

SUBJECT CODE : 16VS/VM/AB46

B. Voc. DEGREE EXAMINATION, APRIL 2022
SUSTAINABLE ENERGY MANAGEMENT
FOURTH SEMESTER

COURSE : MAJOR CORE
PAPER : ADVANCED BIOENERGY
TIME : 6 HOURS

MAX. MARKS : 100

(Theory: 50marks +Practical: 50 marks)

SECTION – A

Answer all questions:

(20x1 = 20)

I. CHOOSE THE CORRECT ANSWER

1. Bio methane is an example of _____.
a) Bio-gas b) Bio-oil c) Bio fertilizer d) Bio alcohol
2. The amount of feedstock required for 3m³ biogas plant is _____.
a) 25 b) 30 c) 50 d) 75
3. Biogas from landfill is an example for _____.
a) Incineration b) Aerobic digestion c) Anaerobic digestion d) Pyrolysis
4. The optimum pH level inside a biogas plant is _____.
a) 4-5 b) 6.5-7.5 c) 8-9 d) 2-3
5. The percentage of carbon dioxide in the bio methane is _____.
a) 30-40 b) 32-43 c) 35-45 d) 55-60

II. FILL IN THE BLANKS

6. The ignition temperature of biogas is _____ than of diesel.
7. The amount of food supplied to the biogas digester per day is termed as _____.
8. The value of the specific heat capacity of water is _____.
9. The electricity generated from biomass is termed as _____.
10. Gas released from using unused lands is _____.

III. ANSWER IN A SENTENCE

11. Name two earth worms used in composting.
12. What is seeding in biogas production?
13. Define Syngas.
14. Give two advantages of biogas stoves.
15. Mention two common uses of biogas.

IV. EXPAND THE FOLLOWING

16. PEG –
17. DBGS –
18. GCV –
19. FYM –
20. CEC –

SECTION – B**Answer any SIX questions:****(6x3=18)**

21. Give the benefits of drop-in-fuels.
22. Discuss the Environmental Impact Assessment.
23. State bio alcohol.
24. Give the types of hydrolysis.
25. Write a note on renewable diesel.
26. Describe the ways in which the slurry can be utilized.
27. Discuss the factors that affects the performance of a biogas plant.
28. What are the impacts of biogas on the environment?
29. Name some microbes involved in hydrolysis.
30. Discuss in short about the materials used in the construction of biogas stove.

SECTION – C**Answer any TWO questions:****(2x6=12)**

31. Define biopower. Explain about Biobased products.
32. Write detailed note on the different feedstocks for biogas production.
33. Explain the safety measures to be followed during the biogas installation.
34. Write short notes on infectious waste, sharps and pharmaceutical waste.
