INDIAN SCHOOL AL WADI AL KABIR

Class: XII	Department: Commerce
Worksheet: 1	**Topic: Environment and Sustainable Development**

MCQs:

1. According to Herman Daly (an environmental economist), which of the following is ***not*** an essential step towards achieving sustainable development?
(a) Limiting human population to carrying capacity of the environment
(b) Input inefficient technological progress
(c) Rate of extraction of renewable resources should not exceed rate of regeneration
(d) Correction of inefficiencies arising from pollution

2. Which of the following is a renewable resource?
(a) Coal (b) Petroleum (c) Forests (d) Iron ore

3. Which function of the environment refers to its ability to absorb degradation?
(a) Supply of resources
(b) Assimilation of waste
(c) Sustenance of life
(d) Aesthetic services

4. Environmental crisis occurs when:
(a) Resource extraction is below regeneration rate
(b) Waste generated is within absorptive capacity
(c) Resource extraction exceeds regeneration rate and waste exceeds absorptive capacity
(d) Population remains constant

5. Global warming is mainly caused by:
(a) Increase in greenhouse gases such as carbon dioxide and methane
(b) Decrease in ultraviolet radiation
(c) Increase in ozone layer thickness
(d) Reduction in fossil-fuel use

6. Ozone depletion is primarily caused by:
(a) Carbon dioxide
(b) Chlorofluorocarbons (CFCs)
(c) Oxygen
(d) Nitrogen

7. The Central Pollution Control Board (CPCB) was set up in:
(a) 1969 (b) 1974 (c) 1985 (d) 1992

8. Which of the following is a major cause of land degradation in India?
(a) Soil conservation
(b) Crop rotation
(c) Deforestation and overgrazing
(d) Afforestation

9. Identify, which of the following is **NOT** one of the strategies for Sustainable Development.
(a) Use of non-conventional sources of energy
(b) Use of fossil fuel for transportation

(c) Use of traditional knowledge
(d) Use of organic compost manure

10. Sustainable development was defined by the United Nations Conference on Environment and Development as development that:
(a) Maximises present consumption
(b) Meets present needs without compromising future generations' ability to meet their needs
(c) Focuses only on industrial growth
(d) Ignores environmental costs

11. According to Herman Daly, renewable resources should be extracted at a rate:
(a) Higher than their regeneration rate
(b) Equal to or lower than their regeneration rate
(c) Irrespective of regeneration
(d) Determined only by market demand

12. Which of the following is a non-conventional source of energy?
(a) Coal (b) Petroleum (c) Solar power (d) Natural gas

13. Use of CNG in Delhi's public transport mainly helps to:
(a) Increase vehicular air pollution
(b) Reduce air pollution
(c) Increase deforestation
(d) Deplete groundwater

14. Gobar gas plants are beneficial because they:
(a) Produce fuel and organic fertiliser from cattle dung
(b) Increase use of chemical fertilisers
(c) Cause large-scale deforestation
(d) Generate only industrial electricity

15. Biopest control using neem-based products is preferred because it:
(a) Contaminates soil and water
(b) Reduces chemical pesticide pollution
(c) Increases pesticide residues in food
(d) Requires no ecological knowledge

ASSERTION REASON BASED QUESTIONS:

Read the following Statements – Assertion (A) and Reason (R). Choose one of the Correct alternatives given below:

a. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)
b. Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A)
c. Assertion (A) is true but Reason (R) is false.
d. Assertion (A) is false but Reason (R) is true

1. Assertion (A): Deforestation contributes to environmental degradation.
Reason (R): Trees help prevent soil erosion and maintain ecological balance.

2. Assertion (A): Sustainable development requires intergenerational equity.
Reason (R): The present generation must not reduce the ability of future generations to meet their needs.

3. Assertion (A): Use of chemical fertilisers and pesticides has no environmental cost.
Reason (R): Excessive agro-chemicals can contaminate soil, water bodies and groundwater.

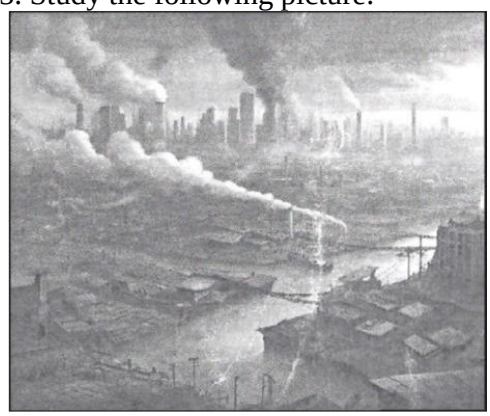
STATEMENT QUESTIONS

In the following questions, Statement 1 is followed by Statement 2. Mark the correct choice

4. Statement 1: Environmental concerns of waste generation and pollution have become critical, due to reversal of demand and supply relationship.
Statement 2: Environmental crisis happens, when the rate of resource extraction is less than that of regeneration of resource.
In the light of the given statements, choose the correct option from the following:

(A) Statement 1 is true and Statement 2 is false.
(B) Statement 1 is false and Statement 2 is true.
(C) Both statements 1 and 2 are true.
(D) Both statements 1 and 2 are false.
Ans. (A) Statement 1 is true and Statement 2 is false.

5. Study the following picture:



Identify and select, the recent phenomenon in which demand for resources surpasses their supply.
Options:
(A) Economic growth
(B) Environmental crisis
(C) Technological advancement
(D) Cultural evolution

Ans. (B) Environmental crisis

Questions:

1. "Bio-pesticides help to reduce the ill-impacts of green revolution on soil and water bodies while promoting sustainable development." Justify the given statement with valid explanation.
   Ans. Owing to the introduction of the Green Revolution in India, the usage of more and more chemical pesticides had adverse impacts such as contaminated soil, water bodies and groundwater.
   The use of bio-pesticides serves as an eco-friendly alternative to chemical pesticides. In addition to this, promoting natural predators like snakes and birds help to control pests, support the ecosystem, and contribute to sustainable agriculture.

