

BIOLOGY

BOOKS - TRUEMAN BIOLOGY

Ecology

Assertion And Reason

1. [A]: Ecology is the study of interrelationship between living organisms and their non-living environment.

[R] : The biotic community and non-living environment of an area function together to form an ecosystem .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:

2. [A]: A Population is a unit of evolution.

[R] : Natural selection operates at the Population level .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

3. [A] : The increasing daylength increases gonadial development in fishes , birds and mammals .

[R]: Photoperiod is an important factor in inducing diapause.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



- **4.** [A]: The tropical rain forests are rich in biodiversity on this biosphere.
- [R] : The low latitude humid tropics harbour the rain forest ecosystems .
 - A. If both A and R are true and R is the correct explanation of A
 - B. If both A and R are true but R is not the
 - correct explanation of A
 - C. If A is true and R is false
 - D. If both A and R are false

Answer:



Watch Video Solution

5. [A] : The community that ends in a succession is known as climax community .

[R]: For a species population in climax community to be stable, there must be a balance between natality and mortality.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



6. [A] : A biotic community exhibits adaptive radiation .

[R] : The organisms of different populations

have some features in common due to the effect of the same abiotic factors of the environment.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:

7. [A]: Every biological system resists a change and wants to remain in a state of equilibrium.

[R]: Climax communities of an ecosystem are produced after several changes it has gone through succession.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the

correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

8. [A]: Allopatric species are geographically isolated whereas sympatric species coexist.

[R]: Allopatric species can be accepted as

separate species unless they pass the test of sympatry.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



9. [A] : Natural populations are capable of an enormous and rapid increase is numbers but for the most part remain relatively constant in size .

[R]: Human interference has led to constancy in the size of the natural populations .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

10. [A]: In mutualism both the individuals are benefitted.

[R]: Both individuals are benefitted by the

association but their relationship are not obligatory.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



11. [A] : Stenothermal species can tolerate narrow range of temperatures .

[R]: Geographic races of a species inhabiting cold regions are much smaller than the forms inhabiting the warmer regions.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

12. [A] Eurythermic plants can withstand wide range of temperature .

[R]: A plant that grows successfullyy at moderate temperature is called mesothermic.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



13. [A]: Light is the energy which is stored as chemical energy in the form of food during photosynthesis.

[R] : Light also influence various other activities of organisms such as photoperiodism etc .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

14. [A] : Flora and Fauna of different parts of the world do not show uniform pattern of distribution .

[R]: This may be attributed to the presence of barriers between different parts of the world.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



- **15.** [A] : A species is an interbreeding population which is reproductively isolated from other similar but morphologically distinct populations .
- [R]: Each species has its own niche which is not utilized exactly by another species.
 - A. If both A and R are true and R is the correct explanation of A
 - B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

16. [A]: Mimicry is a device adopted to protect the organism from its enemies

[R]: It helps the animal in self defence and survival.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



- **17.** [A] : Biological magnification is concentration of substances instead of being dispersed with each link in the chain .
- [R]: Different food chains are not interlocked.
 - A. If both A and R are true and R is the correct explanation of A
 - B. If both A and R are true but R is not the correct explanation of A
 - C. If A is true and R is false
 - D. If both A and R are false

Answer:



Watch Video Solution

18. [A] : The rate of energy storage at consumer levels are referred to as primary productivities .

[R]: Net primary productivity is the total gross productivity and the energy used up in the metabolic process.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



- **19.** [A]: Primary productivity is shown by green plants only.
- [R] : Primary productivity is also shown by chemosynthesizers .
 - A. If both A and R are true and R is the correct explanation of A
 - B. If both A and R are true but R is not the correct explanation of A
 - C. If A is true and R is false
 - D. If both A and R are false

Answer:



Watch Video Solution

20. [A]: Energy pyramid is sloping.

[R]: The energy of one trophic level is lower than another level as we go up.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

21. [A]: The biotic community and the non living environment of an ara function together to form a ecosystem.

[R]: The change in biotic components causes a change in abiotic components also.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



- **22.** [A] :Green plants ara secondary consumers [R]: Microconsumers break down te dead protplasm into simpler ones .They are first in the sequence into simpler ones.They are first in the sequence of a food chain .
 - A. If both A and R are true and R is the correct explanation of A
 - B. If both A and R are true but R is not the correct explanation of A
 - C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

23. [A]: A food chain is a group of organism in which there is a transfer of food energy therough a series of repeated eating and being eaten.

