



R20 Regulation

Subject code: 3E8CC

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VIII Semester Regular Examinations, April 2024

FLEXIBLE MANUFACTURING SYSTEM

(MECHANICAL ENGINEERING)

(Professional Elective)

Maximum Marks: 70

Date: 24.04.2024 Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20 Marks)		CO	Bloom Tx
1	What are the benefits of FMS?	1	L1
2	Write the Steps involved in single batch scheduling problem?	1	L1
3	Write the hierarchy of computer control in FMS?	2	L2
4	List the types of software specification and selection in FMS.	2	L2
5	What are the important criteria for software selection in FMS?	3	L1
6	Enlist the limitations of FMS simulation.	3	L2
7	What is group Technology?	4	L1
8	How FMS database differs from ordinary file system?	4	L2
9	How is artificial intelligence applied in FMS?	5	L2
10	Write the characteristics of future factory.	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)			
11	a) List out the components of FMS and explain their role in FMS. (5M) b) What are the objectives of FMS. (5M)	1	L3,L2
	OR		
12	Draw the line diagram indicating the system levels in an FMS host computer and explain their functions. (10M)	1	L4
13	a) Discuss the characteristics and control functions of computers in work centers and assembly lines. (5M) b) What is supervisory computer control and discuss the types of software's available for supervisory computer control systems. (5M)	2	L2,L3
	OR		
14	Explain various functions performed by computer control system in FMS implementation. (10M)	2	L3
15	a) Explain simulation in FMS. (5M) b) What are the various approaches to modelling for FMS? (5M)	3	L2,L3

	OR		
16	Describe various steps to plan and implement FMS database. (10M)	3	L3
17	Explain the application of possibility distributions in FMS systems justification. (10M)	4	L3
	OR		
18	Explain Rank Order Clustering technique for grouping parts and machines in GT concept of cellular manufacturing. (10M)	4	L3
19	a) Briefly explain various types of FMS. (5M) b) List out the areas of application of FMS. (5M)	5	L2,L2
	OR		
20	What are the planning and implementation issues of flexible manufacturing system installation in manufacturing or assembly environment? (10M)	5	L3