2. Define Absorptive capacity.
   Ans. Absorptive capacity means the ability of the environment to absorb degradation.

3. **In the light of the given image, identify and explain any one strategy to ensure sustainable development.**



Ans. One of the strategies to ensure sustainable development depicted in the given image is the usage of wind energy. Wind power is a popular source of sustainable renewable energy. In the areas where speed of wind is usually high, wind mills can provide electricity without any adverse impact on environment.

4. Describe 'LPG' and 'Gobar Gas' as strategies used to achieve sustainable development in rural areas.

Ans. Liquified Petroleum Gas (LPG) is a clean fuel that reduces household fuel pollution to a large extent and minimises energy wastage. For the gobar gas plant to function, cattle dung is fed to the plant and gas is produced which is used as fuel while the slurry which is left over is a very good organic manure and soil conditioner.

5. Explain how population growth and affluent consumption standards contribute to the environmental crisis.

Ans. Refer to notes

Case Study: Read the case carefully and answer the following questions:

1. "We are One-Earth, One Family and we share One Future." is the opening sentence of the G-20 New Delhi Leader's Declaration Statement.
In this statement the leaders pledged to "resolve to fully and effectively implement the 2030 Agenda and the Sustainable Developmental Goals (SDG's)". The leader's commitments contained in the Declaration statement reflect, "the philosophy of living in harmony with our surrounding ecosystem".
The Declaration recognises the "Cascading challenges and crisis that have reversed gains" on the 2030 Agenda of SDG's.
The leaders "affirm that no country should have to choose between fighting poverty and fighting for our planet".
The leaders resolved to act
- accelerate strong, sustainable, balanced and inclusive growth;
- accelerate the full & effective implementation of 2030 Agenda
- pursue low-carbon and environmentally sustainable development pathways;
- Pursue reforms for better, comprehensive and more effective finance avenues.

The leaders commit to "taking collective actions for effective and timely implementation of the G-20 2023 Action Plan to accelerate progress on the SDG's; including through actions on eliminating hunger and malnutrition, strengthening global health and implementation of One Health approach, and delivering quality education."

(a) State and discuss the importance of collective fight in achieving SDG's.

Ans. Collective fight in achieving SDGs will be instrumental in the effective and timely implementation of the G-20 2023 Action Plan by eliminating hunger and malnutrition, strengthening global health, ensuring the implementation of One Health approach and delivering quality education.

(b) Discuss briefly the action plan of G-20 leaders in promoting 'One Health' approach.

Ans. The action plan of G-20 leaders in promoting 'One Health' approach is to accelerate strong, sustainable, balanced & inclusive growth and full & effective implementation of 2030 Agenda. It also aims to pursue low-carbon & environmentally sustainable development pathways and reforms for better, comprehensive & more effective finance avenues.

2. Read the following text carefully:

Climate change and sustainability of environment are two pressing issues that have captured global attention. In recent years, the world has witnessed a surge in extreme weather events including severe droughts, cloud bursts, floods, land slides, receding coastlines and the alarming melting of arctic ice and Himalayan Glaciers. Wildfires have become more frequent and intense.

In this context, sustainable agriculture emerges as a crucial solution.

This refers to those farming practices that meet today's requirements while preserving resources for the future generation. This means adopting methods that protect the environment, reduce dependence on chemical inputs, efficiently use water and land and ensuring socio-economic equity for farmers.

On one hand sustainable agricultural practices are necessary, on the other, they are often more expensive to implement compared to conventional methods. Sustainable practices like organic farming, climate-smart technologies, modern irrigation system may seem costly upfront, but they offer long-term benefits by improving productivity, and environmental stewardship. Without accessible and affordable financing options, the much-needed shift to sustainable farming practices will remain a distant dream for many.

Therefore, sustainable finance should not only promote eco-friendly practices but also ensure that financial resources are available to the farmers who need it.

Source: https://website.vbi.org.in/web/rbi/-speches–interview/financing-for-sustainable-agriculture (adopted and modified)

On the basis of the given text and common understanding, answer the following questions:

(a) Define Sustainable Development.

Ans. Sustainable development is development that meets the need of the present generation without compromising the ability of the future generation to meet their own needs.

(b) "Sustainable Agriculture emerges as a crucial solution to the environmental concerns."

Do you agree with the given statement? Give valid reasons in support of your answer.

Ans. Yes. Sustainable Agriculture emerges as a crucial solution to the environmental concerns. Adopting sustainable practices helps to protect the environment. Such practices help to avoid extreme weather events, including severe droughts, cloud bursts, floods, landslides, receding coastlines and the alarming melting of arctic ice and Himalayan Glaciers. (To be marked as a whole)

(Any other valid reason to be awarded marks)

(c) List any two sustainable practices that can be adopted to safeguard environment.

Ans. Two sustainable practices that can be adopted to safeguard environment are:

- Use of Solar Power
- **Use of Mini-Hydel Plants**

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MCQ and AR questions

1.(b) 2.(c) 3.(b) 4.(c) 5.(a) 6.(b) 7.(b) 8.(c) 9.(b) 10.(b) 11.(b) 12.(c) 13.(b) 14.(a) 15.(b)

AR

1.(a) 2.(a) 3.(d)

Stmnt :

4. Ans. (A) Statement 1 is true and Statement 2 is false.
5. Environmental Crisis