**STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI-86**
**(For candidates admitted during the academic year 2016–17& thereafter)**

**SUBJECT CODE: 16VS/VM/BE36**

**B.Voc. DEGREE EXAMINATION, NOVEMBER 2018**
**SUSTAINABLE ENERGY MANAGEMENT**
**THIRD SEMESTER**

**COURSE : MAJOR CORE**
**PAPER : BIO ENERGY**
**TIME : 6 HOURS** **MAX.MARKS:100**

**SECTION – A**

**ANSWER ALL QUESTIONS:** **(20x1=20)**

**I. CHOOSE THE CORRECT ANSWER:**

1. The incineration process is
   a. Drying b. cooling c. burning d. segregating
2. The source from which biofuel are made
   a. Vegetable b. aquatic biomass c. both a & b d. neither a nor b

**II. FILL IN THE BLANKS:**

3. The radioactive wastes are _____ & _____.
4. _____ & _____are factors that affect biogas production.
5. Biochar is _____
6. The definition for Biomass is _____

**III. STATE WHETHER TRUE OR FALSE:**

7. Slurry handling important in biogas production -
8. Corn is used as feedstockfor biofuel production -
9. Dheenabhandu is a type of biogas plants -
10. Anaerobic fermentation needs air for growth -
11. Hay is a second generation feed stock for biogas production -

**IV. ANSWER IN A SENTENCE OR TWO:**

12. What is the difference between total solids and volatile solids?
13. Give two applications of landfill gases?
14. What are the main methods of sustainability?
15. Write two safety measures on biogas plant installation
16. Write the role of microbes in bioconversion.
17. Give two disadvantages of biogas.
18. Give the impacts on human health with respect to environmental sustainability
19. How to segregate vegetable wastes?
20. Name the types of products produced from biogas plants.

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## SECTION – B

**ANSWER ANY SIX QUESTIONS: (6x3=18)**

21. Write an account on classification of biomass resources?
22. What are the methods of determination of total solids and volatile solids?
23. What are the different feed stocks used for biogas production?
24. Give an account on landfill gases, composition and its applications?
25. Write the maintenance and operation methods of Fixed dome type biogas plant.
26. Give a detail account on biomass conversion process.
27. Write a brief account on anaerobic fermentation process.
28. What are the advantages and disadvantages of Biogas?
29. Give a detailed diagrammatic representation of waste incineration energy plant?
30. Write a brief note on wood and wood waste incineration plant?

## SECTION – C

**ANSWER ANY TWO QUESTIONS: (2x6=12)**

31. Write a detail account on Biomass, its energy resources, how are they classified and its benefits?
32. How are different feed stocks used for biogas production?
33. Explain in detail on the types of biogas plants and highlight on the advantages and disadvantages.
34. Explain in brief on the different types of Biomass conversion processes.

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