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22. Environmental Science (414)

Test Specification Chart

Class 12

| S. N. | Unit/Area | WH | Marks | Remember/ Knowledge | | | Understand/ Comprehension | | | Apply/ Application | | | Higher ability | | | No. of questions | | | Marks | | | Total |
|-------|------------------------------------|-----|-------|---------------------|----|----|---------------------------|----|----|--------------------|----|----|----------------|----|----|------------------|----|----|-------|----|----|-------|
| | | | | VSQ | SQ | LQ | VSQ | SQ | LQ | VSQ | SQ | LQ | VSQ | SQ | LQ | VSQ | SQ | LQ | VSQ | SQ | LQ | |
| 1 | Atmospheric environment | 12 | 8 | 1 | 1 | - | 1 | - | - | - | 1 | - | - | - | 1 | 2 | 2 | 1 | 2 | 10 | 8 | 20 |
| 2 | Hydrospheric Environment | 10 | 6 | | | | | | | | | | | | | | | | | | | |
| 3 | Lithospheric Environment | 10 | 6 | | | | | | | | | | | | | | | | | | | |
| 4 | Biodiversity Assessment | 10 | 6 | 1 | - | - | 1 | 1 | - | 1 | - | - | 1 | 1 | - | 4 | 2 | - | 4 | 10 | - | 14 |
| 5 | Climate Science | 12 | 8 | | | | | | | | | | | | | | | | | | | |
| 6 | Solid Waste Management | 14 | 9 | 1 | 1 | - | 1 | 1 | 1 | - | 1 | - | 1 | - | - | 4 | 3 | 1 | 3 | 15 | 8 | 26 |
| 7 | Environmental toxicology | 12 | 7 | | | | | | | | | | | | | | | | | | | |
| 8 | Pollution Control Approaches | 15 | 10 | | | | | | | | | | | | | | | | | | | |
| 9 | Environmental tools and techniques | 12 | 7 | 1 | - | - | 1 | - | - | - | - | 1 | - | 1 | - | 2 | 1 | 1 | 2 | 5 | 8 | 15 |
| 10 | Environmental Policies | 13 | 8 | | | | | | | | | | | | | | | | | | | |
| | Total | 120 | 75 | 4 | 2 | - | 4 | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 11 | 8 | 3 | 11 | 40 | 24 | 75 |

Question and Mark Distribution

| SN | Types of questions | Number of questions | Marks per question | Full Marks | Time in minutes |
|--------------|----------------------------|---------------------|--------------------|------------|----------------------------|
| 1 | Very Short Questions (VSQ) | 11 | 1 | 11 | 180 minutes (3 hrs) |
| 2 | Short Questions (SQ) | 8 | 5 | 40 | |
| 3 | Long Questions (LQ) | 3 | 8 | 24 | |
| Total | | 22 | | 75 | |

Remarks:

- Weightage in the combined cell should be met, but ± 2 marks variation will be allowed within the combined cells. But cannot be nil.
- In total cognitive distribution should met. ± 2 marks variation will be allowed within the cognitive levels.
- SQ and LQ can be structured (have two or more sub-items). SQ and LQ can be distributed to two or more cognitive behaviours.
- The distribution of questions based on cognitive domain will be nearly 20% knowledge/remembering, 30% understanding, 25% applying and 25% higher ability level. Higher ability covers analysing, evaluating and creating levels.
- In the case of short question there will be 2 "OR" questions and in the case of long question there will be 1 "OR" question.

Grade: 12

Full Marks: 75

Subject: Environmental Science

Time: 3 hours

Candidates are required to give their answers in their own words as far as practicable.

The figures at the right margin indicate the full marks.

Attempt ALL the questions.

A. Very Short Questions

11×1 = 11

1. Define lentic environment.
2. Give any one importance of humus on environment.
3. Write any one importance of biodiversity on agricultural sector.
4. Mention any one activity that you can follow to reduce greenhouse gases emission.
5. What is climate change resilience?
6. Write any one implication of vegetation sampling in biodiversity conservation.
7. Define zero waste management.
8. Mention any two impacts of bio-magnification in ecosystems.
9. "Vermicomposting is more suitable than any other compost as manure". Justify it any one point.
10. Define Geo-referencing.
11. Write any one use of topographic map in environmental studies.

B. Short Questions

8 × 5 = 40

12. "Water is life supporting component of an environment". How unique properties of water support the above statement?
13. How can we use the knowledge of hydro-logical cycle in agriculture? Explain the procedures.
14. Why is sampling sites selection important during biodiversity assessment? Explain one method used to collect data on biodiversity.
15. How has global warming affected the world so far? Analyse critically.

OR

- Critically analyze the impacts of climate change in Nepal and explain any two of them in details.
16. Differentiate between bio-accumulation and bio-magnification in the ecosystem with examples.
 17. Let's suppose that there is a factory nearby your locality that releases toxic effluent into the river. Suggest how such effluent can be treated so that it does not harm the biotic ecosystem.
 18. Describe the legal approaches for pollution control in Nepal.

OR

Describe the 3R principal of solid waste management.

19. What are the applications of GIS in environment studies?

C. Long Questions

3 × 8 = 24

20. Compare the changes in meteorological parameters in the vertical zonation's of atmosphere and analyse how such variation affects the overall climatic activities.

21. What is integrated solid waste management? Describe the different methods of solid waste management in Nepal.

OR

How is solid waste management done in your locality? Explain with reference to hierarchy of solid waste management.

22. What kind of procedure will you follow if you are appointed as EIA officer in a national project? Explain such procedures.

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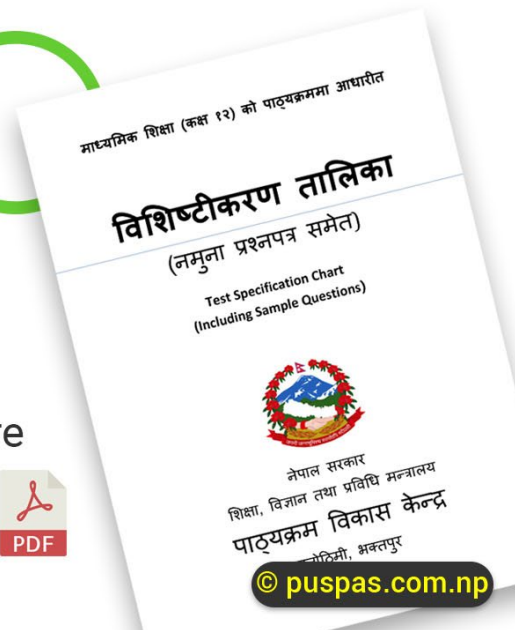
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Class 12

- **Specification Chart**
- **Model Question**

Curriculum Development Centre

All Subjects PDF



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