

ICSE SEMESTER 1 EXAMINATION
SPECIMEN QUESTION PAPER
ENVIRONMENTAL APPLICATIONS

Maximum Marks: 50

Time allowed: One hour (inclusive of reading time)

ALL QUESTIONS ARE COMPULSORY.

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

Select the correct option for each of the following questions.

SECTION A

Question 1

- (a) Fuel wood is: **[1]**
1. A solid fuel biomass
 2. A form of fossil fuel
 3. A form of liquid fuel
 4. None of the above
- (b) Secondary treatment in the Effluent treatment plant is: **[1]**
1. Physical
 2. Chemical
 3. Biological
 4. Mechanical
- (c) Leachate is: **[1]**
1. A contaminated liquid generated from water percolating through a solid waste disposal site
 2. A run-off from agricultural land
 3. Liquid waste from an industry
 4. Domestic wastewater

- (d) Incineration is: [1]
1. Chemical treatment of waste
 2. Burning of waste
 3. Burning of waste in a closed chamber
 4. Dumping of waste in a pit
- (e) _____ is an example of alternate fuel. [1]
1. Coal
 2. Petroleum
 3. Firewood
 4. Compressed natural gas
- (f) Soil erosion takes place due to: [1]
1. Weathering of rocks
 2. Siltation
 3. Removal of top fertile layer of soil by external agents
 4. Dumping of waste on the land
- (g) TTZ is a defined area of: [1]
1. 10,400 sq km around Taj Mahal
 2. 10, 000 sq km around Taj Mahal
 3. 10, 500 sq km around Taj Mahal
 4. 10,100 sq km around Taj Mahal
- (h) The vehicle which uses two or more distinct power sources: [1]
1. Electric vehicles
 2. CNG vehicles
 3. Hybrid vehicle
 4. Cycle rickshaw

- (i) The fuel used by Delhi transport buses: **[1]**
1. LPG
 2. CNG
 3. Biodiesel
 4. Petrol
- (j) End of pipe treatment is: **[1]**
1. Waste management system that processes the waste before discharging to the environment from the production unit.
 2. Waste management system that processes the waste after it is discharged to the environment from the production process
 3. To make changes in the production process
 4. Meant for the product produced by a production process.
- (k) Penalties are: **[1]**
1. The taxes paid by a person
 2. The punishment incurred on the polluter
 3. Reduction in tax
 4. Subsidies after obeying pollution laws
- (l) EURO norms are the: **[1]**
1. Universal norms on vehicular exhaust emission.
 2. European vehicle emission standards for exhaust emission of new vehicles.
 3. European Industry emission standards
 4. Indian vehicle emission standards for exhaust emission of new vehicles.
- (m) Curitiba is famous for its: **[1]**
1. Subways
 2. Metro services
 3. Private transport
 4. Public transport

(n) Bubble theory is a: [1]

1. Strategy to reduce water pollution
2. Strategy to reduce air pollution.
3. Strategy to control air pollution.
4. Strategy to reduce soil pollution.

(o) The World Heritage sites in the Taj Trapezium Zone are: [1]

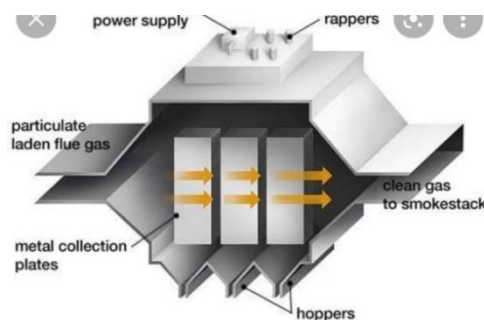
1. Taj Mahal, Agra Fort and Akbar Tomb
2. Taj Mahal, Buland Darwaza and Agra Fort
3. Taj Mahal, Agra Fort and Fatehpur Sikri
4. Taj Mahal, Moti masjid, and Fatehpur Sikri

SECTION B

Question 2

Study the given picture carefully and answer the questions, picking up the correct options from 1 to 4 in each case.

(a) [5]



(i) The device shown in the picture is of:

1. Cyclone separator
2. Electrostatic precipitator
3. Electrostatic plate
4. Scrubber

(ii) The device is used in:

1. Internal combustion engines
2. Industries where large amount of dust particle is produced
3. Catalytic converter
4. Water treatment

- (iii) The device is used to reduce air pollution by:
1. Collecting suspended dust particulate matter
 2. Neutralizing acidic gases
 3. Removing acidic gases and dust particles
 4. Removing dust particles, acidic gases and grease.
- (iv) The device works on the principle of:
1. Rotational effect
 2. Neutralization effect
 3. Suction force
 4. Induced electrostatic charge.
- (v) The device is highly advantageous because it can:
1. Remove acidic corrosive gases
 2. Handle high temperature and moisture
 3. Remove fine dust particles.
 4. All of the above

(b)



[5]

- (i) This is a picture of temple pond commonly known as:
1. Kund
 2. Baoli
 3. Eri
 4. Johad
- (ii) This structure is commonly found in:
1. Rajasthan
 2. Tamil Nadu
 3. Gujarat
 4. Uttar Pradesh

(iii) The water body is an example of:

1. Indigenous water harvesting system
2. Modern water harvesting system
3. Rural water harvesting system common in India
4. Artificial water body for the beautification of the temple

