BIOLOGY

BOOKS - OSWAAL BIOLOGY (KANNADA ENGLISH)

ECOSYSTEM

Topc 1 Ecosystem Structure And Function Productivity And Decomposition Very Short Answer Type Questions

1. Why the rate of assimilation of energy at the herbivore level is called secondary productivity?

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2. What is common to earthworm, mushroom, soil mites and dung beetle in an ecosystem?

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3. According to David Tilman greater the diversity greater is the primary productivity. Can you think of a very low diversity man-made ecosystem that has high productivity?

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4. Define ecosystem.

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5. Mention the two categories of ecosystem.

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6. Give an example for manmade ecosystem.

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7. Define primary production.

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8. What is the unit for measuring primary production?

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9. Define the term "productivity".

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10. What is the unit of measurement for productivity?

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11. Define Gross primary productivity.

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12. Why GPP is not equal to NPP?

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13. Define Net primary productivity.

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14. What is secondary productivity?

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15. What is the annual net primary productivity of whole biosphere?

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16. What is the productivity of oceans?

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17. What is decomposition?

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18. What is detritus?

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19. What is the raw material for decomposition?

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20. Can temperature regulate the rate of decomposition how?

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21. Why an earth worm is called a detrivore?

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22. Write one difference between net primary productivity and gross productivity.

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23. Name the dominant producers in a aquatic ecosystem. What other name could you give to primary consumers?

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24. What % of productivity is contributed by Oceans?

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25. Which metabolic process causes a reduction in the Gross Primary Productivity?

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26. What is the effect on decomposition rate if:

(a) Detritus is rich in lignin and chitin,

(b) Detritus is rich is nitrogen and sugars?

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Topc 1 Ecosystem Structure And Function Productivity And Decomposition Short Answer Type Questions I

1. Why the primary productivity differs in different ecosystems?

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2. What are the two basic categories of ecosystem? Give example.

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3. Mention two factors by which productivity is limited in an aquatic ecosystem.

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4. "Decomposition is an oxygen requiring process" comment.

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5. How does the man-made ecosystem differ from the natural ecosystem?

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6. Name the basic requirements of any ecosystem to function and sustain.

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7. Primary productivity varies from ecosystem to ecosystem. Explain.

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Topc 1 Ecosystem Structure And Function Productivity And Decomposition Short Answer Type Questions Ii

1. Explain primary productivity and the factors influence it.

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2. Describe how oxygen and chemical composition of detritus control decomposition do.

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Topc 1 Ecosystem Structure And Function Productivity And Decomposition Long Answer Type Questions

1. Mention the components of an ecosystem.

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2. What is primary producitiy? Give brief descreption of factors that affecr primary productivity.

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3. Define decomposition and descibe the process and products of decomposition.

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4. Describe pond ecosystem.

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5. Explain the important steps involved in the process of decomposition.

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Topic 2 Energy Flow And Ecological Pyramids Very Short Answer Type Questions

1. Name an organism found as secondary carnivore in an aquatic ecosystem in your area.

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2. What does the base tier of the ecological pyramid represent?

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3. Arrange the following as you observe in vertical stratification of a forest-Grass, Shrubby plants, Teak, Amaranths.

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4. Name an omnivore which occurs in both grazing food chain and the decomposer food chain.

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5. Justify the pitcher plant as a producer.

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6. Name any two organisms which occupy more than one trophic level in an ecosystem.

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7. Among the crustose, foliose and fruticose lichens which one is a pioneer species?

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8. If we count the number of insects on a tree and number of small birds depending on those insects as also the number of larger birds eating the smaller, what kind of pyramid of number would we get?

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9. The detritus food chain and grazing food chain differ. How?

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10. What are producers in an ecosystem?

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11. What are consumers in an ecosystem?

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12. What is standing crop?

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13. How the standing crop is measured?

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14. What is 10% law?

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15. Why is pyramid of energy always upright '?

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16. Why pyramid of energy cannot be inverted?