[R]: Interlocking pattern of several food

chains is know as food chains is known as food web.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



24. [A]: Food chains are not paths of energy flow through and ecosysterm.

[F]: Eventually all members of food chains do not die and decompos.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

25. [A]: There is a grudual increase in the energy content at successive trophic level from producer to consumers.

[R]:When one organism benefits the other in a chain, it is called commensalism.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



26. [A]: There is a gradual increase in the energy content at successive trophic level from producer to consumers.

[R]: Pyramid of energy does not show energy accumulation pattern at different trophic levels.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

27. [A] : Carbon monoxide is poisonous .

[R]: It destroys RBC.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the

correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

28. [A] : An estimation of B.O.D gives an indication of the amount of pollution in a body of water .

[R] : B.O.D is measure of the oxygen requirements of the bacteria , which are living in the water .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:

29. [A]: PAN is a secondary pollutant.

[R]: The secondary pollutants are produced by the combination of primary emitted pollutants in the atmosphere .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

30. [A] : Soil particles , particularly clay and organic matter in soil , contain negative charges that attract positively charged ions such as $Ca^{+\,+}$, K^+ and $Mg^{+\,+}$

[R]: This attraction keeps these ions at a soil level where they are available to plants.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



31. [A] : Algal blooms deplete dissolved ${\cal O}_2$ levels in polluted water bodies .

[R]: Bioproductivity of water bodies increases due to algal blooms.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

32. [A] : Orchids are most threatened plants in tropics .

[R]: Tropical deforestation is the single cause for the rapid loss of orchids .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



- **33.** [A] : Vegetation in the catchment areas prevents flash floods in the down streams .
- [R]: Flash floods are due to silting of river beds of surface run off.
 - A. If both A and R are true and R is the correct explanation of A
 - B. If both A and R are true but R is not the
 - ·

correct explanation of A

- C. If A is true and R is false
- D. If both A and R are false

Answer:



Watch Video Solution

34. [A]: Sedimentation, a process that has been going on since the earth was formed can not take place on land or in bodies of water.

[R]: Weathering and erosion of rocks produces an accumulation of particles that are similar in size and nature and are called sediment.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



35. [A]: When the organisms live together in such a manner that one organism benefitted, while other has no effects, it is called commensalism.

[R]: In commensalism one partner derives benefit from the other partner without in any way benefitting or harming it .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the

correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

36. [A] : Aerenchyma is a specialized tissue in some water plants characterized by thinwalled cells and intercellular spaces .

[R]: Crystals of some minerals are found as excretory products of plants.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



37. [A]: The pyramid of biomass indicates the decrease or the gradual reduction in biomass at each trophic level from base to apex.

[R] : In case of parasites , the pyramid of biomass is inverted .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

38. [A]: Climate is affected by vegetation.

[R]: The indirect factors in ecology are wind, precipitation and rain.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



39. [A] : Man is the consumer of the ecosystem

•

[R] : An antiforest conservation activity is felling of trees .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the

correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

40. [A]: The importance of ecosystem lies in flow of energy and cycling of materials.

[R]: Pollutants do not change the equilibrium of environment.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the

correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

41. [A]: Biomonitoring is reliable for determining the pollutants in air, water and soil.

[R]: The living organism reacts to minute changes in the environment.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



42. [A]: The food webs are very important in maintaining the stability of an ecosystem in nature.

[R]: The decrease in the population of rabbit would naturally cause an increase in the population of alternative herbivores e.g., mouse.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the

C. If A is true and R is false

correct explanation of A

D. If both A and R are false

Answer:



Watch Video Solution

43. [A] : If phytoplanktons are destroyed in the sea then it will effect the food chain .

[R]: The best source of renewable energy is tree.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



44. [A]: Epiphytes are not found in Delhi.

[R]: Delhi has semi-arid climate.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

45. [A]: Water logged soils are physiologically dry.

[R]: When the soil is logged with water there is no space for oxygen in the soil atmosphere.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

46. [A]: There is a chemical warfare amongst some plants.

[R]: The roots or decomposing litter exudates

some toxic materials which keep the other plants out of its sphere of influence.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



47. [A]: Total biomass on land is much more than that in water.

[R]: The fossil records show that there have been great climatic changes on the land surface.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

48. [A]: Epiphytes differs from Lianas in that they are not rooted in the soil.