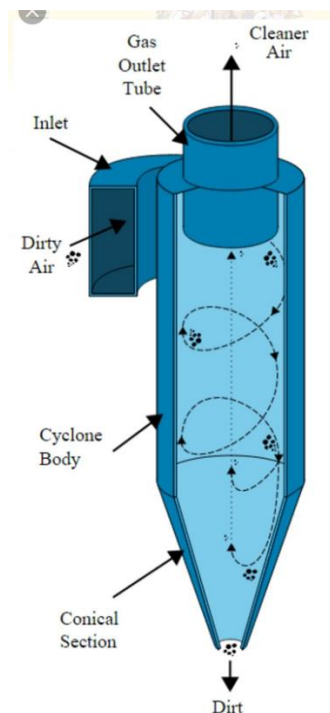
(iv) The water body is built by:

1. Embankments on three sides and one side is left open for water to flow in from catchment area.
2. Simple mud and rubble barriers built across a slope with a high embankment on three sides and fourth side left open for water to flow in.
3. The place around the temple is dug and filled up with water
4. It is a natural water body

(v) An example of a modern rainwater harvesting system is:

1. Eri
2. Rooftop rain water harvesting
3. Bunds
4. Check dams

(c)



[3]

- (i) The air pollution control device shown in the diagram is of:
1. Bag house
 2. Wet Scrubber
 3. Cyclone separator
 4. Electrostatic precipitator
- (ii) This device works on the principle of:
1. Rotational effect
 2. Rotational effect and gravity
 3. Neutralization and gravity
 4. Electromagnetic induction
- (iii) The device can remove:
1. Only large particulate matter
 2. Only small particulate matter.
 3. Only particulate matters.
 4. Particulate matter and also grease from exhaust air

SECTION C

Question 3

Fill in blanks choosing the correct option from 1 to 4

- (a) The main objective of Ramsar Convention is to _____. **[1]**
1. Prevent trans boundary movement of hazardous waste
 2. Prevent the international trade of the endangered species of flora and fauna
 3. Protect and conserve wetlands of international importance.
 4. Protect and conserve biodiversity.
- (b) The Ramsar convention was developed and adopted at a meeting in _____. **[1]**
1. Switzerland
 2. India
 3. Iran
 4. Kenya

- (c) Mini hydel generates _____ . [1]
1. Less than 100 kW
 2. Less than 1000 kW
 3. More than 1000 kW
 4. 100 MW
- (d) Dry Compost toilets relies on _____ . [1]
1. Saturated condition
 2. Unsaturated condition
 3. Chemicals
 4. Heat

Question 4

Name the following by choosing the correct option.

- (a) It refers to trees and shrubs planted in rows at right angle to the prevailing wind: [1]
- wind:
1. Alternate cropping
 2. Contour bunding
 3. Tree breaks
 4. Mulching
- (b) A non-governmental organization in Rajasthan, best known for doing ecological research and land development to provide clean water to people: [1]
1. Auroville
 2. Tarun Bharat Sangh
 3. Jal parishad
 4. Jal sevak
- (c) A model of forest management in which the social communities are involved in the planning and conservation program, on forests managed by the government: [1]
1. Social forestry
 2. Community forestry
 3. Agroforestry
 4. Joint forest management

- (d) An alternative to fuel wood is: [1]
1. Timber
 2. Plastic
 3. Dung cakes
 4. Marsh reed
- (e) The electricity generated by large dam is: [1]
1. Tidal electricity
 2. Hydel electricity
 3. Hydroelectricity
 4. Wave electricity
- (f) Treated form of water: [1]
1. Grey water
 2. Black water
 3. Reclaimed water
 4. Effluent

Question 5

Match the statement given in **Column I** with the most appropriate option from **Column II**. [5]

- | Column I | Column II |
|---|--------------------------|
| (a) Small dams used to reduce the velocity of water and control soil erosion | (i) Furan |
| (b) Rearing a small herd of good breed of cattle. | (ii) Composting |
| (c) A semi solid slurry like sediment in a water treatment plant. | (iii) Controlled grazing |
| (d) The conversion of organic waste into useful substance with the help of microorganisms | (iv) Sludge |
| (e) The toxic gas given out during incineration. | (v) Check dam |

- (a) (i) (ii) (iii) (iv) (v)
- (b) (i) (ii) (iii) (iv) (v)
- (c) (i) (ii) (iii) (iv) (v)
- (d) (i) (ii) (iii) (iv) (v)
- (e) (i) (ii) (iii) (iv) (v)

Question 6

Choose the correct full form of the given abbreviations:

[1]

- A. TTZ—Taj Mahal Trapezium Zone
- B. TBS –Tarun Balak Sangh
- C. CNG –Compressed Natural Gas
- D. JFM- Joint Forest Management

- 1. A & B
- 2. C & D
- 3. A & D
- 4. B & C

Question 7

Choose the statements which are correct pertaining to Remote sensing satellite is a good tool because:

[1]

- A. It allows data collection in remote lands.
- B. It provides a spatial continuity as compared to point or small area sample data
- C. Digital data obtained can be processed by computer, but difficult to understand
- D. It is cost effective and accurate method of obtaining remote information.
- E. It takes a lot of time to generate data.

- 1. A, B & E
- 2. A, B & D
- 3. A, B & C
- 4. B, D & E

Question 8

The following question is based on Roof top rainwater harvesting technique, choose the correct option to fill in the blanks: [5]

- (a) Bore well (b) Roof (c) Conduit
(d) Catchment (e) Storage

- (i) Rooftop rainwater harvesting refers to collection of rainwater that falls on the _____ of the house or building.
- (ii) The rainwater harvesting structure includes _____ which receives the rainfall.
- (iii) Pipe like structure called _____ carry the harvested water to the storage system.
- (iv) The _____ tank stores the harvested water.
- (v) The recharging structure like _____ can recharge the aquifers.

- (i) (a) (b) (c) (d) (e)
(ii) (a) (b) (c) (d) (e)
(iii) (a) (b) (c) (d) (e)
(iv) (a) (b) (c) (d) (e)
(v) (a) (b) (c) (d) (e)