

BIOLOGY**Ecosystem****No. of Questions**
45**Maximum Marks**
180**Time**
1 Hour**Speed
TEST
94****Chapter-wise****GENERAL INSTRUCTIONS**

- This test contains 45 MCQ's. For each question only one option is correct. Darken the correct circle/ bubble in the Response Grid provided on each page.
- You have to evaluate your Response Grids yourself with the help of solutions provided at the end of this book.
- Each correct answer will get you 4 marks and 1 mark shall be deducted for each incorrect answer. No mark will be given/ deducted if no bubble is filled. Keep a timer in front of you and stop immediately at the end of 60 min.
- The sheet follows a syllabus. Do not attempt the sheet before you have completed your preparation for that syllabus.
- After completing the sheet check your answers with the solution booklet and complete the Result Grid. Finally spend time to analyse your performance and revise the areas which emerge out as weak in your evaluation.

- Deep black soil is productive due to high proportion of
(a) sand and zinc (b) gravel and calcium
(c) clay and humus (d) silt and earthworm
- Which one of the following statements is correct for secondary succession ?
(a) It begins on a bare rock
(b) It occurs on a deforested site
(c) It follows primary succession
(d) It is similar to primary succession except that it has a relatively fast pace
- The zone of atmosphere that lies near the ground is
(a) troposphere (b) stratosphere
(c) homosphere (d) ionosphere
- Food chain in which micro-organisms breakdown the food formed by primary producers is
(a) parasitic food chain (b) detritus food chain
(c) consumer food chain (d) predator food chain
- Which of the following pairs is a sedimentary type of biogeochemical cycle?
(a) Oxygen and nitrogen
(b) Phosphorus and sulphur
(c) Phosphorus and nitrogen
(d) Phosphorus and carbon dioxide
- Mass of living matter at a trophic level in an area at any time is called
(a) standing crop (b) detritus
(c) humus (d) standing state
- If we completely remove the decomposers from an ecosystem, its functioning will be adversely affected because
(a) energy flow will be blocked
(b) herbivores will not receive solar energy
(c) mineral movement will be blocked
(d) rate of decomposition will be very high
- Humus is essential for plant growth because:
(a) it is rich in nutrients and increases the water holding capacity of soil
(b) it increases aeration of soil
(c) it increases porosity of soil
(d) All of the above

**RESPONSE
GRID**1. (a) (b) (c) (d)
6. (a) (b) (c) (d)2. (a) (b) (c) (d)
7. (a) (b) (c) (d)3. (a) (b) (c) (d)
8. (a) (b) (c) (d)

4. (a) (b) (c) (d)

5. (a) (b) (c) (d)

Space for Rough Work

9. The rate at which light energy is converted to the chemical energy of organic molecules in the ecosystem is
 (a) net primary productivity
 (b) gross primary productivity
 (c) net secondary productivity
 (d) gross secondary productivity
10. An ecosystem which can be easily damaged but can recover after some time if damaging effect stops will be having
 (a) low stability and high resilience
 (b) high stability and low resilience
 (c) low stability and low resilience
 (d) high stability and high resilience
11. Both hydrarch and xerarch successions lead to:
 (a) medium water conditions
 (b) xeric conditions
 (c) highly dry conditions
 (d) excessive wet conditions
12. Which of the following ecosystems has highest rate of gross primary production?
 (a) Grasslands
 (b) Mangroves
 (c) Coral reefs
 (d) Equatorial rain forest
13. Largest amount of fresh water is found in
 (a) lakes and streams
 (b) underground
 (c) polar ice caps and glaciers
 (d) rivers
14. Which one of the following is not a function of an ecosystem?
 (a) Energy flow (b) Decomposition
 (c) Productivity (d) Stratification
15. Ecosystem is
 (a) always open
 (b) always closed
 (c) both open and closed depending upon community
 (d) both open and closed depending upon biomass
16. Transition zone between two vegetations is
 (a) ecotone (b) ecotype
 (c) ecocline (d) ecosystem
17. Which one of the following statement is correct?
 (a) Warm and moist environment favour decomposition whereas low temperature and anaerobiosis inhibit decomposition
 (b) Warm and moist environment inhibit decomposition whereas low temperature and anaerobiosis favour decomposition
 (c) Warm and anaerobiosis favour decomposition as well as low temperature favours decomposition
 (d) Warm and low temperature inhibit decomposition whereas anaerobiosis favours decomposition
18. _____ is the rate of production of organic matter by consumers.
 (a) Primary productivity
 (b) Secondary productivity
 (c) Net primary productivity
 (d) Gross primary productivity
19. Which of the following is not a characteristic of humus?
 (a) It is rich in organic matter such as lignin and cellulose.
 (b) It is colloidal in nature and serves as a reservoir of nutrients.
 (c) It is highly resistant to microbial action and undergoes slow decomposition.
 (d) It is further degraded by the process of humification.
20. Percentage of photosynthetically active radiation (PAR) in the incident solar radiation is
 (a) 1 - 5% (b) 2 - 10%
 (c) less than 50 % (d) approx. 100%
21. Which one of the following animals may occupy more than one trophic levels in the same ecosystem at the same time?
 (a) Sparrow (b) Lion
 (c) Goat (d) Frog
22. In lithosere, foliose lichens make the conditions favourable for the growth of
 (a) crustose lichens (b) mosses
 (c) annual grasses (d) perennial grasses
23. Which one of the following is not one of the three aspects studied in biogeochemical cycling?
 (a) The nature and size of natural reservoir
 (b) The rate of movement between reservoirs
 (c) How different biogeochemical cycles interact
 (d) How new species create their own biogeochemical cycles