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17. The pyramid of biomass in sea is also inverted, why?

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18. What is a food web?

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19. Give an example to show how the same species can occupy more than one trophic level in the same ecosystem.

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20. What percentage of photosynthetically active radiation is captured by plants?

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21. What is meant by saying that the energy flow in an ecosystem is unidirectional?

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22. Name the ecological pyramid that can be inverted in a tree eco-system.

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23. What are the starting points of grazing food chain and detritus food chain?

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24. What is meant by species composition of any ecosystem?

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25. What is meant by PAR?

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26. What are producers in an ecosystem?

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27. Why is food chain formed in a nature?

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28. What are consumers in an ecosystem?

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29. mention the general names for organism that are also called as secondary and tertiary

consumers.

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30. Why is measurement of bio-mass in terms of dry weight more accurate than fresh weight?

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Topic 2 Energy Flow And Ecological Pyramids Short Answer Type Questions I

1. The number of trophic levels in an ecosystem is limited. Comment.

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2. Flow of energy through various trophic levels in an ecosystem is unidirectional and non-cyclic. Explain.

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3. Is it possible to achieve .zero population growth rate? If yes, what kind of age pyramid is obtained?

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4. Depict a simple grazing food chain.

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5. Write a note on detritus food chain.

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6. Cite an example of an inverted ecological pyramid. What kind of pyramid of energy would it have?

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7. What are decomposers? Write their function.

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8. Why is the length of a food chain in an ecosystem generally limited to 3-4 trophic levels?

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9. Differentiate: detritus and grazing food chains.

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10. What is food chain? Give an example.

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11. "Flow of energy is unidirectional but nutrient flow is in a cycle" Give reason.

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12. Some organisms are called top carnivores. Why? Give some examples.

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13. Give an example of an ecological pyramid which is always upright. Justify your answer.

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14. What are the limitations of ecological pyramids?

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15. State the difference between the first trophic levels of detritus food chain and grazing food chain.

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16. How are standing crop and biomass related to each other?

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17. Differentiate between a detrivore and a decomposer giving an example of each.

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18. Why is measurement of bio-mass in terms of dry weight more accurate than fresh weight?

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19. How is a detritivore different from a decomposer? Give one example for each.

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20. Expand PAR. How much PAR is used in gross primary productivity?

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Topic 2 Energy Flow And Ecological Pyramids Short Answer Type Questions Ii

1. What will happen to an ecosystem if:

(a) All producers are removed

(b) All organisms of herbivore level are eliminated

(c) All top carnivore population is removed.

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2. What are the limitations of ecological pyramids?

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3. Construct an ideal pyramid of energy when 1,000,000 joules of sunlight is available.

Label all its trophic levels.

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4. Construct an ideal pyramid of biomass

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5. Construct an ideal pyramid of numbers

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6. Construct an inverted pyramid of biomass.

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Topic 2 Energy Flow And Ecological Pyramids Long Answer Type Questions

1. Define ecological pyramids and describe with examples the different types.

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2. Give an account of energy flow in an ecosystem.

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Topic 3 Ecological Succession And Nutrient Cycling Very Short Answer Type Questions

1. Define standing state..

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2. Under what conditions would a particular stage in the process of succession revert back to an earlier stage?

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3. Climax stage is achieved quickly in secondary succession as compared to primary succession. Why?

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4. Detritus contribute to the biogeochemical cycles, how?

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5. As succession proceeds the numbers and types of animals and decomposers also change. How?

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6. In burnt out forests and flooded lands succession takes place faster. Why?

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7. Sedimentary cycle is quite different from a gaseous cycle with respect to its reservoir. Bring out the difference.

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8. Differentiate between Sere and Seral communities.

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9. Which organisms are usually the pioneer species in a (i) Hydrarch and (ii) Xerarch succession?

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10. Name the pioneers of primary succession in water.

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11. When is the structure and composition of a community expected to remain unchanged?

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12. What is a climax community?

