CBCS SCHEME

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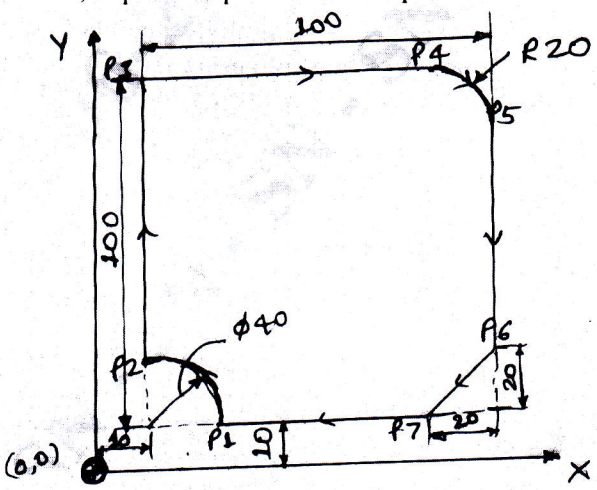
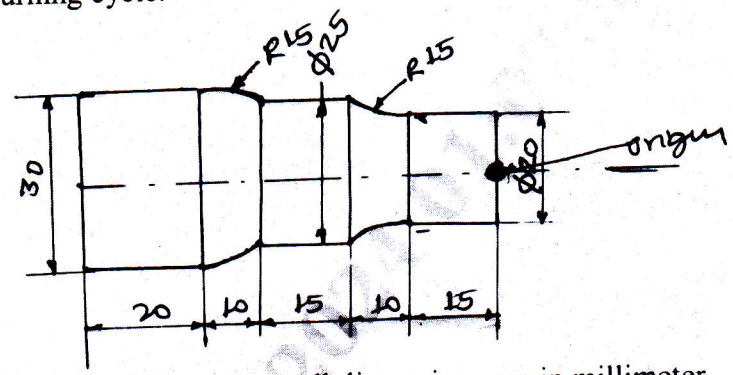
22MAR/UIA/MIA12

First Semester M.Tech. Degree Examination, Dec.2023/Jan.2024
Computer Integrated Manufacturing

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.
3. Missing data if any must be suitably assumed.

		Module – 1	M	L	C
Q.1	a.	Explain in brief manufacturing system.	10	L2	CO1
	b.	Interpret the benefits of computer integrated manufacturing system.	10	L3	CO1
		OR			
Q.2	a.	Summarize advantages and limitations of numerical control.	10	L2	CO1
	b.	With sketch, explain point to point and contouring system in numerical control.	10	L3	CO1
		Module – 2			
Q.3	a.	With sketch explain spindle design for CNC turning centre.	10	L2	CO2
	b.	Analyze the concept of different drive system used in CNC machines.	10	L4	CO2
		OR			
Q.4	a.	Interpret with an example of ISO coding system for tungsten carbide inserts used in turning.	10	L2	CO2
	b.	Analyze with a neat sketch milling tooling system.	10	L4	CO2
		Module – 3			
Q.5	a.	Write and interpret part program for the following part. Refer Fig.Q5(a). Depth of cut = 1 mm, Spindle speed = 1200 rpm  Fig.Q5(a) All dimensions are in millimeter.	10	L3	CO3
	b.	Explain the functions of CNC control in machine tools.	10	L2	CO3

		OR			
Q.6	**a.**	Write and build part program for the following part. Refer Fig.Q6(a) using multiple turning cycle.  Fig.Q6(a) All dimensions are in millimeter	**10**	**L3**	**CO3**
	b.	Analyze the DNC system with configuration.	**10**	**L3**	**CO3**
		Module – 4			
Q.7	**a.**	Interpret adaptive control optimization system with adaptive control constraint system.	**10**	**L4**	**CO4**
	b.	Analyze the benefits of adaptive control machining system.	**10**	**L4**	**CO4**
		OR			
Q.8	**a.**	Explain with a neat sketch robot physical configurations.	**10**	**L3**	**CO4**
	b.	Write short note on following robot applications: (i) Material transfer (ii) Welding (iii) Spray coating	**10**	**L3**	**CO4**
		Module – 5			
Q.9	**a.**	Explain the cycle of activities in traditional production planning and control with sketch.	**10**	**L3**	**CO5**
	b.	Write notes on the following: (i) Cost planning and control (ii) Basic MRP concepts	**10**	**L2**	**CO5**
		OR			
Q.10	**a.**	With a neat sketch, explain the shop floor control system.	**10**	**L3**	**CO5**
	b.	Explain computer process monitoring.	**10**	**L2**	**CO5**

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