

PART - A

1. Which of the following groups contain only bio-degradable items?

- i) Grass, flowers and leaves ii) Grass, wood and plastic iii) Fruit peels, cake and plastic iv) Cake, wood and glass

Ans: i) Grass, flowers and leaves

2. Which of the following constitutes a food chain?

- i) Grass, wheat and mango ii) Grass, goat and human iii) Goat, cow and elephant iv) Grass, fish and goat

Ans: ii) Grass, goat and human

3. Which of the following are environmental friendly practices?

- i) Carrying cloth bags for shopping ii) Switching off light and fans when not in use
iii) Using public transport iv) All the above

Ans: iv) All the above

4. What is called as 'black gold'?

- i) hydrocarbons ii) coal iii) petroleum iv) ether

Ans: iii) petroleum

5. Based on the food chain, pick the odd one out:

plants → grasshopper → frog → tiger → snake

Ans: tiger

6. Example for product of green chemistry is _____.

- i) plastic ii) paper iii) bio plastics iv) halogen flame retardants

Ans: iii) bio plastics

7. _____ is a green house gas which causes climate change and global warming.

- i) hydrogen ii) oxygen iii) nitrogen iv) carbondioxide

Ans: iv) carbondioxide

8. The _____ form decomposers in the pond ecosystem.

- i) plants ii) bacteria iii) frogs iv) phytoplanktons

Ans: ii) bacteria

9. _____ is used in seeding clouds.

- i) potassium iodide ii) calcium carbonate iii) sulphurdioxide iv) ammonium phosphate

Ans: i) potassium iodide

10. An example for fossil fuel is _____.

- i) copper ii) iron iii) magnesium iv) coal

Ans: iv) coal

11. Air pollution is caused by transport exhaust fumes and emission of gases like SO₂, CO₂, NO₂ from industries. Similarly, water pollution is caused by _____.

- i) sewage ii) crop cultivation iii) rain iv) soil erosion

Ans: i) sewage

12. If wild animals are killed, what difficulty would we face?

- i) imbalance in nature ii) decrease in fog rain iii) decrease in population iv) increase in rain

Ans: i) imbalance in nature

13. Water is an essential commodity for survival. What can we do to help increase water resources?

- i) deforestation ii) reducing the use of vehicles iii) the burning of the wastage iv) afforestation

Ans: iv) afforestation

14. The tiger and the lion are carnivores. Likewise the elephant and the bison are _____.

Ans: Herbivores

15. Assertion (A) : Coal and petroleum are called fossil fuels.

Reason (R) : Fossil fuels are formed from the remains of dead organisms after millions of years.

- i) Both 'A' and 'R' are true and 'R' explains 'A'. ii) Both 'A' and 'R' are true and but 'R' doesn't explain 'A'
iii) Only 'A' is true but 'R' is false. iv) 'A' is false but 'R' is true.

Ans: i) Both 'A' and 'R' are true and 'R' explains 'A'.

16. Compressed Natural Gas (CNG) is considered a better fuel than coal/ petroleum, because _____.

Ans: CNG causes less damage to the environment.

17. Now-a-days water bottles and lunch boxes are made from agricultural products like fruit pulp. These are called _____.

Ans: Bio-plastic

PART - B

18. Classify the following into producers, consumers, decomposers.

i) butterfly ii). grass hopper iii) calottes iv) snakes v). shoe flower vi) nitrobacteria

Ans:

Producers	Shoe flower
Consumers	Butterfly , Grasshopper, Calottes and Snakes
Decomposers	Nitrobacteria

19. Living organisms adapt themselves according to their habitat.

Match the following:-

a.	fish	wings
b.	camel	hind limbs with web
c.	frog	fins
d.	birds	hard skin

Ans:

a.	fish	fins
b.	camel	hard skin
c.	frog	hind limbs with web
d.	birds	wings

20. Fill in the blanks

i) Animals give out _____ through respiration.

ii) In the presence of sunlight, plants prepare _____.

Ans: i. Carbon-dioxide ii. Carbohydrate

21. Bacteria and fungi are responsible for the decay of dead plants and animals. Decaying matter is recycled to grow plants. What do we call this?