**RESPONSE
GRID**

9. (a) (b) (c) (d)

10. (a) (b) (c) (d)

11. (a) (b) (c) (d)

12. (a) (b) (c) (d)

13. (a) (b) (c) (d)

14. (a) (b) (c) (d)

15. (a) (b) (c) (d)

16. (a) (b) (c) (d)

17. (a) (b) (c) (d)

18. (a) (b) (c) (d)

19. (a) (b) (c) (d)

20. (a) (b) (c) (d)

21. (a) (b) (c) (d)

22. (a) (b) (c) (d)

23. (a) (b) (c) (d)

24. The largest ecosystem of the world is-
(a) Forests (b) Grasslands
(c) Great lakes (d) Oceans
25. Which of the following is a man made artificial ecosystem?
(a) Grassland ecosystem
(b) Agro ecosystem
(c) Ecosystem of artificial lakes and dams
(d) Forest ecosystem
26. What is the annual net primary productivity of whole biosphere?
(a) 170 billion tons (dry weight) of organic matter
(b) 165 billion tons (dry weight) of organic matter
(c) 160 billion tons (dry weight) of organic matter
(d) 155 billion tons (dry weight) of organic matter
27. Select the formula for ecological efficiency
(a) $\frac{\text{Gross primary productivity} \times 100}{\text{Incident total solar radiation}}$
(b) $\frac{\text{Food primary assimilated} \times 100}{\text{Food energy ingested}}$
(c) $\frac{\text{Net primary productivity} \times 100}{\text{Gross primary productivity}}$
(d) $\frac{\text{Energy in biomass production at a trophic level} \times 100}{\text{Energy in biomass production at previous trophic level}}$
28. Vegetation of a geographic region with low rainfall, high temperature, loose and sandy soil is of the type called:
(a) grassland (b) scrub forest
(c) xerophytic (d) evergreen tropical forest
29. Which one is nature's cleaner?
(a) Consumers
(b) Producers
(c) Decomposers and scavengers
(d) Symbionts
30. Which one of the following statement is correct?
(a) Decomposition rate is slower if detritus is rich in lignin and chitin, and quicker, if detritus is rich in nitrogen and water - soluble substances like sugars.
(b) Decomposition rate is slower if detritus is rich in nitrogen and water - soluble substances like sugars, and quicker, if detritus is rich in lignin and chitin.
(c) Decomposition rate is slower if detritus is rich in cellulose, and quicker, if detritus is rich in phosphorus.
(d) Decomposition rate is quicker if detritus is rich in lignin, and quicker, if detritus is rich in sulphur.
31. What are the two most important climatic factors that regulate decomposition through their effects on soil microbes?
(a) Temperature and rainfall
(b) Temperature and soil - moisture
(c) Temperature and humidity
(d) Temperature and pressure
32. Which of the following process helps in nutrient conservation?
(a) Mineralisation (b) Immobilisation
(c) Leaching (d) Nitrification
33. Bacteria and fungi in a forest ecosystem are generally
(a) Producers
(b) Decomposers
(c) Primary consumers
(d) Secondary consumers
34. Which one of the following is not a gaseous biogeochemical cycle in ecosystem?
(a) Sulphur cycle (b) Phosphorus cycle
(c) Nitrogen cycle (d) Carbon cycle
35. In grass-deer-tiger food chain, grass biomass is one tonne. The tiger biomass shall be
(a) 100kg (b) 10kg
(c) 200kg (d) 1kg
36. The early settlers on a barren area (rock) are
(a) Ferns (b) Mosses
(c) Lichens (d) Diatoms
37. A community which starts succession in a habitat is
(a) Pioneer community (b) Seral community
(c) Biotic community (d) Ecosere
38. Last stabilised community in a plant succession is known as
(a) Seral community (b) Pioneer community
(c) Ecosere (d) Climax community
39. Identification and enumeration of plant and animal species of an ecosystem gives its
(a) productivity (b) stratification
(c) species composition (d) all of these

