

ENVIRONMENTAL APPLICATIONS

Maximum Marks: 100

Time allowed: 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.

*Attempt all questions from **Section A** and any four questions from **Section B**.*

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

SECTION A (40 Marks)

(Attempt all questions from this Section.)

Question 1

Choose the correct answers to the questions from the given options.

[20]

(Do not copy the questions, write the correct answers only.)

(i) Removal of top fertile layer of soil by external agents:

- (a) Soil pollution
- (b) Soil corrosion
- (c) Soil erosion
- (d) Soil restoration

(ii) Auroville was founded by:

- (a) Mirra Alfassa
- (b) Sri Aurobindo
- (c) Suhasini Ayer
- (d) Anna Hazare

This paper consists of 8 printed pages.

- (iii) The alternative to timber in building industry:
- (a) Oak
 - (b) Hemp
 - (c) Papyrus tree
 - (d) Recycled timber
- (iv) An air pollution control device to remove acidic gaseous pollutants:
- (a) Electrostatic precipitator
 - (b) Wet scrubber
 - (c) Cyclonic separator
 - (d) Fluid bed combustion
- (v) Which of the following is an effect of brain drain?
- (a) National debt
 - (b) Loss of human capital
 - (c) Recession
 - (d) Economic disparity
- (vi) One of the modern methods of rainwater harvesting system practiced in cities is:
- (a) Check dams
 - (b) Kunds
 - (c) Tanka
 - (d) Roof top water harvesting
- (vii) According to Gandhiji, villages become self-sufficient by:
- (a) Adopting lavish lifestyle
 - (b) Establishing large scale industries
 - (c) Establishing small scale cottage industries
 - (d) Distributing surplus lands to landlords

(viii) An ecofriendly, hand spun and woven fabric of India is _____.

- (a) Terricot
- (b) Khadi
- (c) Polyester
- (d) Rayon

(ix) Dr. G. Rama Chandran and Dr. Soundram were the founders of _____.

- (a) Khadi industry
- (b) Dastkar
- (c) Gandhigram
- (d) Gram Swaraj

(x) An example of decentralized governance is:

- (a) District
- (b) Panchayat
- (c) State
- (d) Tehsil

(xi) Effluent is the term for:

- (a) Waste gases
- (b) Solid waste
- (c) Wastepaper
- (d) Wastewater

(xii) Medical waste should be:

- (a) Incinerated
- (b) Reused
- (c) Recycled
- (d) Composted

(xiii) **Assertion (A):**

Natural Resource Accounting is a process of estimating the values of natural resource depletion and degradation due to economic activities.

Reason (R):

It is a means of demonstrating linkage between the environment and the economy.

- (a) A is false but R is true.
- (b) A is true but R is false.
- (c) A and R are true, and R explains A.
- (d) A and R are true, but R is not the explanation of A.

(xiv) The planning of Curitiba city is done giving highest priority to:

- (a) Public transport system
- (b) Industrial development
- (c) Urban development
- (d) Smart city development

(xv) Check dams are meant to:

- A. Generate hydroelectricity
- B. Conserve water
- C. Conserve soil
- D. Act as a shelter belt

- (a) A
- (b) A and B
- (c) B and C
- (d) C and D

(xvi) The hydroelectric generation system without storing water:

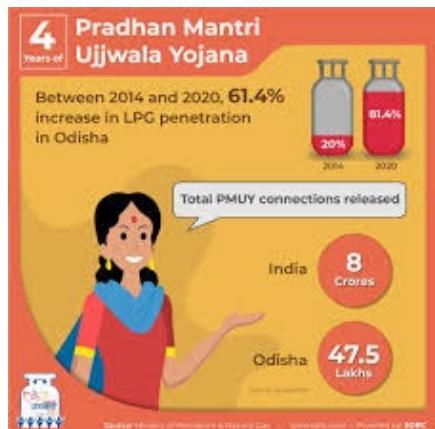
- (a) Large dam
- (b) Run of river system
- (c) Small dam
- (d) Check dam

