



ICSE 2025 EXAMINATION
SPECIMEN QUESTION PAPER
ENVIRONMENTAL SCIENCE

Maximum Marks: 80

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 [].

Instruction for the Supervising Examiner

Kindly read aloud the Instructions given above to all the candidates present in the Examination Hall.

SECTION A

(Attempt *all* questions from this Section.)

Question 1

[16]

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

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

(i) Water pollution : Eutrophication : : Air pollution : _____

- (a) Desalination.
- (b) Acid Rain.
- (c) Desertification.
- (d) Natural calamities.

(Recall)

(ii) A suitable strategy for controlling population growth in India is :

- (a) Encouraging early marriage.
- (b) Allowing people of other countries to settle in India.
- (c) Implementing family planning programs.
- (d) Accelerating birth rate.

(Application)

(iii) A satellite city is a:

- (a) Smaller municipality that is a part of larger metropolitan area.
- (b) Larger municipality that is a part of larger metropolitan area.
- (c) Smaller municipality that is a part of smaller metropolitan area.
- (d) Larger municipality that is a part of smaller metropolitan area.

(Understanding)

(iv) Which of the following practices is most effective in preventing soil erosion?

- (a) Mulching.
- (b) Monoculture farming.
- (c) Jhumming.
- (d) Trickle drip irrigation.

(Recall)

(v) The city council is planning to address issues of traffic congestion in urban area. As a student representative, which strategy would you recommend for traffic management?

- (a) Constructing more parking lots to accommodate increasing vehicle members.
- (b) Expanding National highways to connect different cities.
- (c) Promoting public transportation and building dedicated lanes for buses.
- (d) Encouraging more private vehicle ownership.

(Analysis)

(vi) Rearrange the following steps in the ascending order that trace the rate of solid waste management:

Step i : Transportation of waste.

Step ii : Collection of waste.

Step iii : Waste disposal.

Step iv : Segregation of waste.

- (a) Step iv, Step iii, Step ii, Step i.
- (b) Step i, Step ii, Step iii, Step iv.
- (c) Step ii, Step iv, Step i, Step iii.
- (d) Step iii, Step i, Step iv, Step ii.

(Evaluation)

(vii) Biogas plants are popular in rural area because:

- (a) There is plenty of organic raw materials in rural areas.
- (b) It increases the reliance on fossil fuels.
- (c) The farmers are dependent on the manure produced in biogas plant.
- (d) It is a non-renewable source of energy.

(Recall)

(viii) Biosphere is an example of:

- (a) Environmental conservation.
- (b) Ex-situ conservation
- (c) Animal conservation.
- (d) In-situ conservation.

(Understanding)

(ix) Incineration is used to dispose:

- (a) Non-toxic recyclable waste.
- (b) Organic domestic waste.
- (c) Toxic inorganic waste.
- (d) Inorganic recyclable waste.

(Application)

(x) Study the picture given below and state the phenomenon represented by this:

- (a) Acid Rain.
- (b) Global Warming.
- (c) Glacier Melting.
- (d) Biomagnification.



(Understanding)

(xi) **Assertion (A):** Cooperation can be achieved by the International Treaties and Agreements.

Reason(R): Global pollution can be resolved by cooperation among Nations.

- (a) A is True R is False.
- (b) A is False R is True.
- (c) Both A and R are True and A is the correct explanation of R.
- (d) Both A and R are True and R is the correct explanation of A.

(Analysis)

(xii) Green manure acts as a solidifying matter that:

- (a) Increases alkalinity of the soil.
- (b) Decreases alkalinity of the soil.
- (c) Increases acidity of the soil.
- (d) Decreases acidity of the soil.

(Recall)

(xiii) Pick out the *incorrect* pair from the following:

- (a) Vermicompost – 1. Earthworms.
- (b) Farm compost – 2. Farm waste.
- (c) Farmyard manure – 3. Cattle dung.
- (d) Green manure – 4. Chemical compound.

(Application)

(xiv) Match the following Columns correctly:

Column A

Column B

- (A) Alternative in paper industry (i) Horticulture mulches.
- (B) CITES (ii) Acid rain
- (C) Recycled wood (iii) Stop illegal trading in animals.
- (D) Taj Mahal (iv) Scrap paper.

- (a) A – i, B – ii, C – iii, D – iv
- (b) A – ii, B – iii, C – iv, D – i
- (c) A – iv, B – iii, C – i, D – ii
- (d) A – iii, B – iv, C – i, D – ii

(Evaluation)

(xv) What type of regenerative farming technique is depicted in the image given below?

- (a) Community Forestry.
- (b) Conservation Tillage.
- (c) Crop Rotation.
- (d) Agroforestry.



Wikimedia Commons

(Application)

- (xvi) Think good to wildlife,
Be good to wildlife, and
Do good to wildlife.

