

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

SUBJECT CODE: 16VS/VM/ST56
B.Voc. DEGREE EXAMINATION, NOVEMBER 2018
SUSTAINABLE ENERGY MANAGEMENT
FIFTH SEMESTER

COURSE : MAJOR CORE

PAPER : SOFTWARE TOOLS FOR ENERGY ANALYSIS

TIME : 6 HOURS

MAX.MARKS:100

(Theory: 50 marks + Practical: 50 marks)

SECTION – A

ANSWER ALL QUESTIONS:

(20x1=20)

I. Choose the correct answer:

1. The required autonomy in absence of sun determines the capacity of
a. Battery b. Inverter c. MPPT regulator d. Utility
2. Selecting a 24 V battery for a 12 V requirement is called
a. Neutral b. Oversizing c. Undersizing d. None of the above
3. The following is / are paid ware
a. PVSyst b. HOMERS Pro c. PV F-CHART d. PVPlanner
4. The following software /s is used in Wind energy
a. FAST b. QBLADE c. 1 only d. Both
5. _____ Automatically assesses the financial risk of the proposed investment
a. Financial Risk Assessor c. Virtual Energy Analyzer
b. Smart Project Identifier d. All the above
6. eQUEST software can be used at _____ stage of a building development
a. early b. final c. every d. None

II. Fill in the blanks:

7. Good information regarding HVAC equipment efficiency will be important to the _____ of any energy use simulation.
8. eQUEST is used by _____ all over the world.
9. RETScreen Suite includes _____ and off-grid analysis capabilities.
10. The available configurations in a two axis Tracking system are _____ & _____.
11. Identifying those areas with similar load profiles and grouping them is called HVAC _____.
12. Energy _____ helps the designers for the scope for improvements in energy saving.

III State whether True or False:

13. RETScreen cannot be used for the simulation of wind energy projects.
14. RETScreen software tool integrates near real-time satellite-derived weather data from NASA for the entire surface of the planet.
15. eQUEST don't have option for different schedules and operating hours for the models.

IV Answer in a sentence or two:

16. Name one software to harness Geothermal Energy.
17. What is the role of a virtual Virtual Energy Analyzer.
18. Define Seasonal tilt adjustment.
19. Name one software used for Wind energy simulation.
20. Give any 2 examples for Materials and Construction used in the Methodology of EQuest project.

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

21. What are the various parameters used in the eQUEST software.
22. Give the flow chart for a PVSyst project design.
23. Give a short note on the softwares used to use the solar energy.
24. Write a note on one of the Clean Energy Management Software.
25. Brief the usage of RETScreen.
26. Explain the five step Standard Analysis in RETScreen.
27. Give the steps Performance Analysis Module – Structure in RETScreen.
28. Explain the steps involved in the economic analysis of a PVSYST preliminary design.
29. Select 2 batteries with same capacity but different voltages and compare their specifications.
30. What are the Wizards to create a new building description using eQUEST's

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

31. Compare the project developed in PVSyst variant and give a detailed report.
32. Give the detailed economic analysis of the project developed in PVSyst.
33. Fill in the table using the developed eQUEST software and obtain a report comparing the efficiency with different materials used.

<i>Building Type: Description of Material Used</i>						
S. No.	No of Rooms	Area	Occupancy	Variant	Comments	Overall Comment
1.				Variant 1		
2.						
3.				Variant 1		
4.						

34. Write a report on the project developed using the RETScreen software.
