R17 Regulation *Subject code: 1P5CC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech III Year I Semester Supplementary Examinations, July 2024

METROLOGY AND MACHINE TOOLS

(MECHANICAL ENGINEERING)

Maximum Marks: 70 Date:24.07.2024 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.
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	What is a chip?
2	Mention various types of chips and chip breakers.
3	What is drilling & boring?
4	Mention working principle of drilling & boring.
5	Write working principle of milling machine with neat sketch
6	Mention specification of milling machine.
7	What are types of fits?
8	Write about the Bevel protractor. Where it is used?
9	What is the importance of surface roughness?
10	What is Coordinate measuring machine?

Part-B

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

11	Briefly discuss about work holding and supporting devices of lathe machine and lathe tool holders. [10]
	OR
12	Explain briefly about Taper turning methods. [10]
13	Explain Drilling machine working principle, its specifications, types and operations performed on it. [10]
	OR
14	Explain planning machine working principle, its specifications, types and operations performed on it. [10]
15	Write in brief about various milling cutters, their geometry and applications. [10]
	OR
16	What is INDEXING? Mention various methods of indexing in brief. [10]
17	Describe principal features of the Indian standard system of limits and fits for plain work. [10]
	OR
18	A) Describe the measuring method by using sine bar. [5] B) Explain Hole basis system and shaft basis system. [5]
19	A) What are the types and applications of CMM? [5] B) Describe the screw thread measurement with sketch. [5]
	OR
20	A) Explain the machine tool alignment test on drilling machine. [5] B) Explain the Roughness parameters and Roughness profiles. [5]