According to the slogan, which of the following is *not* associated in conserving wildlife:

- (a) Wildlife Management.
- (b) Afforestation.
- (c) Poaching of animals.
- (d) Educating for wildlife protection.

(Application)

Question 2

- (i) Write *two* important causes of air pollution. [2]
(Recall)
- (ii) What factors can change the demography of a country? [2]
(Understanding)
- (iii) How can private enterprises help in improving cities? [2]
(Understanding)
- (iv) State any *two* advantages of Tree Planting. [2]
(Recall)

Question 3

- (i) The Green Revolution in the late 1960's introduced the Indian farmers in cultivation of wheat and rice, which produced greater amounts of grain. The farmers did not use traditional seeds. [2]
 - (a) What type of seeds were used by the farmers?
 - (b) Write one disadvantage of these seeds?**(Analysis)**
- (ii) Write *two* effects of the action of man on Biodiversity of Earth. [2]
(Understanding)

(iii) What is nuclear fission? Why is nuclear fission useful to mankind? [2]

(Recall & Application)

(iv) How can Community Forestry be developed? [2]

(Recall)

Question 4

(i) List *two* differences between chemical fertilizers and organic fertilizers. [2]

(Understanding)

(ii) State any *two* ways by which wetlands are important for us. [2]

(Recall)

(iii) What is incineration? What kinds of wastes are incinerated? [2]

(Recall & Application)

(iv) Look at the image given below and answer the following questions: [2]



(a) What is purpose of using different bins?

(b) What is the advantage of using different bins?

(Evaluation)

SECTION B

(Attempt any four questions from this Section.)

Question 5

(i) What is TTZ? [5]

State the initiatives taken by the Government of India to reduce the pollution caused by the industries covered under TTZ.

(Recall & Application)

- (ii) “Secondary Cities are the emerging engines in the rapid pace of urbanization.” [5]

Write five steps that can be taken to develop Secondary Cities. (Understanding)

Question 6

- (i) State five features of plants that can be used for energy plantations. [5]
(Recall)

- (ii) What do you mean by land reform legislation? [5]

Write *three* objectives of land reforms which helped the landless people. (Recall & Application)

Question 7

- (i) Answer the following questions based on the image given below: [5]



- (a) Name the structure that is seen in the above image.

- (b) What are the merits and demerits of the above structure. (Evaluation)

- (ii) What is food aid? State the causes for the imbalance of food supply in the World. [5]

(Recall & Analysis)

Question 8

- (i) In a tragic incident, a tiger died after being hit by a vehicle in Nagzira Wildlife Sanctuary in Maharashtra. The incident reportedly happened in the buffer zone in Murdoli. [5]

(<https://economictimes.indiatimes.com>)

(a) Nagzira Wildlife Sanctuary is an example of which type of conservation and write *two* advantages of this conservation.

(b) Why did the incident happen in the buffer zone?

(Evaluation)

(ii) Explain the role of Gene Bank in agricultural research.

[5]

(Understanding)

Question 9

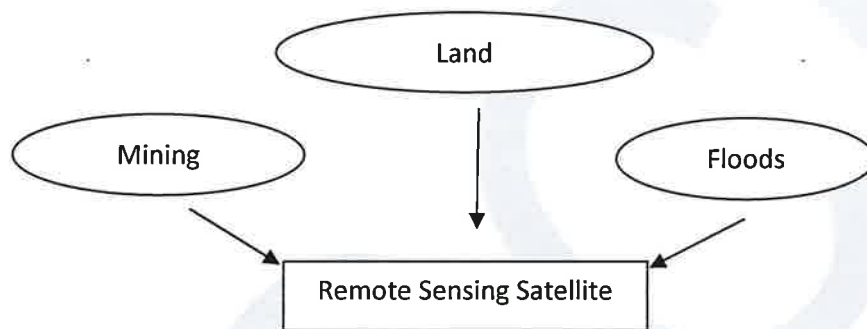
(i) What are the main aims of Integrated Plant Nutrient Management?

[5]

(Recall)

(ii)

[5]



Suggest *five* reasons why has the above technology become very prominent and beneficial.

(Application)

Question 10

(i) What is GEF? How does GEF help in bringing about sustainability?

[5]

(Recall &

Application)

(ii) Discuss *two* advantages and *three* disadvantages of MNC's in developing countries.

