Regulation R18 *Subject code:2O5BD*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Supplementary Examinations, July 2022

NON CONVENTIONAL POWER GENERATION

(Electrical and Electronics Engineering)

Maximum Marks: 70 *Date:07.07.2022* Duration: 3 hours

Part-A

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

1 Define 'Surface azimuth angle'
2 What is meant by solar spectrum?
3 What is solar array?
4 What is the biogas?
5 Applications of tidal power.
6 Define gasifiers
7 What is the fuel cell?
8 Applications of solar energy
9 Define wave energy
10 What is the abbreviation of KVIC?

Part-B

Answer All the following questions. (5X10M=50Marks)

11 Explain the collectors are used for solar system with neat diagrams. [10]

OR

12 a) Explain the total solar radiation in solar system. [5]
b) Explain the solar constant and write the related equation? [5]

13 a) Draw the I-V characteristics of PV cell and describe the system configuration for maximum power extraction from PV system. [5]
b) Describe the principle of solar photovoltaic conversion. [5]

OR

14 Derive the wind turbine power equation. [10]

15 a) Classify tidal power turbines and explain them. [5]
b) write the advantages and disadvantage of tidal power systems. [5]

OR

16 a) Discuss about Magma Resources? [5]
b) Explain with neat diagram of geo-thermal plant. [5]

17 What is the principle of operation of OTEC Systems and explain Open and closed cycles systems? [10]

OR

18 Explain single and Double Basin Tidal System with neat diagram. [10]

19 Draw and explain the Lead Acid Batteries. [10]

OR

20 Explain Indian digesters used in bio mass plants and its applications. [10]