



Regulation: R17

Subject code: 1P5CC

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

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

METROLOGY AND MACHINE TOOLS
(MECHANICAL ENGINEERING)

Maximum Marks: 70

Date:20.02.2024 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)

Q.NO	QUESTIONS	Marks	CO	Blooms Tx
1	Name the geometry of single point cutting tool	2	1	Remembering
2	what are the elements of cutting process?	2	1	Understanding
3	What is mean by drilling operation	2	2	understanding
4	Mention working principle of drilling & boring.	2	2	Remembering
5	Write the purpose of milling machine	2	3	Remembering
6	Mention any two specification of milling machine.	2	3	Remembering
7	What are types of fits?	2	4	Remembering
8	Write the function of the Bevel protractor	2	2	understanding
9	What is the importance of surface roughness?	2	3	Application
10	What is the purpose of CMM?	2	2	Evaluate

Part-B

Answer All the following questions.

(10M X 5=50Marks)

11	What type of tools materials are used for machining? Explain them briefly.	10	1	Analyze
	OR			
12	What is a chip? Explain its formation, chip Types and chip breakers.	10	1	Analyze
13	Explain briefly about quick return motion mechanism and types of mechanisms used in shaper.	10	2	Understanding
	OR			
14	Explain shaper machine briefly. Working principle, its specifications, and operations performed on shaper.	10	2	Understanding
15	What is a MILLING? Mention types of Milling machine and its working principle, specifications and classifications of milling machines.	10	3	Apply

	OR			
16	Briefly discuss about work holding and supporting devices of milling machine.	10	3	Analyze
17	A) Explain the Taylor's principle applied in limits. B) Explain the principle of optical flat measurement	5 5	4	Apply
	OR			
18	A) Describe the measuring method by using sine bar. B) Explain Hole basis system and shaft basis system.	5 5	4	Apply
19	A) What are the types and applications of CMM? B) Describe the screw thread measurement with sketch.	5 5	5	Understand
	OR			
20	Explain the machine tool alignment test on drilling machine.	10	5	Understand