

SUBJECT CODE : 16VS/VM/BB46

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

COURSE : MAJOR CORE

PAPER : BIOFUEL CROPS AND BIOFUELS (THEORY)

TIME : 6 HOURS

MAX. MARKS : 100

(Theory: 50marks +Practical: 50 marks)

SECTION – A

ANSWER ALL QUESTIONS

(20x1 = 20)

I. CHOOSE THE CORRECT ANSWER

1. Biofuel crops should be an invasive species suited to \_\_\_\_\_ zone  
a. Tropical                      b. equator                      c. semi tropical                      d. Artic
2. What is the density value for rapeseed oil?  
a. 1                                  b. 12                                  c. 5.5                                  d. 7.5
3. Which plants produce energy when wood is burnt?  
a. Dentre thermal                      b. petro                                  c. Both                                  d. none of the above
4. The term biomass most often refers to \_\_\_\_\_  
a. Inorganic matter                      b. Organic matter                      c. Chemicals                                  d. NH<sub>4</sub> compounds
5. Biomass is useful to produce \_\_\_\_\_  
a. Chemicals                                  b. Fibres                                  c. Biochemicals                                  d. Transportation fuels
6. The bio diesel is the long chain of carbon atoms contains \_\_\_\_\_ group at one end.  
a. Alcohol                                  b. Aldehyde                                  c. Ketone                                  d. Ester
7. What is a byproduct of producing biodiesel?  
a. Glycerine                                  b. polymer                                  c. methanol                                  d. salt

II. FILL IN THE BLANK

8. \_\_\_\_\_ be used to as a bioethanol feedstock.
9. Up to \_\_\_\_\_ blend the biodiesel is safety used in diesel engines without modifications.
10. Biodiesel is also called as \_\_\_\_\_
11. \_\_\_\_\_ is the property of the liquid to flow
12. \_\_\_\_\_ is an example of starch crops biomass feed stocks.

III. SAY TRUE OR FALSE

13. Natural gas is a good example of renewable energy generated from biomass.
14. Light rubber is the common name for Euphorbiaceae
15. The updraught gasifier is the simple type of gasifier
16. Jatropha produces more diesel within less no of time to cultivate

IV. ANSWER IN A SENTENCE OR TWO

17. Types of algal growth -
18. What is the method of determination of viscosity of a fuel
19. Any one advantage of biofuel
20. Advantages of a cross draught gasifier

**SECTION – B**

**Answer any SIX questions:**

**(6x3=18)**

21. Explain the Different types of biofuel crops
22. Classify the biocrops according to the end product
23. Write a note on Energy plantation
24. Explain the biomass program available in India.
25. Explain the precautions to be taken to Store biodiesel
26. Biodiesel is going to dwarf other technologies – comment
27. Differentiate First, second generation biofuels
28. Define Biomass densification? Write down the different densification process in detail
29. Explain the benefits of using bioethanol
30. Draw the block diagram showing the various Route to Numerous algae Sources

**SECTION – C**

**Answer any TWO questions:**

**(2x6=12)**

31. What are the various technologies available to produce Bioethanol.
32. What are the parameters used to test a biodiesel
33. Explain the production of biodiesel from algae.
34. Elucidate the principle of Gasification and various gasifiers in practice

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