[R]: Epiphytes grow on trunks and trees.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



- **49.** [A] : Biological indicators enhance usefulness of ecology to mankind .
- [R]: Their knowledge is useful in protection and reclamation along coasts, water purification nature conservation etc.
 - A. If both A and R are true and R is the correct explanation of A
 - B. If both A and R are true but R is not the correct explanation of A
 - C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

50. [A] : Depletion of ozone layer results in human disease like cancer .

[R]: Ozone layer absorbs UV radiations.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

51. [A]: UV irradiation to disinfect polluted waters is not generally recommended.

[R] : It is not effective against most microorganisms

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



52. [A] : A species is an interbreeding population which is reproductively isolated from other similar but morphologically distinct populations .

[R]: Each species has its own niche which is not utilized exactly by another species.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the

correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

53. [A]: Plants having capacity to withstand wide range of temperature tolerence are said to be eurythermic.

[R] : A plant that grows successfully at moderate temperatures is said to be mesothermic .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:

54. [A]: Each food-level in an ecosystem is called trophic level.

[R]: When an organism benefitted with affecting the other is called commensalism.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

55. [A] : Biomonitoring is reliable for determing the pollutants in air, water and soil

[R]: The living organism reacts to minute changes in the environment.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



56. Assertion (A): Tropical rain forests are disappearing fast from developing countries such as India.

Reason (R): No value is attached to these forests because these are poor in biodiversity.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

57. [A]: Leaf butterfly & stick insect show mimicry to dodge their enemies.

[R]: Mimicry helps to acquire body colour blending with the surroundings.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



- 58. [A]: In a food chain, membrane of successive higher levels are fewer in number.

 [R]: Number of organisms at any trophic level depends upon the availability of organisms which serve as food at the lower level.
 - A. If both A and R are true and R is the correct explanation of A
 - B. If both A and R are true but R is not the correct explanation of A
 - C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

59. Assertion (A): Methane component of greenhouse gases contributing to global warming is about 20 per cent.

Reason (R): Introduction of multi-point fuel injection engines in automobiles has decreased methane content in the exhausts.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



60. Assertion: Suspended particulate matter(SPM) is an important pollutant released by diesel vehicles.

Reason: Catalytic convertes greatly reduce pollution caused by automobiles.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

61. Assertion: Age sex structure of human population in countries like France and Germany gives a steep pyramid.

Reason: In countries like Sudan and India, the population is increasing at a rapid rate.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



62. Assertion (A): Presently, the global atmosphere is warming up.

Reason (R): The depletion of stratospheric ozone layer has resulted in increase in ultraviolet radiations reaching the Earth.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

63. [A] : Ozone depletion at the south pole will threats world's fisheries .

[R] : Ozone depletion will kill phytoplankton , the food of fishes .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



- **64.** [A]: Inquilines can not survive without human care.
- [R] : Cultigens can flourish without human care .
 - A. If both A and R are true and R is the correct explanation of A
 - B. If both A and R are true but R is not the correct explanation of A
 - C. If A is true and R is false
 - D. If both A and R are false

Answer:



Watch Video Solution

65. [A]: Problems of ecological environment arise from over population.

[R]: Over population results in depletion of natural resources more quickly and cause pollution also.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the

correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

66. [A] : Social forestry programme is grows trees for fuel , fodder & fruits in rural areas .

[R]: Production plantation grows trees for use in industries.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



67. [A]: Cultigens (domesticated animals & cultivated plants) are not included in wild life.

[R]: They flourish only under human care.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

68. [A] : Population density of indicator organisms show degree of water pollution .

[R]: BOD is an index of organic waste in water

•

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the

correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

69. [A] : Traffic Jams cause giddiness , reduced vision , exhaustion etc .

[R]: Carbon monoxide from vehicles reduces

 O_2 carrying capacity of haemoglobin .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



70. [A]: Thermal pollution is harmful to fishes.

[R]: Heating causes deoxygenation of water.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

71. [A]: Stratosphere is an excellent region for air travel.

[R]: Because it is poor in oxygen & rich in ozone.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

72. [A]: Using dung as fuel greatly reduces grain production.

[R]: Dung used as manure increases crop yield

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



73. Assertion: Lichens are a pioneer community in the temperate region.

Reason: Blue-green algae grow as the pioneer community in the tropical region.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



Watch Video Solution

74. Read the given statement and select the correct option.

A: Global water cycle does not involversthe living organisms.

R: In global water cycle. Water circulates between hydrosphere and atmosphere.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



75. [A]: Life occurs upto 15000 m in the air on mountains.

[R] : At great heights $CO_2 \ \& \ O_2$ concentration is too little & temperature is very low .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:

