

This question paper contains 3 printed pages]

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S. No. of Question Paper : 9479

Unique Paper Code : 2203600038

Name of the Course : B.Sc. (Pass) Home Science NEP-UGCF

Name of the Paper : Resource Management and Sustainable Development

Semester : VII

Duration : 2 Hours

Maximum Marks : 60

(Write your Roll No. on the top immediately on receipt of this question paper.)

(इस प्रश्न-पत्र के मिलते ही ऊपर दिए गए निर्धारित स्थान पर अपना अनुक्रमांक लिखिए।)

Note : — Answers may be written either in **English** or in **Hindi**; but the same medium should be used throughout the paper.

टिप्पणी :— इस प्रश्न-पत्र का उत्तर अंग्रेजी या हिंदी किसी एक भाषा में दीजिए; परन्तु सभी उत्तरों का माध्यम एक ही होना चाहिए।

Question No. 1 is compulsory to attempt.

Attempt four questions in all.

All questions carry equal marks.

प्रश्न क्र. 1 अनिवार्य रूप से हल करना है।

कुल चार प्रश्नों के उत्तर दीजिए।

सभी प्रश्नों के अंक समान हैं।

P.T.O.

1. Write short notes on any *three* of the following :

3×5=15

- (a) Sustainable Development Goals (SDGs)
- (b) Ecological footprint
- (c) Air Quality Index
- (d) Energy Conservation
- (e) Rain Water Harvesting.

किन्हीं तीन विषयों पर संक्षिप्त टिप्पणियाँ लिखिए :

- (क) सतत विकास लक्ष्य (एसडीजी)
- (ख) पारिस्थितिक पदचिह्न
- (ग) वायु गुणवत्ता सूचकांक
- (घ) ऊर्जा संरक्षण
- (ङ) वर्षा जल संचयन।

2. Define the term "Sustainable Development". Explain its needs, objectives and principles. 15

'सतत विकास' शब्द को परिभाषित कीजिए। इसकी आवश्यकताओं, उद्देश्यों और सिद्धान्तों की व्याख्या कीजिए।

3. Discuss the environmental challenges faced due to population explosion and urbanization with suitable examples. Suggest the appropriate remedial measures to address these challenges. 15

जनसंख्या विस्फोट और शहरीकरण के कारण उत्पन्न पर्यावरणीय चुनौतियों पर उपयुक्त उदाहरणों सहित चर्चा कीजिए। इन चुनौतियों से निपटने के लिए उचित निवारक उपाय भी सुझाइए।

4. Describe sustainable energy management strategies including star labelling, energy auditing and renewable energy. Explain how industries can implement these strategies effectively. 15

ऊर्जा प्रबंधन की सतत रणनीतियों का वर्णन कीजिए, जैसे स्टार लेबलिंग, ऊर्जा ऑडिटिंग और नवीकरणीय ऊर्जा। समझाइए कि उद्योग इन रणनीतियों को प्रभावी रूप से कैसे लागू कर सकते हैं।

5. Explain the role of waste management in achieving environmental sustainability. Discuss the various approaches and innovative practices that can be adopted at household level for sustainable waste management. 15

पर्यावरणीय स्थिरता प्राप्त करने में अपशिष्ट प्रबंधन की भूमिका स्पष्ट कीजिए। घरेलू स्तर पर अपनाए जा सकने वाले विभिन्न दृष्टिकोणों एवं नवोन्मेषी उपायों पर चर्चा कीजिए।

6. Explain the need and importance of green buildings. Describe any *two* green building rating systems in detail. 15

हरित भवनों की आवश्यकता एवं महत्व स्पष्ट कीजिए। किन्हीं दो हरित भवन रेटिंग प्रणालियों का विस्तार से वर्णन कीजिए।

1. The first part of the paper is devoted to a discussion of the
2. various methods which have been proposed for the determination of
3. the rate of reaction between a radical and a molecule. The
4. most common method is the use of a stopped-flow apparatus,
5. in which the reaction mixture is rapidly mixed and the
6. reaction is followed by a suitable method, such as the
7. measurement of the change in optical density or the
8. measurement of the change in the concentration of a
9. reactant or product.

10. The second part of the paper is devoted to a discussion of the
11. various factors which influence the rate of reaction between a
12. radical and a molecule. The most important factors are the
13. nature of the radical, the nature of the molecule, the
14. temperature, the concentration of the reactants, and the
15. presence of other substances which may act as catalysts or
16. inhibitors.

17. The third part of the paper is devoted to a discussion of the
18. various theories which have been proposed for the mechanism of
19. the reaction between a radical and a molecule. The most
20. common theory is the transition state theory, in which the
21. reaction is assumed to proceed through a transition state
22. in which the radical and the molecule are partially
23. bonded to each other.

24. The fourth part of the paper is devoted to a discussion of the
25. various experimental methods which have been used for the
26. determination of the rate of reaction between a radical and a
27. molecule. The most common methods are the use of a stopped-
28. flow apparatus, the use of a laser flash photolysis
29. apparatus, and the use of a pulse radiolysis apparatus.
30. The fifth part of the paper is devoted to a discussion of the
31. various applications of the study of the reaction between a
32. radical and a molecule. The most important applications are
33. the study of the mechanism of the reaction between a radical
34. and a molecule, the study of the kinetics of the reaction,
35. the study of the effect of various factors on the rate of
36. reaction, and the study of the effect of various substances
37. on the rate of reaction.