[5]

(Understanding)



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DRAFT MARKING SCHEME – ENVIRONMENTAL SCIENCE

Question 1		[16]
(i)	(b) Acid Rain.	
(ii)	(c) Implementing family planning programs.	
(iii)	(a) Smaller municipality that is a part of larger metropolitan area.	
(iv)	(a) Mulching.	
(v)	(c) Promoting public transportation and building dedicated lanes for buses.	
(vi)	(c) Step ii , Step iv , Step i, Step iii.	
(vii)	(a) There is plenty of organic raw materials in rural areas.	
(viii)	(d) In-situ conservation.	
(ix)	(c) Toxic inorganic waste.	
(x)	(b) Global Warming.	
(xi)	(d) Both A and R are True and R is the correct explanation of A.	
(xii)	(b) Decreases alkalinity of the soil.	
(xiii)	(d) Green manure - iv. Chemical compound.	
(xiv)	(c) A – iv, B – iii, C – i, D – ii	
(xv)	(c) Crop Rotation.	
(xvi)	(c) Poaching of animals.	
Question 2		
(i)	Two important causes of air pollution: 1) Burning of fossil fuels in industries and vehicles 2) Domestic combustion of wood 3) Brick kilns. 4) Combustion or burning of wastes. 5) Natural disasters like volcanoes and forest fires. 6) Industries and factories emit dust and pollutants.	[2]



(ii)	The demography of a country can be changed due to		[2]
	<ol style="list-style-type: none"> 1) Increase in birth rate and decrease in death rate 2) Migration 3) Epidemic diseases 4) Hunger due to food shortage 		
(iii)	The private enterprises help in		[2]
	<ol style="list-style-type: none"> 1) Promoting the use of recycled products and thus help the city to generate less waste. 2) Maintain parks and gardens. 3) Water supply, urban transport and solid waste management. 		
(iv)	<ol style="list-style-type: none"> 1) Reduces soil erosion as the roots hold and bind the soil. 2) Reduces the runoff of surface water. 3) The canopy of the trees protect the soil from adverse effect of rainfall. 4) Increases infiltration 		[2]
Question 3			
(i)	<ol style="list-style-type: none"> 1) HYV (High Yielding Variety) seeds. 2) HYV seeds need higher doses of fertilizer and are highly susceptible to pests. 3) Require controlled irrigation. 		[2]
(ii)	<ol style="list-style-type: none"> 1) Disappearing of species. 2) Destruction of the ecosystem. 3) Adverse effect on bio -geo cycles. 		[2]
(iii)	<p>Nuclear fission is a reaction where the nucleus of an atom splits into two or more smaller nuclei, while releasing energy.</p> <p>Nuclear fission is useful to mankind as it is</p> <ol style="list-style-type: none"> 1) a clean source of energy and protects the air quality. 2) less emission of toxic gases. 3) less fuel produces more energy. 		[2]
(iv)	<ol style="list-style-type: none"> 1) Local people are given the power to control and implement the project. 2) Nature of support by Government and Non Government Organizations. 3) Raising trees on community land and the produce be shared by the locals 		[2]
Question 4			
(i)	Chemical fertilizers	Organic fertilizers	[2]
	(a) Synthesized by the reaction of chemicals.	(a) Obtained by the decomposition of plant and animal waste.	
	(b) Makes the soil infertile.	(b) Does not affect the soil fertility.	



(ii)	<p>Wetlands are important to us because they:</p> <ol style="list-style-type: none">1) improve water quality.2) provide wildlife habitat.3) a good resource of scientific and recreational value.4) they help to mitigate climate change	[2]
(iii)	<p>Incineration is the burning of wastes at a very high temperature using high electric voltage in closed chambers called incinerators.</p> <p>Non-biodegradable and hazardous wastes from the industries and biomedical wastes are incinerated.</p>	[2]
(iv)	<p>(a) The purpose of using different bins is to segregate different wastes into biodegradable, nonbiodegradable and recyclable wastes.</p> <p>(b) The advantage of using different bins is:</p> <ol style="list-style-type: none">1) to make disposal of wastes easier.2) to make the process of reduce-reuse-recycle of waste disposal faster.	[2]
Question 5		
(i)	<p>TTZ is a defined area around Taj Mahal to protect the monument from environmental pollution. The TTZ comprises over 40 protected monuments and is named as it is shaped like a trapezoid.</p> <p>The three initiatives taken by the Government of India to reduce the pollution caused by the industries covered under TTZ:</p> <ul style="list-style-type: none">- Banning the use of coal/coke in the industries located in the TTZ area to natural gas.- Relocating or shutting the industries outside the TTZ.- Creating Green Belt around TTZ.	[5]
(ii)	<ol style="list-style-type: none">(a) Setup large scale industries that can provide employment to large number of people.(b) Provision of adequate infrastructures in the secondary cities like educational institutions, hospitals, market places etc.(c) Development of efficient transport facility connecting the secondary cities to the major cities.(d) Strengthening the economy of the secondary cities.(e) Government housing at subsidized rate could facilitate the movement from major urban centres to the secondary city.	[5]
Question 6		
(i)	<p>The five features of plants that can be used for energy plantations are:</p> <ul style="list-style-type: none">- heat content of wood is similar to that of the Indian coal.- wood is generally low in sulphur and not likely to pollute the atmosphere.	[5]

