CLASS: MTECH/PRE-PHD   SEMESTER : II/NA
BRANCH: MECH.   SESSION : SP/2023

SUBJECT: ME515R1 COMPUTER INTEGRATED MANUFACTURING

TIME: 3 Hours   FULL MARKS: 50

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data handbook/Graph paper etc. to be supplied to the candidates in the examination hall.

		CO	BL
Q.1(a)	What is Group Technology? What are the various objectives of Group Technology? What are the various methods of grouping parts into family?	[5] 4	2

Q.1(b) Apply the rank order clustering technique to the part-machine incidence matrix in the [5] 4 3
following table to identify logical part families and machine groups. Parts are identified
by letters, and machines are identified numerically.

	A	B	C	D	E	F	G	H	I
1			1	1	1				
2	1	1					1	1	1
3				1			1	1	
4	1	1		1					
5			1		1				
6		1						1	1
7	1		1						
8		1				1		1	1

			CO	BL
Q.2(a)	Explain with a neat sketch AS/RS system used in FMS.	[5]	3	4
Q.2(b)	Examine what is flexible manufacturing system. In what ways, FMS differs from other manufacturing systems?	[5]	3	4
Q.3(a)	What is Buffer storage? Explain the reasons for the use of Buffer storage zones.	[5]	2	2
Q.3(b)	Explain linear transfer mechanisms with a neat sketch.	[5]	2	4
Q.4(a)	What is Computer Integrated Manufacturing? How it is different from CAD/CAM?	[5]	1	2
Q.4(b)	Describe the different type of layouts. Which of them is most flexible?	[5]	1	4
Q.5(a)	Explain coaxial cable and fiber optics media for communication.	[5]	5	4
Q.5(b)	Briefly define key requirements for wireless LANs.	[5]	5	2