Regulation R18 Subject code: 2P3CB

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech III Semester Supplementary Examinations, July 2022

THERMODYNAMICS

(Mechanical Engineering)

Maximum Marks: 70 Date:21.07.2022 **Duration: 3 Hours**

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

1 Define extensive property.
2 Define the Zeroth law of thermodynamics
3 State Clausius Statement of Second law of thermodynamics?
4 List the limitation of first law of thermodynamics?
5 Define Specific Volume
6 What is Throttling process
7 What is Vander Walls equation?
8 State the Avogadro's law
9 What is Air standard efficiency
10 What is the other name of Otto cycle?

Part-B

Answer all the questions (10MX 5=50Marks)

11 Explain Quasi-static process with neat diagram. [10]

OR

12 Describe briefly thermodynamic systems. [10]

13 State and prove Clausius inequality. [10]

OR

14 Bring out the concept of entropy and importance of TS diagram? [10]
15 Explain Throttling process with neat sketch. [10]

OR

16 Describe with neat sketch P-T Diagram or Triple point. [10]
17 Explain about the Gravimetric analysis. [10]

OR

18 Explain the properties of mixture of Ideal gases i) Gas constant ii) Molecular weight [5+5]

19 Derive an expression for the efficiency of Ericsson cycle. [10]

OR

20 Derive an expression for the air standard efficiency of Otto cycle. [10]