R17 Regulation *Subject code:1P7CC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VII Semester Supplementary Examinations, July 2022

CAD/CAM

(MECHANICAL ENGINEERING)

Maximum Marks: 70 Date:05.07.2022 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)

1 Write the benefits of CAD?
2 Write down the three dimensional transformations with an example?
3 Write a note on Bezier surface and its applications?
4 What is sweep representation?
5 Write the basic format of NC part programming.
6 Differentiate between the CNC and DNC.
7 Write the limitations of CAPP?
8 Discuss the benefits of group technology
9 List out the various equipments involved in FMS.
10 State the advantages of CIM in manufacturing industry?

Part-B

Answer All the following questions. (10MX 5=50Marks)

11 A. Compare Bezier and B-spline curves and derive the parametric equations of both. [5 M]

B. Explain the various curve fitting techniques used in wire frame modeling in detail. [5 M]

OR

12 A. Explain briefly about the computer peripherals of a CAD system. [5 M]

B. What is data base structure? Explain the popular database model with an example? [5 M]

13 A. Explain in detail surface modeling and their representation in detail. [10 M]

OR

14 A. Write a short note on various Methods of Creating Solid Model. [5 M]
B. Explain the Constructive Solid Geometry (CSG) method to create models. [5 M]

15 List out and explain about basic components of an NC system and CNC system. [10M]

OR

16 A. Explain briefly about Computer Assisted Part Programming with example. [5 M]

B. Elaborate the concept of adaptive control systems in detail with a neat sketch. [5 M]

17 A. Explain production flow analysis and Benefits of group technology. [5 M]

B. Briefly discuss on generative type of process planning in detail. [5 M]

OR

18 A. Elaborate the importance of material resource planning and explain in detail. [5 M]

B. Enumerate capacity requirements planning in detail with its salient features. [5 M]

19 A. Explain the integration of CAQC with CAD/CAM. [5 M]

B. Discuss any 2 types of FMS Layouts in details with a neat diagram, merits and demerits. [5 M]

OR

20 A. Explain the various contact inspection method. [5 M]

B. Write brief notes on computer integrated manufacturing with neat flow chart. [5 M]