- (xvii) The method of waste management which makes recycling of waste easier:
- (a) Open dumping
 - (b) Landfills
 - (c) Incineration
 - (d) Segregation
- (xviii) The process used to assess the significant effects of a proposed project on the environment:
- (a) Natural resource accounting
 - (b) Green accounting
 - (c) Environmental impact assessment
 - (d) Resource assessment
- (xix) Water shed is a surface area that channels _____ to a common point.
- (a) ground water
 - (b) rainwater
 - (c) drained water
 - (d) wetlands
- (xx) The main objective of the _____ Convention is to protect human health and the environment against the adverse effects of "hazardous waste".
- (a) Ramsar
 - (b) Marpol
 - (c) Geneva
 - (d) Basel

Question 2

- (i) Name *any two* alternative fuels that reduce emission from vehicle. [2]
- (ii) What are tree brakes? Write *any one* advantage of it. [2]
- (iii) What do you mean by leachate? Mention its impact on the environment. [3]

- (iv) The picture given below is the poster for free LPG connection for rural women under the Prime Minister's Ujjwala Yojana. Why was this yojana started? (Give any three points) [3]



Question 3

- (i) What is Eri? [2]
- (ii) Incineration is advantageous. State *any two* reasons. [2]
- (iii) State *any three* applications of Remote Sensing Satellite. [3]
- (iv) How do wetlands control floods? [3]

SECTION B (60 Marks)

(Answer *any four* questions from this Section.)

Question 4

- (i) Observe the picture given below. [5]



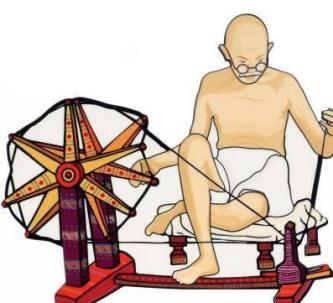
"One of the reasons of air pollution is traffic congestion". Describe *any five* measures to reduce the traffic congestion.

- (ii) Overgrazing is one of the factors of soil erosion. Mention *any five* methods to prevent overgrazing. [5]
- (iii) What is JFM? Explain its role in the conservation of Forest. (*Any three points*) [5]

Question 5

- (i) Name the air pollution control device which works on the principle of centrifugal force. Explain its working. [5]
- (ii) What are Euro norms? State *any three* limitations of implementing these norms in India. [5]
- (iii) "Before starting a mega project like dam, power plant etc. Environment Impact Assessment (EIA) is mandatory".
Briefly describe the various steps involved in conducting EIA. [5]

Question 6

- (i) Study the picture and answer the questions that follow: [5]
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- (a) Is it a modern or indigenous practice?
(b) Name the cloth made from this yarn.
(c) Why did Gandhiji introduce 'charkha' to Indian people?
(d) State *any two* advantages of the cloth material made from this process.
- (ii) Tarun Bharat Sangh revived the lost river and brought greenery in Alwar, Rajasthan. Explain *any five* initiatives taken by Tarun Bharat Sangh to solve the water issues in Rajasthan. [5]
- (iii) Fuelwood is the main source of fuel in rural India. Mention *any five* impacts of burning fuel wood on rural women. [5]

Question 7

- (i) Consumption of contaminated water with sewage and effluent is the root cause of many water borne diseases. Name the process that should be practiced to prevent the contamination of water. Mention *any four* advantages of the above mentioned process. [5]

- (ii) NGO's work for various issues, one of them is Women and Child Welfare. [5]
- (a) What is NGO?
- (b) State *any three* ways by which NGO's work for Child's welfare.
- (iii) More than 2,500 acres of near barren and visibly dying land have been transformed into a lush green area. Auroville has gained national and international acclaim for its wasteland reclamation and reforestation work. List *any five* sustainable practices adopted by Auroville. [5]

Question 8

- (i) To restore the beauty of Taj Mahal, Government of India has taken several measures. One of the measures is directing the Mathura oil refinery to reduce the pollutant gases from the plant. [5]
- Mention *any four* steps taken by Mathura oil refinery to reduce the air pollutants.
- (ii) Is coal a conventional or non-conventional source of energy? List *any four* limitations of using coal as a source of energy. [5]
- (iii) What is an intermediate or appropriate technology? Mention *any three* ways how both the indigenous and modern technologies are practiced in fisheries. [5]

Question 9

- (i) The picture shown below is about a movement against the construction of a big dam on river Narmada. [5]
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- Why do environmentalist usually protest the construction of big dams? (*Give any five points*)
- (ii) Give an account of the bubble theory. [5]
- (iii) Smart phones, Computers and Television are few examples of modern technology. Mention *any three* advantages and *any two* disadvantages of modern technology. [5]