



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:

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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:



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:

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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:

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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:

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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:



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

[R] : A plant that grows successfully 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:



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:



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. 1)If both A and R are true and R is the

correct explanation of A

B. 2)If both A and R are true but R is not

the correct explanation of A

C. 3)If A is true and R is false

D. 4)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:



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. 1)If both A and R are true and R is the

correct explanation of A

B. 2)If both A and R are true but R is not

the correct explanation of A

C. 3)If A is true and R is false

D. 4)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:



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:



21. [A] : The biotic community and the non living environment of an area 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 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:



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

[R] : Interlocking pattern of several 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 an ecosystem.

[R]: Eventually all members of food chains do not die and decompose.

A. 1)If both A and R are true and R is the

correct explanation of A

B. 2)If both A and R are true but R is not

the correct explanation of A

- C. 3) If A is true and R is false
- D. 4)If both A and R are false

Answer:



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:

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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:



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:



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:

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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:



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:

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31. [A] : Algal blooms deplete dissolved 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:



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:

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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:

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34. [A] : Sedimentation which has been going on since the earth was formed is process of forming or accumulating sediment in layers, [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:

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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:



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:

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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. 1)If both A and R are true and R is the

correct explanation of A

B. 2)If both A and R are true but R is not

the correct explanation of A

- C. 3)If A is true and R is false
- D. 4)If both A and R are false

Answer:



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. 1)If both A and R are true and R is the

correct explanation of A

B. 2)If both A and R are true but R is not

the correct explanation of A

C. 3)If A is true and R is false

D. 4)If both A and R are false

Answer:

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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. 1)If both A and R are true and R is the

correct explanation of A

B. 2)If both A and R are true but R is not

the correct explanation of A

- C. 3)If A is true and R is false
- D. 4)If both A and R are false

Answer:



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

correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:

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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:

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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:

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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:

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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:

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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:

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

[R] : Ozone layer absorbs UV radiations .

A. 1)If both A and R are true and R is the

correct explanation of A

B. 2)If both A and R are true but R is not

the correct explanation of A

C. 3)If A is true and R is false

D. 4)If both A and R are false

Answer:

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51. [A] : UV irradiation to disinfect polluted waters is not generally recommended .
[R] : It is not effective against most microorganisms

A. 1)If both A and R are true and R is the

correct explanation of A

B. 2) If both A and R are true but R is not

the correct explanation of A

C. 3) If A is true and R is false

D. 4)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:

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

B. 2)If both A and R are true but R is not

the correct explanation of A

C. 3) If A is true and R is false

D. 4)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. 1)If both A and R are true and R is the

correct explanation of A

B. 2)If both A and R are true but R is not

the correct explanation of A

C. 3)If A is true and R is false

D. 4)If both A and R are false

Answer:

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:

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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:

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 , member 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:

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

B. 2)If both A and R are true but R is not

the correct explanation of A

C. 3)If A is true and R is false

D. 4)If both A and R are false

Answer:

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60. Assertion: Suspended particulate matter(SPM) is an important pollutant released by diesel vehicles.
Reason : Catalytic convertes greatly reduce

pollution caused by automobiles.

A. 1)If both A and R are true and R is the

correct explanation of A

B. 2)If both A and R are true but R is not

the correct explanation of A

C. 3)If A is true and R is false

D. 4)If both A and R are false

Answer:

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

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. 1)If both A and R are true and R is the

correct explanation of A

B. 2)If both A and R are true but R is not

the correct explanation of A

C. 3) If A is true and R is false

D. 4)If both A and R are false

Answer:



63. [A] : Ozone depletion at the south pole will

threats world's fisheries .

[R] : Ozone depletion will kill phytoplankton , the food of fishes . A. 1)If both A and R are true and R is the

correct explanation of A

B. 2)If both A and R are true but R is not

the correct explanation of A

C. 3)If A is true and R is false

D. 4)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:



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:

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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:



68. [A] : Population density of indicatororganisms 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:

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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:



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:

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

Statement 1: Global water cycle does not

involver the living organisms.

Statement 2 : In global water cycle. Water

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 $CO_2 \& O_2$ volume percentage 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: