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Question Paper Code: 97A03

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2024

Seventh Semester

Agricultural Engineering

19UAG703 - INTRODUCTION TO GREEN ENERGY

(Regulations 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The careful use of a resource is _____ CO1- U
(a) Recycling (b) pollution (c) depositing (d) conservation
2. Which source of energy is most likely to be depleted? CO1- U
(a) Geothermal (b) Hydropower (c) Wind (d) Nuclear
3. The solar heater function is to convert the solar energy in to _____ CO2- U
(a) Radiation (b) Electrical Energy (c) Thermal Energy (d) None of the above
4. Which of the following is a commonly used material in solar cells? CO2- U
(a) Aluminum (b) Copper (c) Silicon (d) All of the above
5. Wind energy is harnessed by _____ CO3-U
(a) Electron generator (b) Turbine generator
(c) Vapour generator (d) All of the above
6. What is the diameter of wind turbine blades? CO3-U
(a) 220 feet (b) 500 feet (c) 100 feet (d) 300 feet
7. _____ is calculated using bulk density & calorific value of biomass CO4- U
(a) volatile (b) porosity (c) energy density (d) moisture content
8. Pyrolysis can also be termed as _____ distillation CO4- U
(a) destructive (b) combustive (c) thermal (d) flash
9. The floating gas holder digester which is used in India is known as _____ CO5- U
(a) PRAD (b) deenbandhu (c) KVIC (d) none of the above

10. _____ is produced through fermentation of sugars, starch CO5 -U
(a) bioethanol (b) biodiesel (c) biogas (d) none of the above

PART – B (5 x 2= 10Marks)

11. Explain Global warming CO1- U
12. Explain about solar drying methods CO2- U
13. Briefly explain about types of windmill CO3- U
14. What is biomass and its types CO4- U
15. Define biodigested slurry CO5- U

PART – C (5 x 16= 80Marks)

16. (a) Briefly explain about the Classification of Renewable energy sources CO1- U (16)

Or

- (b) Explain the Introduction of energy and its classification of energy source CO1- U (16)

17. (a) Explain about types of focusing type solar collector with neat sketch? CO2 -U (16)

Or

- (b) What is solar photovoltaic systems and explain the working principles of the system CO2 -U (16)

18. (a) Explain the principles of Windmills and its types CO3- U (16)

Or

- (b) What are the instruments used for measuring wind direction and explain it in detail. CO3- U (16)

19. (a) Explain in detail about up-draft gasifier system and also mention its merits and demerits CO4 -U (16)

Or

- (b) What is meant by pyrolysis? Explain briefly about the types of pyrolysis in gasification CO4 -U (16)

20. (a) Write in detail about biogas plant slurry and its advantages & disadvantages CO5- U (16)

Or

- (b) Explain about fixed dome biogas plant with neat sketch CO5- U (16)