PRESIDENCY UNIVERSITY, BENGALURU

SCHOOL OF ENGINEERING

Weightage: 20 %   Max Marks: 40   Max Time: 1 hr.   Tuesday, 25th September, 2018

TEST – 1

Odd Semester 2018-19   Course: **MEC 302 Computer Integrated Manufacturing**   V Sem. Mechanical

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Instruction:

  (i)   Read the question properly and answer accordingly.
  (ii)   Question paper consists of 3 parts.
  (iii) Scientific and Non-programmable calculators are permitted.

Part A

(3 Q x 4 M = 12 Marks)

1. Write a short note on a) Programmable Automation b) Flexible Automation

2. What is Buffer storage and give reason for using buffer storage.

3. Production machine operates 80hr/week (two shifts, 5 days) at full capacity. Its production rate is 20 units/hr. During a certain week, the machine produced 1100 parts and was idle the remaining time. (a) Determine the production capacity of the machine (b) what was the utilization of the machine during the week under consideration?

Part B

(2 Q x 8 M = 16 Marks)

4. Explain the Rotary Configuration of transfer system used in automation process with its advantages and limitations

5. Explain any four major elements of Computer Integrated Manufacturing System

Part C

(1Q x 12 M = 12 Marks)

6. Explain Geneva and Rack and Pinion transfer mechanisms used to move the parts between different stations with its applications.

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GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

SCHOOL OF ENGINEERING

TEST 2

Odd Semester: 2018-19   **Date**: 28 November 2018

Course Code: MEC 302   **Time**: 1 Hour

Course Name: Computer Integrated Manufacturing   **Max Marks**: 40

Branch & Sem: MEE & V Sem   **Weightage**: 20%

Instructions:
(i)   Read the question properly and answer accordingly.
(ii)   Question paper consists of 3 parts.
(iii) Scientific and Non-programmable calculators are permitted.

Part A

Answer **all** the Questions. **Each** question carries **four** marks.   (3x4=12)

1. What is the purpose of Selector and Orientor in workstations in assembly system

2. What is Part Families Classification And Coding

3. Explain – MICLASS Coding system with suitable examples.

Part B

Answer **both** the Questions. Each question carries **eight** marks.   (2x8=16)

4. Apply the rank order clustering technique to the part-machine matrix in the following table to identify logical part families and machine group. Parts are identified by letters and machine by numbers.

Machine	Parts				
	A	B	C	D	E
1	1				
2		1			1
3	1			1	
4		1	1		
5				1	

5. Explain the classification of flexible manufacturing system according to number of machines in the system.

Part C

Answer the Question. Question carries **twelve** marks.   (1x12=12)

6. Explain OPTIZ Coding Systems with illustrations.

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END TERM FINAL EXAMINATION

Odd Semester: 2018-19   **Date**: 29 December 2018

Course Code: MEC 302   **Time**: 2 Hours

Course Name: Computer Integrated Manufacturing   **Max Marks**: 80

Programme & Sem: MECH & V Sem   **Weightage**: 40%

Instructions:

(i)   *Read the question properly and answer accordingly.*

(ii)   *Question paper consists of 3 parts.*

(iii)   Scientific and Non-programmable calculators are permitted

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Part A

Answer **all** the Questions. **Each** question carries **five** marks.   (4Qx5M=20)

1. List out the advantages and disadvantages of Flexible Manufacture System (FMS).

2. Write a short note on point to point and continuous motion control system used in CNC machines.

3. Give the examples of variant/retrieval CAPP system and its functions.

4. Differentiate between Production inspection and process monitoring.

Part B

Answer **all** the Questions. **Each** question carries **eight** marks.   (5Qx8M=40)

5. Explain the Ladder loop layout system used in FMS with its advantages and disadvantages

6. With simple sketch explain the Coordinate Measuring Machine (CMM) used in contact inspection system.

7. What is NC machine? Explain the basic components of NC machine with simple sketch.

8. Explain the on-line and off-line inspection techniques used in manufacturing process system.

9. What is advanced manufacturing system? Explain the process with the help of flow diagram.

Part C

Answer **both** the Questions. **Each** question carries **ten** marks.   (2Qx10M=20)

10. With the help of flow chart explain the Generative type of CAPP sytem.

11. Write the programme in absolute system for the diagram given below for milling operation with diameter of milling cutter tool as 100 mm, spindle speed 1000 rpm, feed is 10mm/min and depth of cut is 10mm. All the dimensions are in mm.