

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

**SUBJECT CODE : 16VS/VM/AB46**

**B. Voc. DEGREE EXAMINATION, APRIL 2018**  
**SUSTAINABLE ENERGY MANAGEMENT**  
**FOURTH SEMESTER**

**COURSE : MAJOR CORE**

**PAPER : ADVANCED BIOENERGY (THEORY)**

**TIME : 6 HOURS**

**MAX. MARKS : 100**

**(Theory: 50marks +Practical: 50 marks)**

**SECTION – A**

**Answer all questions:**

**(20x1 = 20)**

1. What is the process of bioconversion?
2. Write examples of two bio-based products in the market?
3. Write two factors that affect biogas production?
4. Give two methods of composting?
5. Write the impact of genotoxic wastes.
6. What are the main methods of sustainability?
7. Write different safety measures on biogas plant installation.
8. Give the examples of types of biogas stoves.
9. Write two uses of Biogas.
10. What are radioactive wastes, Give example?
11. What are Biofuels?
12. Write on the impact of industrial wastes.
13. Write the role of microbes in bioconversion.
14. Give two products produced by microbial bioconversion.
15. Give the impacts on human health with respect to environmental sustainability
16. Give the second generation feed stocks for biogas production.
17. Write the safety measures to be taken for biogas production.
18. How is slurry handling important in biogas production?
19. Give different ways of purifying biogas?
20. Name the types of products produced from biogas plants.

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

21. Write an account on aerobic and anaerobic bioconversion methods?
22. Write down the important steps to be taken for the installation of Biogas plant.
23. What are all the factors that affect biogas production?
24. How slurry enrichment is made and explain the method in detail?
25. Write the maintenance and operation methods of biogas plant.
26. Give a detail account on biogas stove.
27. What is the design and construction of biogas stove?
28. How will you estimate the Biogas stove construction?
29. List the different types of wastes and its impact on public health.
30. How can we maintain a sustainable environment using bioenergy?

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

31. Write a detail account on Biopower and its benefits?
32. How are different feed stocks used for biomass production?
33. Explain in detail on the slurry handling, utilization and analysis.
34. Explain in brief on the different types of stoves and cleaning methods.

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