Ans: Bio-Geo Chemical cycle

22. Fill in the blanks with suitable answers from those given in the brackets.

(harmful, heavy metals, carbon dioxide, sulphur particles)

Generation of waste products which contain Mercury, Uranium, Thorium, Arsenic, and other _____ are _____ to human health and environment. _____ present in the coal will cause acid rain and the release of _____, a green house gas, causes climate change and global warming.

Ans: Generation of waste products which contain Mercury, Uranium, Thorium, Arsenic, and other **heavy metals** are **harmful** to human health and environment. **Sulphur particles** present in the coal will cause acid rain and the release of **carbon dioxide**, a green house gas, causes climate change and global warming.

23. Depict a food chain by placing the following organisms in the correct trophic levels:

(snake, grass, eagle, frog, grasshopper)

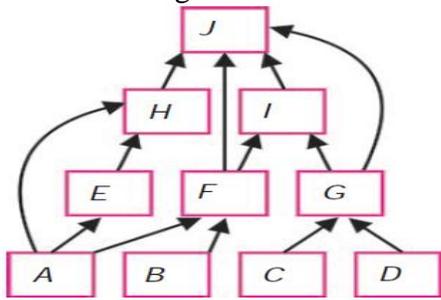
Ans: Grass \longrightarrow Grasshopper \longrightarrow Frog \longrightarrow Snake \longrightarrow Eagle
T₁ T₂ T₃ T₄ T₅

24. Show an aquatic food chain using the following organisms.

(Small fish, Phytoplanktons, Kingfisher, Zooplanktons)

Ans: Phytoplanktons \longrightarrow Zooplanktons \longrightarrow Small fish \longrightarrow Kingfisher

25. Observe the following food web:



(i) Find out the wrong statement:

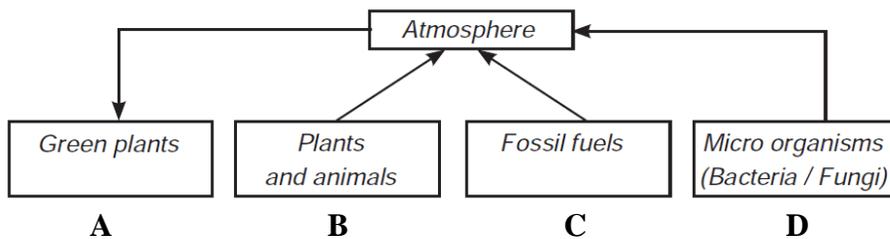
a) 'A' is a producer b) 'F' is a herbivore c) 'H' is an omnivore d) 'I' is a climax carnivore

(ii) Find out how many food chains are present in the above food web.

Ans: i. d) 'I' is a climax carnivore

ii. Total number of food chains are present in the above food web is **10**

26. Observe the following Bio-geo chemical cycle.



i) Mention the nutrient in the given cycle.

ii) Write the activities from 'A' to 'D'.

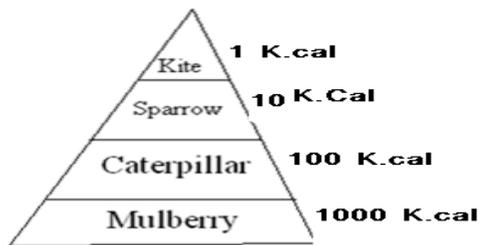
Ans: i. The nutrient in the given cycle is **Carbon**.

- ii. A - Photosynthesis
- B - Respiration
- C - Combustion
- D - Decomposition

27. Study the food chain below, correct it and convert it into a pyramid of energy.

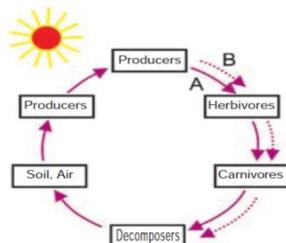
Mulberry → Sparrow → Caterpillar → Kite

Ans: Mulberry → Caterpillar → Sparrow → Kite



28. Study the illustration and answer the questions:

i) Which line (A or B) represents the flow of energy? Why do you say so? ii) Give an example of a decomposer.



