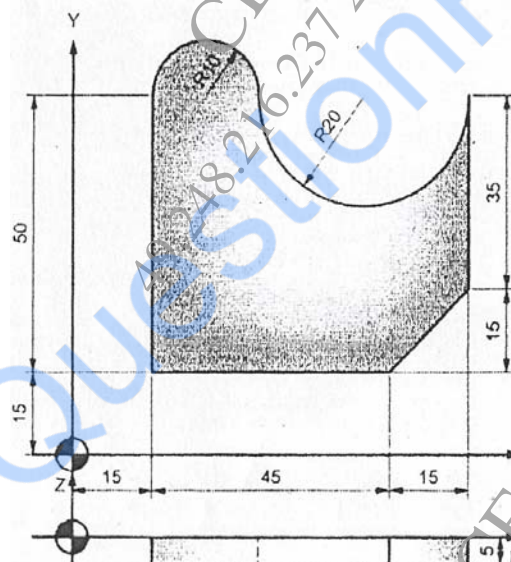
[Max. Marks : 70

Instructions to the candidates:

- 1) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 2) Neat diagrams must be drawn wherever necessary
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data wherever necessary.

Q1) a) Explain the types of continuous motion path control system for NC machine with figure. State the G-code used in it. [8]

b) Write a NC Part program to machine component, by using G and M codes. Use end mill of 6mm diameter and assume suitable machining parameter. Assume suitable value for spindle speed in rpm, feed in mm/min. Use Metric mode and absolute system. [10]

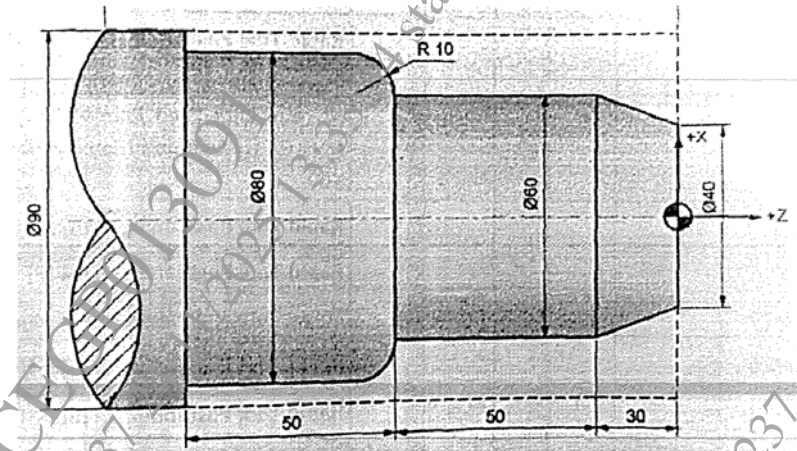


(b)

OR

P.T.O.

- Q2) a)** Write NC part program for the following component. Assume suitable cutting parameters. Raw material size diameter 90 mm and length 130 mm. [10]



- b) What do you mean by Tool length and Radius compensation in CNC part program? [8]

- Q3) a)** Define material requirement planning. Explain the different factors to be considered in Material Requirements Planning. [9]

- b) What is capacity planning? Explain different types of capacity planning. [8]

OR

- Q4) a)** Explain computer aided inspection and quality control. Explain any two methods of computer aided inspection technique. [9]

- b) Explain shop floor control system. What are the objectives of shop floor control systems? [8]

- Q5) a)** With neat sketch, explain different layouts used in flexible manufacturing system. [9]

- b) What is Automated guided vehicle? Explain different types of automated guided vehicles with sketch. [9]

OR

- Q6) a)** Explain methods of grouping parts into part families. [8]
- b)** Consider a GT machine cell with five machines M1 ,M2,M3,M4 and M5. Determine the most logical sequence of machines for this data using Hollier method. [10]

From Machine \ To Machine	M1	M2	M3	M4	M5
M1	0	20	80	0	0
M2	0	0	0	0	85
M3	10	0	0	0	0
M4	10	0	10	0	0
M5	0	70	0	0	20

- Q7) a)** What is Industry 4.0? What are the technologies and functions associated with Industry 4.0? [8]
- b)** Explain Big-Data and Cloud Computing used for IoT along with its benefits and limitations. [9]

OR

- Q8) a)** Explain applications of Web based Manufacturing system. [8]
- b)** Explain with an example how Digital Twin is implemented for Smart Manufacturing? [9]

