	P.E.S. COLLEGE OF ENGINEERING **(AN AUTONOMOUS INSTITUTE)** **CHH. SAMBHAJINAGAR-431002** **Regular Winter Examination – 2025** **Course: F.Y.B. Tech.** **Branch :** E& CE / VLSI / Civil/ Mechanical **Semester : I** **Subject Code & Name:** BTPESA105T Fundamentals of Mechanical Engineering **Max Marks: 30** **Date:** **Duration: 2 Hr.**		
	MARKING SCHEME		Marks
Q. 1	**Solve Any five of the following.**		**2X5=10**
A)	Define Thermodynamics. State zeroth law of thermodynamics.	Definition- 01 mark Zeroth law.- 01 Mark	**2**
B)	What do you mean by Thermodynamic Properties? What are it's types.	Properties Definition - 01 Mark Two Types - 01 Mark	**2**
C)	State any four points of differences between Four-Stroke and Two-Stroke Cycle Engines.	Each Point of Difference – 0.5 Mark	**2**
D)	Explain Gas Turbine and it's working principle.	Definition Gas Turbine- 01 Mark working principle-01 Mark	**2**
E)	Define a Power Plant. State the examples of thermal power plant.	Power Plant Definition - 01 Mark examples - 01 Mark	**2**
F)	Explain Renewable and Non-Renewable Sources of Energy with examples.	Renewable with examples- 01 Mark Non-Renewable with examples- 01 Mark	**2**
G)	Write a short note on "Boiler"	Boiler Explanation- 02 Marks	**2**
Q.2	**Solve Any Two of the following.**		**10**
A)	(i) Give the Classification of Engineering Materials and explain with examples. (ii) Define Machine and Mechanism.	(i) 03 Marks (ii) Definition Machine- 01 Mark Definition Mechanism - 01 Mark	**5**
B)	Explain the construction and working of single plate clutch with neat sketch	Construction and working-03 Marks Neat sketch- 02 Marks	**5**
C)	Define the following properties of fluid: (i) Viscosity, (ii) Surface Tension, (iii) Specific Gravity, (iv) Specific Weight, (v) Density	Definition of each- 01 mark	**5**
Q. 3	**Solve Any Two of the following.**		**10**
A)	Define Measurement. Explain the types of errors in Measurement.	Definition-01 Mark Types of errors- 04 Marks	**5**
B)	Enlist the basic or main parts of a Lathe Machine with neat sketch.	Neat sketch- 02 Marks List of Basic Parts- 03 Marks	**5**
C)	Explain the construction of Drilling Machine with neat sketch.	Neat sketch- 02 Marks Construction write up- 03 Marks	**5**