KUMARAGURU
college of technology
character is life

M.E DEGREE EXAMINATIONS: DEC 2015

(Regulation 2014)

Third Semester

CAD/CAM

P14CCTE31: Flexible Manufacturing Systems

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-
PART A (10 x 1 = 10 Marks)

1. Flexible manufacturing systems (FMS) are reported to have a number of benefits. Which is NOT a reported benefit of FMS? [CO2,K_1]

   a) Lead time and throughput time reduction
   b) Increased quality
   c) More flexible than the manufacturing systems they replace
   d) Increased utilisation

2. A transducer's function is to [CO2,K_2]

   a) Transmit electrical energy
   b) Convert energy
   c) Produce mechanical energy
   d) Prevent current flow

3. Cellular layout are often used to make [CO2,K_2]

   a) low volumes of standard products.
   b) high volumes of standard products.
   c) one part family
   d) group technology.

4. [CO3,K_1]

List I	List II
A. Proximity sensor	i. Ultrasonic sensor
B. Encoders	ii. Range sensing
C. Distance sensor	iii. LVDT
D. Displacement sensor	iv. Position sensing

   a) A-1,B-2,C-3,D-4
   b) A-2,B-4,C-1,D-3
   c) A-1,B-3,C-2,D-4
   d) A-3,B-1,C-4,D-2

5. Small output quantities (often just one item) are economically produced by skilled workers with flexible equipment in a [CO3,K_2]

   a) continuous flow process.
   b) production line process.

c)	batch manufacturing process.	d)	job shop.

6. An operation where machine tools are changed automatically are known as   [CO2,K$_3$]

a)	a machine center	b)	computer integrated manufacturing
c)	a flexible manufacturing system	d)	computer-aided design

7. Assertion (A): In PFA items are identified based on the same manufacturing.   [CO3,K$_3$]

   Reason (R): Can be grouped into a cell to minimize material handling requirements.

a)	Both A & R are ture and R is correct reason for A	b)	Both A & R are true
c)	Both A & R are true but R is not the correct reason	d)	Both A & R are false

8. A software system providing a common software infrastructure and database is called_____   [CO3,K$_2$]

a)	enterprise resource planning	b)	supply chain management
c)	new product development	d)	customer relationship management

9. ERP is an outgrowth of_____   [CO3,K$_2$]

a)	MRP	b)	EDI
c)	JIT	d)	CRM

10. Just-in-time (JIT) does NOT include which one of the following?   [CO2,K$_2$]

a)	Batch sizes of one	b)	Fast-throughput manufacturing
c)	High inventory production	d)	Lean manufacturing

PART B (10 x 2 = 20 Marks)

11.	List any four proximity sensors	[CO1K$_2$]
12.	Difference between primary and secondary material handling systems.	[CO1K$_2$]
13.	Define Group technology.	[CO1K$_2$]
14.	What are the three basic code structures used in Group technology applications?	[CO1K$_3$]
15.	What are the components of FMS?	[CO2K$_2$]
16.	Mention the different types of layout configurations prevalent in FMSs.	[CO2K$_3$]
17.	State the advantages of Simulation Packages.	[CO2K$_1$]
18.	Define CAD/CAM	[CO2K$_2$]
19.	Differentiate between Preventive maintenance & Breakdown maintenance	[CO3K$_2$]
20.	Provide the key elements of the JIT philosophy.	[CO3K$_2$]

PART C (6 x 5 = 30 Marks)

21. State the some advantages of sensor technology [CO1K$_2$]

22. Write a short note on bar code technology. [CO1K$_3$]

23. What are the benefits of FMS? [CO2K$_3$]

24. How will you create a computerized data system in an FMS? [CO2K$_2$]

25. Give an account on FMS software specification and selection. [CO2K$_3$]

26. List the four principles involved in lean manufacturing and explain any one with [CO3K$_2$]
examples.

PART D (4 x 10 = 40 Marks)

27. Explain the general configuration of NC, CNC and DNC. Compare NC, CNC and [CO1K$_4$]
DNC.

28. Spell out MICLASS and DCLASS coding system. [CO1K$_3$]

29. Describe the basic activities that must be carried out in a factory to convert raw [CO2K$_4$]
materials into finished product.

30. Explain how Kanban system works and the various Kanban Rules. [CO3K$_4$]

****