QP CODE: 21100760

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Reg No : .....

Name : .....

B.Voc Degree Examination, MARCH 2021

First Semester

B.Voc Renewable Energy Technology and Management

RETTS104 - FUNDAMENTALS OF SUSTAINABLE ENERGY AND DEVELOPMENT

2019 Admission Onwards

F76E5212

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

Each question carries 2 marks.

1. Which are the major ways in which Solar energy can be utilised? Give a few examples.
2. What is kinetic energy?
3. Explain about FPC.
4. What is solar thermal electric conversion?
5. What is STC?
6. What do you mean by calorific value of a fuel?
7. What is enzymatic hydrolysis?
8. What is the potential power generation and aggregate demonstrationcapacity of wind energy in India?
9. In which all places are the average wind speeds greater?
10. Which are the two main types of generators in a wind energy systems?
11. Write the advantages of horizontal axis wind turbine propeller type using single blade.
12. Write the advantages and disadvantages of Geothermal energy.

(10×2=20)

Part B

*Answer any **six** questions.*

Each question carries 5 marks.

13. Write a note on Nuclear enegy based on Indian Energy Scenario.

14. Justify the statement "Renewable energy has numerous health and environmental benefits".

15. Distinguish between beam radiation and solar radiation.

16. Explain advantages of green houses.

17. What do you mean by energy plantation?

18. Explain the fuel characteristics of methane.

19. List out and explain any two techniques for maintaining the biogas production.

20. What is the importance of wind structure and altitude for proposed site of a wind energy conversion system.

21. Recommend applications for wind powered pumping.

(6×5=30)

Part C

Answer any two questions.

Each question carries 15 marks.

22. Explain Commercial Energy, Non Commercial Energy, Renewable and Non-Renewable Energy sources.

23. Explain various types of solar water heating systems.

24. Explain various types of commonly used biogas plants in India.

25. Write on the Hydrogen technology development in India.

(2×15=30)