Roll No											

PRESIDENCY UNIVERSITY
BENGALURU

SET B

SCHOOL OF ENGINEERING
END TERM EXAMINATION - JAN 2024

Semester: Semester I - 2023
Course Code: MEC1004
Course Name: Elements of Mechanical Engineering
Program : B. Tech

Date : 18-JAN-2024
Time : 9:30AM - 12:30 PM
Max Marks : 100
Weightage : 50%

Instructions:
(i) Read the all questions carefully and answer accordingly.
(ii) Do not write any matter on the question paper other than roll number.
(iii) Assume any missing data suitably.

Part A

Answer all the Questions. **(5QX2M= 10M)**

1. Explain the different types of pressures. (CO1) [Knowledge]

2. What is dryness fraction of steam? Explain with proper equation. (CO2) [Knowledge]

3. Write the different objectives of Metrology (CO3) [[Knowledge]

4. How is the true length of a line is obtained when the line is inclined in its views? Explain. (CO4) [Knowledge]

5. Define enthalpy of dry stem with equation. (CO2) [Knowledge]

Part B

Answer all the Questions. **(5Qx10M=50M)**

6. Give complete classification of IC Engines. (CO1) [Comprehension]

7. Draw a neat diagram of a vertical boiler and explain its working principle. (CO2) [Comprehension]

8. Write the dimensions of the following

Least Metal Condition for a shaft. LMC of Ø0.240±.005?

Least Metal Condition for a hole. LMC of Ø0.250±.005?

(CO3) [Comprehension]

9. Define accuracy and precision. Outline the differences between them.

(CO3) [Comprehension]

10. What is manufacturing? List and explain the different types of manufacturing.

(CO1) [Comprehension]

Part C

Answer all the Questions. (2Qx20M = 40M)

11. Develop the lateral surface of a square prism of 40 mm sides and 80 mm axis is standing on its base with two of its sides at 45^{O} to VP. It is cut by a section plane inclined at an angle of 45^{O} to HP and passing on the axis at a height of 50 mm from the base.

(CO4) [Application]

12. Develop the lateral surface of a square pyramid of 30 mm sides and 65 mm axis length which is standing on its base with two of its sides parallel to VP. It is cut by a section plane inclined at an angle of 60^{O} to HP and passing on the axis at mid-point of the axis.

(CO4) [Application]