

Q1 Identify the correct statements:

- (i) Decomposition is largely an oxygen-requiring process.
 - (ii) Decomposition is slower in warm and moist environments.
 - (iii) Detritus with high nitrogen content decomposes rapidly.
- (A) Only (i) and (ii) are correct
(B) Only (ii) and (iii) are correct
(C) Only (i) and (iii) are correct
(D) All are correct

Q2 Given below is factors affecting microbial decomposition. ('+' means 'favouring' and '-' means inhibiting or lowering). Select the correct option.

- (A) High temperature (+), Lack of oxygen (+), Moist environment (+), Lignin and chitin in detritus (-)
(B) High temperature (+), Lack of oxygen (-), Moist environment (+), Lignin and chitin in detritus (-)
(C) High temperature (-), Lack of oxygen (-), Moist environment (+), Lignin and chitin in detritus (-)
(D) High temperature (-), Lack of oxygen (+), Moist environment (+), Lignin and chitin in detritus (-)

Q3 Which of the following correctly matches the decomposition process with its description?

- (A) Fragmentation – Conversion of detritus into inorganic salts by fungal enzymes.
(B) Leaching – Breakdown of detritus into smaller particles by detritivores.
(C) Fragmentation – Downward movement of nutrients into deeper soil layers with water.
(D) Catabolism – Enzymatic degradation of detritus into simpler inorganic substances.

Q4 Which of the following factors influence the rate of decomposition?

- (A) The chemical composition of detritus
(B) Temperature
(C) Soil pH and moisture levels
(D) All of the above

Q5 Which of the following represents the correct sequence of events during decomposition?

- (A) Humification Catabolism Leaching Fragmentation Mineralisation
(B) Fragmentation Leaching Catabolism Humification Mineralisation
(C) Leaching Fragmentation Catabolism Mineralisation Humification
(D) Mineralisation Humification Fragmentation Catabolism Leaching



Q6 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

Q7 Match the terms in column I with their correct descriptions in Column II:

Column I		Column II	
P	Humification	i	Releases nutrients from humus
Q	Mineralisation	ii	Formation of dark, nutrient-rich substance
R	Anaerobiosis	iii	Inhibits microbial activity

- (A) P-(ii), Q-(i), R-(iii)
- (B) P-(i), Q-(ii), R-(iii)
- (C) P-(ii), Q-(iii), R-(i)
- (D) P-(iii), Q-(ii), R-(i)

Q8 Which of the following best defines primary productivity?

- (A) The amount of energy consumed by heterotrophs
- (B) The amount of organic matter produced by herbivores
- (C) The rate of biomass or organic matter produced by autotrophs per unit area over time
- (D) The energy lost as heat in an ecosystem

Q9 Read the given statements and select the correct option.

Statement I: Net primary productivity is less than the gross primary productivity.

Statement II: Net primary productivity is equal to the gross primary productivity minus respiration losses.

- (A) Both statements I and II are correct.
- (B) Statement I is correct but statement II is incorrect.
- (C) Statement I is incorrect but statement II is correct.
- (D) Both statements I and II are incorrect.

Q10 Why is GPP never used directly by consumers?

- (A) Because consumers can only eat dead matter
- (B) Because GPP includes energy used in plant respiration
- (C) Because GPP is a chemical, not biological term
- (D) Because producers excrete most of the GPP