RESPONSE
GRID

24. (a) (b) (c) (d)

29. (a) (b) (c) (d)

34. (a) (b) (c) (d)

39. (a) (b) (c) (d)

25. (a) (b) (c) (d)

30. (a) (b) (c) (d)

35. (a) (b) (c) (d)

26. (a) (b) (c) (d)

31. (a) (b) (c) (d)

36. (a) (b) (c) (d)

27. (a) (b) (c) (d)

32. (a) (b) (c) (d)

37. (a) (b) (c) (d)

28. (a) (b) (c) (d)

33. (a) (b) (c) (d)

38. (a) (b) (c) (d)

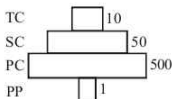
40. Which of the following factors influence communities ?

- (i) Climate
- (ii) Species interaction
- (iii) Feeding relationships among organisms
- (iv) Succession
- (a) (i) and (iii) (b) (i) and (iv)
- (c) (i), (ii) and (iii) (d) All of these

41. Grasslands can support greater grazing rates by herbivores than forests because

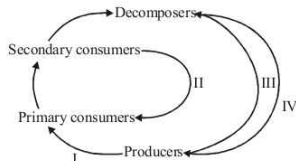
- (a) net production of grassland is greater.
- (b) more of the grassland is above the ground.
- (c) grasslands receive more sunlight.
- (d) grasslands produce less woody plant tissue.

42. Given below is an imaginary pyramid of numbers. What could be one of the possibilities about certain organisms at some of the different levels ?



- (a) Level PC is "insects" and level SC is "small insectivorous birds".
- (b) Level PP is "phytoplanktons" in sea and "whale" is on top level TC.
- (c) Level PP is "peepal trees" and the level SC is "sheep".
- (d) Level PC is "rats" and level SC is "cats".

43. The given diagram shows (I, II, III, and IV) the flow of materials between different trophic levels. Which arrow is incorrect?



- (a) I (b) II
- (c) III (d) IV

44. Match the following and choose the correct option.

- | Column - I | Column - II |
|---|---------------------|
| A. Presence of 3-4 storey of plants grown in a forest | I. Blue-green algae |
| B. A biome having grasses with scattered trees | II. Stratification |
| C. Man made ecosystem | III. Savannah |
| D. Pioneer in hydrosere | IV. Dam |
- (a) A - III; B - II; C - IV; D - I
 - (b) A - III; B - I; C - IV; D - II
 - (c) A - I; B - III; C - II; D - IV
 - (d) A - II; B - III; C - IV; D - I

45. The correct order of the process of decomposition is

- (a) Catabolism → Fragmentation → Leaching → Humification → Mineralization
- (b) Catabolism → Fragmentation → Humification → Leaching → Mineralization
- (c) Fragmentation → Humification → Catabolism → Leaching → Mineralization
- (d) Fragmentation → Leaching → Catabolism → Humification → Mineralization

RESPONSE
GRID

40. (a)(b)(c)(d)
45. (a)(b)(c)(d)

41. (a)(b)(c)(d)

42. (a)(b)(c)(d)

43. (a)(b)(c)(d)

44. (a)(b)(c)(d)

BIOLOGY CHAPTERWISE SPEED TEST-94

Total Questions	45	Total Marks	180
Attempted		Correct	
Incorrect		Net Score	
Cut-off Score	50	Qualifying Score	70
Success Gap = Net Score – Qualifying Score			
Net Score = (Correct × 4) – (Incorrect × 1)			

Space for Rough Work