



BIOLOGY

BOOKS - MBD

BIODIVERSITY AND CONSERVATION

Example

1. Define biodiversity. How is biodiversity important for ecosystem functioning?



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2. Who coined the term biodiversity?



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3. What is species diversity?



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4. Which region in India has the maximum number of amphibian species?



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5. Which of the two, India or Scandinavian countries, has more ecosystem/ ecological diversity?



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6. Is biodiversity same from place to place?



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7. What will be the main consequence of loss of biodiversity?



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8. How many species of higher plants and bacteria are known?



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9. How many species of mammals and protozoans are known?



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10. State region show maximum or very little biodiversity.



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11. Biodiversity increases from poles to temperate region state true or false.



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12. What is reason for higher productivity and increases biodiversity in tropical regions?



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13. Name the region which show maximum biodiversity.



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14. Name a single wild rice species from India.



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15. Name a drug obtained from *Papaver somniferum* which act as analgesic.



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16. Name a drug obtained from plant *Cinchona ledgeriana* used for treatment of Malaria.



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17. Name an exotic predatory fish which damaged the native cichlid fish of lake victoria.



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18. How many plant species are used as food?



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19. How many plant species are source of medicines?



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20. Give two examples of extinction caused by indiscriminate hunting.





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21. Name the alien fish species which is posing a threat to the indigenous catfishes in our rivers.



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22. What are endangered species?



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23. What is mass extinction?



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24. What is meant by alien species?



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25. What is a national parks?



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26. Name any two national parks of India.



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27. Which forest is named as the 'Lungs of the Planet'?



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28. What is a hot spot?



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29. Name the Indian hot spots that extend into other countries.



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30. Name the three Important components of biodiversity.



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31. How do ecologists estimate the total number of species present in the world?



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32. Give three hypotheses for explaining why tropics show greatest levels of species richness.



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33. What is the significance of the slope of regression in a species - area relationship?



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34. What are major causes of species losses in a geographical area ?



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35. Define biodiversity. How is biodiversity important for ecosystem functioning?



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36. What are sacred groves ? What is their role in conservation?



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37. Among the ecosystem services are control of floods and soil erosion. How is this achieved by the biotic components of the ecosystem?



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38. The species diversity of plants 22% is much less than that of animals. What could be the explanation to how animals achieved greater diversification?



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39. Can you think of a species extinct? How would you justify it?



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40. What are characteristics that make a community stable?



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41. What could have triggered mass extinctions of species in the past



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42. What accounts for greater ecological diversity of India?



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43. According to David Tilman, greater the diversity, greater is the primary productivity.

Can you think of a very low diversity man-made ecosystem that has high productivity ?



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44. What does 'Red' indicate in the IUCN Red list(2004)?



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45. Explain as to how protection of diversity hot spots alone can reduce upto 30% of the current rate of species extinction.



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46. What is the difference between endemic and exotic species?



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47. How does species diversity differ from ecological diversity?



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48. Why is genetic variation important on the planet *Rauwolfia vomitoria*?



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49. Write short note on : Red data book



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50. Define gene pool.



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51. What does the term frugivorous mean?



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52. Expand IUCN.



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53. Define

Bio-prospecting



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54. Define

Endemism.



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55. How is the presently occurring species extinction different from the earlier mass extinctions?



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56. Of the four major causes for the loss of biodiversity (Alien species invasion habitat loss and fragmentation, over-exploitation and co-extinctions) which according to you is the major cause for the loss of biodiversity? Give reasons in support.



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57. Discuss one example, based on your day-to-day observation, showing how loss of one species may lead to the extinction of another.



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58. A species area curve is drawn by plotting the number of species against the area. How is it that when a very large area is considered

the slope is steeper than that for smaller areas?



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59. Is it possible that productivity and diversity of natural community remain constant over a time period of, say one hundred years?



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60. There is greater biodiversity in tropical/subtropical regions than in temperate region. Explain.



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61. Why are the conventional methods not suitable for the assessment of biodiversity of bacteria?



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62. What criteria should one use in categorising a species as threatened?