	<ul style="list-style-type: none"> - ash from burnt wood can be used as valuable fertilizer. - minimized hazards from floods and siltation. - minimum loss of nitrogen and minerals from the soil. 	
(ii)	<p>Land Reform refers to:</p> <ul style="list-style-type: none"> - the redistribution of land ownership in favour of cultivating classes. - It means the farmers or agriculturists are given lands of landlords to cultivate and have an equal share in the produce. - The land reforms is the distribution of lands to cultivating class so that they have a sense of participation, security and regulation of lands. <p>The three objectives of land reforms are:</p> <ul style="list-style-type: none"> - Through laws a productive and efficient agriculture based economy can be formed. - to remove social inequality. - to redistribute the ownership of land and reorganize the operational holdings for maximum use of the land. - Development of cooperative farming. 	[1x5]
Question 7		
(i)	<p>(a) The structure that is seen in the above image is a wind mill.</p> <p>(b) Merits:</p> <ol style="list-style-type: none"> 1. Consumes no fuel. 2. Emits no air pollution. <p>Demerits</p> <ol style="list-style-type: none"> 1. Wind farm needs large area for installation. 2. Bird and bat mortality will increase. 	[5]
(ii)	<p>Food aid refers to food donated by a developed country or a foreign government or by a charitable institution to people in need, usually in developing countries.</p> <p>The two causes of imbalance of food supply in the world:</p> <ul style="list-style-type: none"> - The soil and climate conditions are not favourable for agriculture in many parts of the world. - Economic inequality among nations. - Inequality in distribution of resources- like developed countries have surplus of food and less population while developing countries have people starving to death. <p>Food aid can help:</p> <ul style="list-style-type: none"> - the countries to get the actual food items or cash to buy food. - people to access food during natural disasters and wars. - school children to have nutritious meals. - Food aid can motivate children to come to school and have their meals. 	[5]



Question 8		
(i)	<p>(a) Nagzira Wildlife Sanctuary is an example of In-Situ conservation.</p> <p>(b) Two advantages of In-Situ conservation are:</p> <ol style="list-style-type: none">1. Plants and animals are conserved in their natural habitat.2. Biodiversity and natural heritage is protected. <p>(c) Buffer zone is the transition zone where no human activity is allowed and legally protected. It is the middle zone of research use strategies where limited human activities are allowed.</p> <p>(d) This happened in the buffer zone as human beings illegally entered into the restricted area.</p>	[5]
(ii)	<ul style="list-style-type: none">- To save endangered species- To conserve agricultural biodiversity- to study DNA and genetic material and find the genetic traits which can help plants and livestock to survive adverse conditions- To produce new strong varieties of plants- to use genetic engineering to produce species which can withstand climate change.- It helps to restore species which can get extinct.	[5]
Question 9		
(i)	<ul style="list-style-type: none">- Biotechnology uses bacteria and microbes which can break down mine wastes and solid waste for their own use.- biotechnology can help to develop byproducts from waste.- the by products developed by using Biotechnology can be used as fertilizer, biogas, livestock feeds etc. <p>Two alternatives:</p> <ul style="list-style-type: none">- Discarded wood can be recycled- Natural fibers like gum and resins can be polymerized to use as wood.- Saw dust – Shreds from old furniture- wrought iron can be used.- The main purpose of using alternatives is to minimize the depletion of natural resources and prevent deforestation.	[5]
(ii)	<p>Reasons for Remote sensing satellite becoming prominent are:</p> <ul style="list-style-type: none">- Satellite images are permanent records.- Satellites can provide data of large areas which enables regional surveys.- Repeated coverage allows monitoring of changing environment like water, agriculture and other factors at regular intervals.	[5]



	<ul style="list-style-type: none">- Satellite gave data about environmental damage and hence rectification could be made.- Satellite provided images of increasing deserts and reduced forests.- It helped in prediction of droughts and floods.	
Question 10		
(i)	<p>GEF (Global environmental facility) is a partnership for international cooperation. It focuses on 7 areas to bring about sustainability.</p> <ol style="list-style-type: none">1. Biodiversity2. Climate Change3. Chemicals4. International Waters5. Land degradation6. Sustainable Forest management7. Ozone depletion	[5]
(ii)	<p>The two advantages of MNCs are:</p> <ul style="list-style-type: none">- Maximizing profits- To capture the market and provide products to the consumers at a reasonable rate.- Bring in high standard of technology <p>The three disadvantages are:</p> <ul style="list-style-type: none">- They favour their country of origin and do not share profit with the host country.- They exploit the local labour and environment.- MNCs pay little attention to human and ecological needs as their only motive is profit.- The MNCs bring set back to the local industries.	[5]