2021

ENVIRONMENTAL SCIENCE

[HONOURS]

Paper : IX

Full Marks : 80 Time : 4 Hours

The figures in the right-hand margin indicate marks.

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

1. Answer any **seven** from the following: 1×7=7

   a) Define green energy.

   b) What is PMT in flame photometry?

   c) Define potentiometry.

   d) What is nuclear waste?

   e) What is meant by habitat restoration?

   f) What do you understand by geothermal energy?

   g) Define the term "titrimetry".

   h) What is PM10 in air quality analysis?

   i) Write names of two wind power plant location in India.

2. Answer any **six** of the following: 2×6=12

   a) What is aquatic biodiversity?

   b) Mention the working principle of Scintillation Counter in measuring radioactivity.

   c) What is the functional principle of photovoltaic cell?

   d) What is issbestic point?

   e) What is biofuel? Give an example of biofuel.

   f) Define redox titration with a common example.

   g) Distinguish between preservation and conservation.

   h) Write down the basic principle of spectrophotometry.

3. Answer any **three** of the following: 7×3=21

   a) How is nuclear energy used? Write down the energy balance and cost reduction in respect to a process industry. 2+5

   b) Discuss the role of women in natural resource conservation.

   c) Write a note on air quality sampling and analysis techniques.

d) Write down the water sampling and storage methodologies for analysis of microbial properties.

e) Discuss briefly the resource exploration techniques.

4. Answer any **four** of the following: 10×4=40

a) What is solar energy? Give an account on the current status of solar energy production in India. 2+8

b) Write down the basic functional principle of ecorestoration. Describe the mechanism of ecorestoration with suitable illustration. 5+5

c) What is meant by energy conservation? Write a note on energy planning for sustainable energy conservation in an industry. 2+8

d) Define wildlife. Describe the strategies of wildlife management. 2+8

e) Write down the typical composition of natural gas. Describe the sources and current status of natural gas exploitation with reference to India. 2+8

f) What is the principle of gel electrophoresis? Describe the process of DNA gel electrophoresis to run a standard DNA. 3+7

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