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13. What is ecological succession? Distinguish primary succession from secondary

succession.

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14. What are seral communities?

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15. What is the characteristic feature that is observed in seral communities during different stages succession?

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16. What is primary succession?

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17. Give an example for an area where the primary succession begins.

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18. What is secondary succession?

Watch Video Solution

19. Give an example for an area where secondary succession begins.

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20. Why secondary succession is faster than primary succession?

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21. Based on the nature of the habitat, what are the types of succession is present?

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22. What is hydrarch succession?

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23. What is xerarch succession?

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24. What is a pioneer species? Name the pioneer species of xerarch succession

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25. What is nutrient cycling?

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26. What is the other name for nutrient cycling?

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27. What is the reservoir for the carbon cycle?

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28. What is the reservoir for the phosphorus cycle?

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29. What is the function of reservoir in nutrient cycling?

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30. What is meant by humification?

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31. Mention one similarity between hydrach and xerarch succession.

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32. Name any two factors on which the type of pioneer species if plant develops insecondary succession.

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33. How much of carbon is fixed in the biosphere through photosynthesis annually?

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34. How much of carbon is dissolved in the Ocean?

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Topic 3 Ecological Succession And Nutrient Cycling Short Answer Type Questions I

1. List the two types of nutrient cycles.

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2. Explain the impact of human activity of carbon cycle.

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3. What is the difference between gaseous and sedimentary cycle?

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4. Differentiate between primary succession and secondary succession. Which one occurs faster?

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5. Gaseous nutrient cycle and sedimentary nutrient cycles have the reservoir. Name them. Why is a reservoir necessary?

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6. Name any four ecosystem services. Who gave the price tags on nature.s life support services? Which is the most important ecosystem service provider?

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7. The gradual and predictable change in the species composition of a given area is called ecological succession. What do you

understand with the pioneer and climax community in this context?

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8. Name the pioneer species in primary succession on rocks and primary succession in water

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Topic 3 Ecological Succession And Nutrient Cycling Short Answer Type Questions Ii

1. "Ecosystems should carry a hefty price tag for its various services". Enlist any three of them.

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2. How does phosphorus cycle differs from carbon cycle?

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3. Both carbon and phosphorus cycles are biogeochemical cycles but they differ in three aspects. List them.

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4. Name the pioneer species on a bare rock. How do they help in establishing the next type of vegetation? Mention the type of climax community that will ultimately get established.

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5. Describe the process of primary succession on bare rocks.


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6. Explain why ecological succession will be faster in a forest devastated by fire then on a bare rock? Also compare succession in case of an abandoned land after floods with that on a bare rock?


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7. How does primary succession start in water and lead to the climax community? Explain.

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8. Explain the function of reservoir in a nutrient cycle. List the two types of nutrient cycles in nature.

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Topic 3 Ecological Succession And Nutrient Cycling Long Answer Type Questions

1. (a) What is ecological succession?

(b) Represent an ideal pyramid of number in a grassland ecosystem.

(c) Name the two types of nutrient cycles with an example each.

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2. Write important features of a sedimentary cycle in an ecosystem.

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3. Outline salient features of carbon cycling in an ecosystem.

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4. Explain the carbon cycle with a simplified model.

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5. Draw schematically the phosphorus cycle in nature and mention what type of nutrient cycle it is?

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6. Explain xerarch succession

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7. What is hydrarch succession?

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8. Describe ecosystem services.

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Topic 3 Ecological Succession And Nutrient Cycling Multiple Choice Questions

1. Decomposers like fungi and bacteria are:

(i) Autotrophs

(ii) Heterotrophs

(iii) Saprotrophs

(iv) Chemo-autotrophs.

