SUBJECT CODE : 16VS/VM/SC66

B. Voc. DEGREE EXAMINATION, APRIL 2023
SUSTAINABLE ENERGY MANAGEMENT
SIXTH SEMESTER

COURSE : MAJOR CORE
PAPER   : ENERGY FOR SMART CITIES
TIME   : 3 HOURS   MAX. MARKS : 100

Section – A

Answer ALL questions   (20×1=20)

I. CHOOSE THE CORRECT ANSWER

1. An energy strategy is an action plan to manage the .... of energy across all areas of a business.
    a) supply   b) procurement   c) efficiency   d) All of these
2. Solar energy harvesting techniques uses indirect conversion using solar …………….
    a) Thermal collectors   b) cookers   c) photovoltaic cells   d) photoconductive cells
3. Smart transportation, is an approach that incorporates modern technologies such as …….into transportation systems.
    a) cloud computing   b) location-based services
    c) wireless communication   d) All of these
4. The smart city mission aims to promote cities that provide core …………………to their residents.
    a) economy   b) infrastructure   c) development   d) population control
5. The design of solar vehicles always emphasizes energy ………… to make maximum use of the limited amount of energy they can receive from sunlight.
    a) Efficiency   b) productivity   c) storage   d) conversion techniques

II. FILL IN THE BLANKS

6. The energy sources that are available in the market for a definite price are known as ………………………energy
7. *City* .... inculcates the policies of the region and focuses on the quality of life in a bordered city.
8. *Smart Cities* Mission envisions developing an area within the cities in the country as ……… areas based on an area development *plan*
9. Strategic ……… is essential for any smart city journey and good data will help make decisions along the way.
10. The most obvious benefits of a smart building are financial savings and reduced …………………impact.

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II. STATE WHETHER TRUE OR FALSE

11. Growing plants on roof tops reduces energy demand.
12. Lack of co-ordination is a challenge for smart city.
13. Patrick Geddes planning concept excludes people's consent.
14. Forecasting futuristic needs is the base for smart city planning.
15. Nuclear energy is ideal for smart energy needs.

III. ANSWER IN A SENTENCE

16. Direct solar resources.
17. Smart IoT devices.
18. Differentiate conventional and smart city.
19. Alternative energy sources
20. FEV

Section – B

Answer any FOUR questions.   **(4X10=40)**

21. Discuss the today's energy demand. What are the available green initiatives to meet the energy demand?
22. What are the essential elements of smart city? Discuss Patrick Geddes planning concept.
23. Discuss singular and hybrid resources.
24. Give a short note on the dimensions of smart city. Discuss India ―100 Smart Cities‖ Policy.
25. Write a short note on India's mission on smart cities. List out and explain briefly various flaws in smart city infrastructure.
26. Mention some of the applications of solar energy in transportation.

Section – C

Answer any TWO questions.   **(2X20=40)**

27. List out various alternative energy sources and green approach and explain them in detail. Also briefly explain Energy Strategy 2040.
28. Discuss in detail, solar energy as an option for meeting energy demand through direct and indirect solar resources. Discuss any one source in detail.
29. Discuss in detail, matching demand and supply of energy in typical Smart city.
30. Discuss in detail Global standards and performance Benchmarking developing smart cities. Also discuss about financing smart cities development.

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