QB365 Question Paper Software
12th Standard - Biology
Ecosystem Assertion and reason

Exam Time: 00:20 Hrs

Date: 2025-09-29

Total Marks: 10

Questions:

1.Assertion (A) : An ecosystem is an interaction between biotic and abiotic components.
Reason (R) : AG Tansley coined the term ecosystem.
(a) If both A and R are true and R is the correct explanation of the A
(b) If both A and R are true, but R is not the correct explanation of the A
(c) If A is true, but R is false
(d) If A is false, but R is true

2.Assertion (A) : Complex interactions occurs in a pond ecosystem.
Reason (R) : Pond ecosystem is a self-sustainable unit.
(a) If both A and R are true and R is the correct explanation of the A
(b) If both A and R are true, but R is not the correct explanation of the A
(c) If A is true, but R is false
(d) If A is false, but R is true

3.Assertion (A) : In a terrestrial ecosystem, detritus food chain is a major conduict for energy flow.
Reason (R) : Solar energy is a direct source of energy supply in the detritus food chains.
(a) If both A and R are true and R is the correct explanation of the A
(b) If both A and R are true, but R is not the correct explanation of the A
(c) If A is true, but R is false
(d) If A is false, but R is true

4.Given below is the pond ecosystem, showing the complex interaction between biotic and abiotic factors. Study the ecosystem shown below and comment upon the appropriateness of the Assertion and Reason.

Assertion (A) : The pyramid of number of the above ecosystem is upright.
Reason (R) : Phytoplanktons are maximum and secondary consumers are lesser in number in given ecosystem,
(a) If both A and R are true and R is the correct explanation of the A
(b) If both A and R are true, but R is not the correct explanation of the A
(c) If A is true, but R is false
(d) If A is false, but R is true

5. **Assertion (A):** The energy utilised by an organism for growth is not transferred to the next trophic level.
Reason (R): Growth causes an increase in biomass.
Codes:
A) Both A and R are true, and R is the correct explanation for A.
B) Both A and R are true, but R is not the correct explanation for A.
C) A is true, but R is false.
D) A is false, but R is true

6. **Assertion:** Primary productivity varies in different types of ecosystems.
Reason: Primary productivity depends on a variety of environmental factors, availability of nutrients and photosynthetic capacity of plants.
Codes:
a.) Both Assertion and Reason are correct and Reason is the correct explanation for Assertion.
b.) Both Assertion and Reason are correct and Reason is not the correct explanation for Assertion.
c.) If assertion is true but the reason is false.
d.) If both assertion and reason are false.

7. **Assertion:** In primary succession in water, the pioneers are rooted-submerged plants
Reason: The succession is possible due to invasion of climax community members like phytoplankton in that area.
Codes:
a.) Both Assertion and Reason are correct and Reason is the correct explanation for Assertion.
b.) Both Assertion and Reason are correct and Reason is not the correct explanation for Assertion.
c.) If assertion is true but the reason is false.
d.) If both assertion and reason are false

8. **Assertion:**Much of energy in terrestrial Ecosystem flows through grazing food chain
Reason : 10% of energy generally transfer between lower trophic level to highest trophic leve
Codes:
a)Both A and R are true, R is correct explanation
b)Both A and Ra re true, R is not the correct explanation of A
c)A is true but R is false.
d)A is false R is true.

9. **Assertion :** Succession of plants always leads to forest as climax community
Reason : The aim of plant succession is to produce mesic condition which favours the growth of the plants
Codes:
a)Both A and R are true, R is correct explanation
b)Both A and Ra re true, R is not the correct explanation of A
c)A is true but R is false.
d)A is false R is true.

10. **Statement I :** Net primary productivity is the available biomass for the consumption of heterotrophs
Statement II : GPP – R= NPP

Codes:

a)Both statement (I) and(II) are correct

b) Both statements are wrong

c) Statement (lI) is correct

d) Statement (II) is correct, (I) is wrong

Answers Key:

1. (b) If both A and R are true, but R is not the correct explanation of the A
2. (b) If both A and R are true, but R is not the correct explanation of the A
3. (c) If A is true, but R is false
4. (a) If both A and R are true and R is the correct explanation of the A
5. D) A is false, but R is true
6. a.) Both Assertion and Reason are correct and Reason is the correct explanation for Assertion.
7. d.) If both assertion and reason are false
8. d)A is false R is true.
9. b)Both A and Ra re true, R is not the correct explanation of A
10. a)Both statement (I) and(II) are correct