Choose the correct answer:

A. (i) and (iii)

B. (i) and (iv)

C. (ii) and (iii)

D. (i) and (ii)

Answer: c

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2. The process of mineralisation by micro-organisms helps in the release of:

A. Inorganic nutrients from humus.

B. Both organic and inorganic nutrie detritus.

C. Organic nutrients from humus.

D. Inorganic nutrients from detritus and formation of humus.

Answer: b

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3. Productivity is the rate of production of biomass expressed in terms of:

(i) $\left(\text{kcal m}^{-3}\right) yr^{-1}$

(ii) $g^{-2} yr^{-1}$

(iii) $g^{-1} yr^{-1}$

(iv) $\left(\text{kcal m}^{-2}\right) yr^{-1}$

A. (ii)

B. (iii)

C. (ii) and (iv)

D. (i) and (iii)

Answer: d

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4. An inverted pyramid of biomass can be found in which ecosystem?

A. Forest

B. Marine

C. Grass land

D. Tundra

Answer: b

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5. Which of the following is not a producer?

A. Spirogyra

B. Agaricus

C. Volvox

D. Nostoc

Answer: b

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6. Which of the following ecosystems is most productive in terms of net primary production?

A. Deserts

B. Tropical rain forests

C. Oceans

D. Estuaries

Answer: d

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7. Pyramid of numbers is :

A. Always upright

B. Always inverted.

C. Ether upright or inverted

D. Neither upright nor inverted.

Answer: c

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8. Approximately how much of the solar energy that falls on the leaves of a plant is converted to chemical energy by photosynthesis?

A. Less than 1%

B. 2-10%

C. 0.3

D. 0.5

Answer: b

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9. Among the following, where do you think the process of decomposition would be the fastest?

A. Tropical rain forest

B. Antarctic

C. Dry arid region

D. Alpine region

Answer: a

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10. How much of the net primary productivity of a terrestrial ecosystem is eaten and digested by herbivores?

A. 0.01

B. 0.1

C. 0.4

D. 0.9

Answer: b

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11. During the process of ecological succession the changes that take place in communities are:

A. Orderly and sequential

B. Random

C. Very quick

D. Not influenced by the physical environment.

Answer: a

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12. Climax community is in a state of:

A. Non-equilibrium

B. Equilibrium

C. Disorder

D. Constant change.

Answer: b

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13. Among the following bio-geo-chemical cycles which one does not have losses due to respiration?

A. Phosphorus

B. Nitrogen

C. Sulphur

D. All of the above

Answer: d

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14. The sequence of communities of primary succession in water is:

A. Phytoplankton, sedges, free-floating hydrophytes, rooted hydrophytes, grasses and trees.

B. Phytoplankton, free-floating hydrophytes, rooted hydrophytes, sedges, grasses and trees.

C. Free-floating hydrophytes, sedges, phytoplankton, rooted hydrophytes, grasses and trees.

D. Hytoplankton, rooted submerged hydrophytes, floating hydrophytes, reed swamp, sedges, meadow and trees.

Answer: b

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15. The reservoir for the gaseous type of bio-geo chemical cycle exists in:

A. Stratosphere

B. Atmosphere

C. Ionosphere

D. Lithosphere

Answer: a

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16. If the carbon atoms fixed by producers already have passed through three species, the trophic level of the last species would be:

A. Scavenger

B. Tetiary producer

C. Tertiary consumer

D. Secondray consumer

Answer: b

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17. Which of the following type of ecosystem is expected in an area where evaporation exceeds precipitation, and mean annual rainfall is below 100 mm :

A. Grassland

B. Shrubby forest

C. Desert

D. Mangrove

Answer: c

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18. The zone at the edge of a lake or ocean which is alternatively exposed to air and immersed in water is called:

A. Pelagic zone

B. Benthic zone

C. Lentic one

D. Littoral zone

Answer: b

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19. Edaphic factor refers to:

A. Water

B. Soil

C. Relative humidity

D. Altitude

Answer: b

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20. Which of the following is an ecosystem service provided by a natural ecosystem?

A. Cycling of nutrients.

B. Prevention of soil erosion.

C. Pollutant absorption and reduction of the threat of global warming.

D. All of the above

Answer: b

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