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## ENVIRONMENTAL APPLICATIONS

(Two hours)

Answers to this Paper must be written on the paper provided separately.

You will **not** be allowed to write during the first 15 minutes.

This time is to be spent in reading the question paper.

The time given at the head of this Paper is the time allowed for writing the answers.

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**Section A is compulsory.** Attempt **any four** questions from **Section B**.

The intended marks for questions or parts of questions are given in brackets [ ].

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### SECTION A (40 Marks)

Attempt **all** questions from this Section

#### Question 1

- (a) State any *two* consequences of siltation in waterways. [2]
- (b) What are toxic wastes? [2]
- (c) State the scope and limitation of biogas as a kitchen fuel. [2]
- (d) What is meant by community forestry? State its one importance. [2]
- (e) Suggest *two* methods which are implemented in Curitiba for traffic management. [2]
- (f) State *two* reasons for water recycling. [2]
- (g) Explain activated sludge. Give an example. [2]
- (h) What are CFC's? [2]
- (i) State *three* disadvantages associated with the construction of dams on waterways. [3]
- (j) Mention *three* advantages of hydel power over coal. [3]
- (k) Name a newly evolved technique of water management and explain it. [3]
- (l) What is Natural Resource Accounting? Give an example. [3]
- (m) Mention *three* advantages of Remote Sensing Satellites. [3]
- (n) State any *three* ways of controlling the traffic problem in a metropolitan city in India. [3]
- (o) *Eco-friendly technologies, despite being environment friendly have not found many takers in India. Give three reasons justifying this statement.* [3]

- (p) Explain how decomposition of waste in open areas has an adverse impact on human health. [3]

### SECTION B (60 Marks)

Attempt **any four** questions from this Section

#### Question 2

- (a) What is a *Cyclone Separator*? Describe the mechanism of a *Cyclone Separator* with the help of a diagram. [5]
- (b) Enumerate the advantages and disadvantages of:
- Land fills.
  - Chemical fertilizers. [5]
- (c) Explain the work done by Tarun Bharat Sangh in soil conservation. [5]

#### Question 3

- (a) Explain the role of Environment Impact Assessment (EIA) in environment protection. [5]
- (b) Explain the impact of globalization on developing countries. [5]
- (c) What is remote sensing? Explain the role of remote sensing in environmental monitoring. [5]

#### Question 4

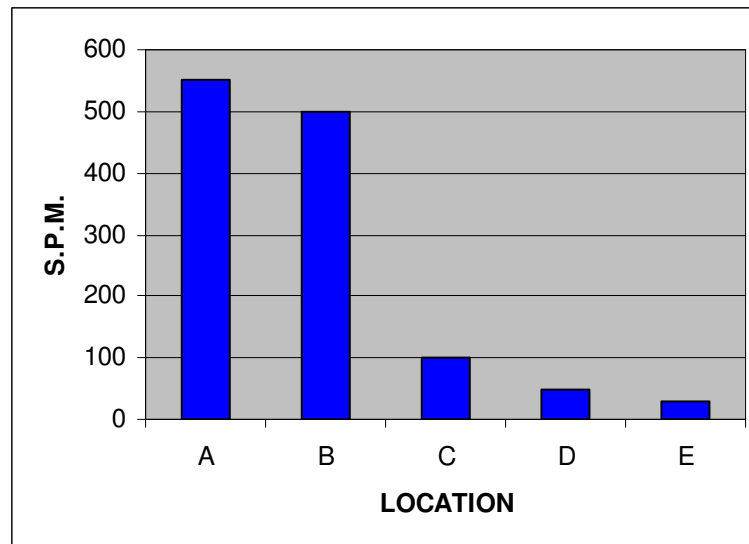
- (a) Explain the effect of using wood as fuel on the environment. [5]
- (b) What is meant by dry compost toilets? Explain the eco-friendliness of these toilets over the conventional toilets. [5]
- (c) What does sustainability mean? What is the role of inter-governmental organizations in saving the environment? [5]

#### Question 5

- (a) Explain the *roof top water harvesting technique* with the help of a neat diagram. [5]
- (b) Gandhi's model of decentralized governance is the most successful form of governance. Explain. [5]
- (c) How does the impounding of waterways by building dams affect the environment? [5]

### Question 6

- (a) Explain the role of NGOs in sustaining a better environment. [5]
- (b) The graph given below shows the concentration of Suspended Particulate Matter (SPM) in the atmosphere in the various locations A, B, C, D and E of a country. Study the graph and answer the questions that follow:



- (i) State any *two* reasons that contribute to the increase in the SPM concentration in different locations. [2]
- (ii) List any *two* harmful effects on health caused by Suspended Particulate Matter (SPM). [2]
- (iii) Explain the role of legislation for control of the SPM emissions from vehicles. [2]
- (iv) Briefly explain any *four* initiatives that can be taken to reduce the emission of SPM in locations A and B. [4]

### Question 7

- (a) Define a resource. What are the difficulties encountered in assigning monetary values to resources? [5]
- (b) List any *five* non-conventional sources of energy and state their advantages. [5]
- (c) Suggest *five* methods to reduce waste generation in metropolitan cities. [5]