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63. What could be the possible explanation for greater vulnerability of amphibians to extinction as compared to other animal groups?



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64. How do scientists explain the total number of species on earth?



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65. Human benefits for diversity of life. Give two examples.



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66. List any two major causes other than anthropogenic causes of the loss of

biodiversity.



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67. What is an endangered species? Give an example of an endangered plant and animal species each?



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68. What are sacred groves ? What is their role in conservation?



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69. Suggest a place, where one can go to study coral reefs, mangrove vegetation and estuaries.



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70. Is it true that there is more solar energy available in tropics? Explain.



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71. What is co-extinction? Explain with a suitable example.



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72. Elaborate how invasion by an alien species reduces diversity of an area.



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73. How can you as individual, prevent the loss of biodiversity?



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74. Can you think of a scientific explanation, besides analogy used by Paul Ehrlich , for the direct relationship between diversity and stability of an ecosystem?



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75. Though the conflict between humans and wildlife started with evolution of man, the intensity of conflict has increased due to activities of modern man. Justify your answer with suitable examples.



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76. What is an ecosystem service? List any four important ecosystem services provided by the ecosystem. Are you in favour or against

levying a charge on the service provided by the ecosystem.



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77. Describe the consumptive use value of biodiversity as food, drugs, medicines, fuel, fiber with suitable examples.



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78. Species diversity decreases as we move away from the equator towards the poles.

What could be the possible reasons?



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79. Explain briefly the 'rivet popper hypothesis' of Paul Ehrlich.



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80. The relation between species richness and area for a wide variety of taxa turns out to be a rectangular hyperbola. Give a brief explanation.



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81. Which of the following countries has the highest biodiversity?

A. Brazil

B. South Africa

C. Russia

D. India

Answer:



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82. Which of the following is not a cause for loss of biodiversity?

A. Destruction of habitat

B. Invasion by alien species

C. Keeping animals in Zoological parks

D. Over- exploitation of natural resources.

Answer:



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83. Which of the following is not a not an invasive alien species in the India context?

A. Lantana

B. Cynodon

C. Parthenium

D. Eichhornia

Answer:



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84. Where among the following will you find pitcher plants?

A. Rain forest of North-East India

B. Sunderbans

C. Thar Desert

D. Western Ghats

Answer:



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85. Which one of the following is not a major characteristic feature of biodiversity hotspots?

A. Large number of species

B. Abundance of endemic species

C. Large number of exotic species

D. Destruction of habitat

Answer:



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86. Match the animals given in column A with their location in column B:

Column A	Column B
(i) Dodo	(a) Africa
(ii) Quagga	(b) Russia
(iii) Thylacine	(c) Mauritius
(iv) Stellar's sea cow	(d) Australia

Choose the correct match from the following options:

A. i-a, ii-c, iii-b, iv-d

B. i-d, ii-c, iii-a, iv-b

C. i-c, ii-a, iii-b, iv-d

D. i-c, ii-a, iii-d, iv-b

Answer:



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87. What is common to the following plants:

Nepenthes, Psilotum, Rauwolfia and Acontium?

- A. All are ornamental plants
- B. All are phylogenetic link species
- C. All are prone to over exploitation
- D. All are exclusively present in the Eastern Himalayas.

Answer:



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88. The one-hored rhinocers is specific to which of the following sanctuary.

A. Bhitar kanika

B. Bandipur

C. Kaziranga

D. Corbett park

Answer:



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89. Amongst the animal groups given below, which one has the highest percentage of endangered species?

A. Insects

B. Mammals

C. Amphibians

D. Reptiles

Answer:



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90. Which one of the following is an endangered plant species of India?

A. *Rauwolfia serpentina*

B. *Santalum album*(Sandal wood)

C. *Cycas beddonei*

D. All of the above

Answer:



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91. What is common to Lantana, Eichhoria and African catfish?

- A. All are endangered species of India
- B. All are key stone species
- C. All are mammals found in India
- D. All the species are neither threatened nor indigenous species in India.