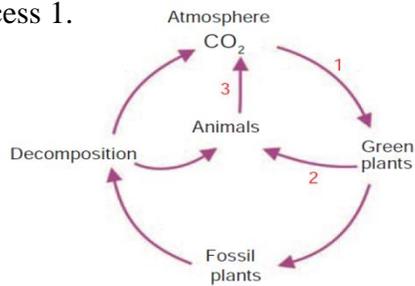
Ans: i. Line B represents the flow of energy because energy flows in one direction only as follows

Producers → Herbivores → Carnivores → Decomposers

ii. **Bacteria and Fungi** are examples for decomposer

29. i) Name the processes noted as No. 1 and 3.

ii) Define process 1.



Ans: i. No.1. Photosynthesis and
3. Respiration

ii. **Photosynthesis**

The conversion of carbon-dioxide and water into carbohydrates in the presence of light and chlorophyll is known as photosynthesis.

PART - C

30. i) Classify the following substances – wood, paper, plastic and grass.

ii) Give a detailed account of your classification.

Ans:

BIODEGRADABLE	NON-BIODEGRADABLE
Wood , Paper and Grasses	Plastic
Because substances that are broken down by biological process of biological or microbial action are called bio-degradable waste.	Because substances that are not broken down by biological or microbial action are called non-bio-degradable wastes.

31. In your locality people are affected due to water scarcity. What measures will you take to deal with the problem of water scarcity?

Ans: i) **Seeding clouds**

Seeding clouds with dry ice or potassium iodide particles sometimes can initiate rain, if water laden clouds and conditions that favour precipitation are present.

ii) **Desalination: (Reverse osmosis)**

Desalination of ocean water is a technology that has a great potential for increasing the supply of fresh water. Desalination is more expensive than most other methods of obtaining fresh water. In desalination, the common methods of evaporation and re-condensation are involved.

iii) **Dams, Reservoirs and Canals**

Dams and storage reservoirs trap run-off water in them and transfer the water from areas of excess to areas of deficit using canals and underground pipes.

iv) **Water Shed Management**

The management of rain water and the resultant run-off is called water shed management. Water shed is an area characterized by construction of small dams to hold back water which will provide useful wildlife habitat and stock watering facilities.

v) **Rain Water Harvesting**

Rain water harvesting essentially means collecting rain water from the roof of buildings or courtyards and storing it underground for later use. The main idea in harvesting rain water is to check the run-off water. The rain water that falls on the roofs of buildings or in courtyards is collected through pipes and stored in underground tanks of the buildings fitted with motor for drawing the water for use. The process of rain water harvesting is not only simple but also economically beneficial. It helps in meeting the increased demand for water, particularly in urban areas and prevent flooding of living areas.

vi) Wetland Conservation

It preserves natural water storage and acts as aquifer recharge zones.

vii) Domestic Conservation

As an individual, everyone can reduce the water loss by using a bucket of water than by taking a shower, using low-flow taps, using recycled water for lawns, home gardens, vehicle washing and using water conserving appliances.

viii) Industrial Conservation

Cooling water can be recharged and waste water can be treated and reused.

32. We are surrounded by smoke. Is this situation good for our health. Give reason.

Ans: No, this situation is not good for our health.

Reason: 1.A large number of hazardous air pollutants are present in smoke. Air pollutants that are inhaled have serious impact on human health affecting the lungs and the respiratory system.

2.Smoke causes health problems including respiratory infections, heart disease, stroke and lung cancer.

3.Smoke leads to difficulty in breathing, wheezing, coughing, asthma and worsening of existing respiratory and cardiac conditions.

4.Smoke causes allergy and irritation to the eyes, nose and throat, and upper respiratory infections such as bronchitis and pneumonia.

33. List out the harmful effects of burning coal.

Ans: Harmful effects of burning coal

1. Generation of waste products which contain mercury, uranium, thorium, arsenic and other heavy metals, which are harmful to human health and environment.

2. Sulphur particles present in the coal causes acid rain.

3. Interference with ground water and water table levels.

4. Contamination of land and water bodies.

5. Dust pollution.

6. Release of CO₂, a green house gas, causing climate change and global warming.

7. Coal is the largest contributor to the man-made increase of CO₂ in the air.

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