STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI-86
(For candidates admitted during the academic year 2016 – 2017 & thereafter)

B. Voc. DEGREE EXAMINATION, NOVEMBER 2023
SUSTAINABLE ENERGY MANAGEMENT
FIFTH SEMESTER

COURSE : MAJOR CORE
PAPER : NOVEL MATERIALS FOR SUSTAINABILITY
SUBJECT CODE : 16VS/VM/NM56
TIME : 2 HOURS **MAX.MARKS:50**

SECTION – A

I FILL IN THE BLANKS: **(20 x 1 =20)**

1. Pigmented roof coatings are less efficient than _____ coating.
2. _____ is used as highly effective adsorbent.
3. Industrial unit that uses the same steam after processing is called _____.
4. Solar cells made from organic materials are called_____.
5. CNT are produced by _____ method.
6. Thermoelectric efficiency depend upon _____.
7. The method used to assess environmental impacts is called _____.

II STATE WHETHER TRUE OR FALSE

8. Fossil fuels are considered as sustainable energy sources.
9. Noble metal catalysts improve water splitting efficiency.
10. SiGe alloys are suitable for low temperature application.
11. Photomechanical materials change shape under exposure to light.
12. Sustainable design does not affect ecological footprint.
13. Thermal conductivity of CNT is better than diamond.
14. Granulated EPS added to the soil as soil conditioners.

III ANSWER IN ONE OR TWO SENTENCE:

15. Define Green Chemistry
16. What is a carbon Nanotube
17. What are the uses of composite material ?
18. State Seebeck effect.
19. What are used as low cost adsorbents?
20. How do energy efficient windows work?

SECTION – B

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

21. Explain R-Value of insulation material.
22. What are the risks of polyurethane?
23. What is meant by energy efficiency?
24. Define Thermoelectric effect.
25. Explain Solar thermoelectric generator.

..2

26. What is a dye sensitized solar cell.
27. Explain the fullerene compound.
28. What are the basic components of sustainable habitat?
29. What is meant by water splitting?
30. Explain the term sorbent.

SECTION – C

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

31. What is Dendrimer? Explain in detail.
32. Explain the process of formation of hydrogen fuel and how it is stored.
33. Discuss about the organic LED and Polymer LED.
34. Write a brief note on (a) SIP (b) XPS

****