Answer:



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92. The extinction of passenger pigeon was due to:

- A. Increased number of predatory birds
- B. Over exploitation by humans
- C. Non-availability of the food
- D. Bird flu virus infection

Answer:



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93. Which of the following statement is correct?

A. Parthenium is an endemic species of our country

B. African catfish is not a threat to indigenous catfishes

C. Steller's sea cow is an extinct animal

D. Lantana is popularly known as carrot grass.

Answer:



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94. Among the ecosystem mentioned below, where can one find maximum biodiversity?

A. Mangroves

B. Desert

C. Coral reefs

D. Alpine meadows

Answer:



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95. Which of the following forests is known as "Lungs of the Planet"?

- A. Tiaga forest
- B. Tundra forest
- C. Amazon rain forest
- D. Rain forests of North East India.

Answer:



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96. The active chemical drug reserpine is obtained from:

A. Datura

B. Rauwolfia

C. Atropa

D. Papaver

Answer:



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97. Which of the following group of plants exhibit more species diversity?

A. Angiosperms

B. Algae

C. Bryophytes

D. Fungi

Answer:



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98. Which of the below mentioned regions exhibit less seasonal variations?

A. Tropics

B. Temperates

C. Alpines

D. Both (A) & (B)

Answer:



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99. The historic convention on Biological Diversity held in Rio-de_Janeiro in 1992 is know as:

- A. CITES Convention
- B. The Earth Summit
- C. G-16 Summit
- D. MAB Programme

Answer:



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100. The most important cause of biodiversity loss is:

A. Over exploitation of economic species

B. Habitat loss and fragmentation

overexploitation of economic species

C. Invasive species

D. Breakdown of plant - pollinator relationships

Answer:



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101. What is advantage of genetically modified crop plants?



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102. What is disadvantage of genetically modified crop plants?



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103. What is the total number of species discovered and described present on earth?
What is the predicted number.



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104. What is advantages to a species having more genetic diversity?



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105. Coin a term for following:

Within community diversity



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106. Coin a term for following:

Between community diversity.



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107. What is the approximate drop out of temperature with a corresponding increase/decrease of about 1000 m in altitude?



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108. List two uses of Red list.



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109. What is in vitro conservation?



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110. How many botanical gardens are present in world?



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111. What is the importance of cryopreservation in the conservation of biodiversity.



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112. What is biodiversity? Why has it become important recently?



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113. What will be the main consequence of loss of biodiversity?



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114. What are the causes of loss of biodiversity?



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115. How many genes are present in mycoplasma, E.coli, drosophila, Oryza sativa and Homo sapiens?



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116. What is species diversity?



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117. What is genetic diversity ? Explain.



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118. What is the basis of speciation?



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119. Write a note on ecological diversity.



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120. Briefly explain the ecological role of biodiversity.



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121. Write a short note on three perspectives of community and ecosystem level of diversity.



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122. Explain biodiversity as sources of food and improved varieties.



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123. State the uses of biodiversity in modern agriculture.



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124. List a few drugs and medicines obtained from biodiversity.



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125. Briefly explain role of biodiversity in Industry.



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126. Give a brief account of loss of biodiversity at global level.



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127. Broadly classify the extinction processes.



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128. Describe the efforts made for conservation of biodiversity in India.



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129. List the benefits of protected area for conservation of biodiversity.



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130. Explain various zones of biosphere reserves and write significance of biosphere reserves.



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131. List the biosphere reserves of India.



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132. Write short note on Hot spots of Biodiversity.



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133. Write briefly about: Ex-situ conservation





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134. Describe the efforts made for conservation of biodiversity in India.



[Watch Video Solution](#)

135. What is the importance of cryopreservation in the conservation of biodiversity.



[Watch Video Solution](#)

136. What is El Nino effect ? Explain how it accounts for biodiversity loss.



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137. Differentiate in situ and ex-situ conservation.



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138. What are Ramsar sites? What is Ramsar mission? Explain 'Wise Use concept'?



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139. Mention the kind of biodiversity of more than a thousand varieties of mangoes in India represent. How is it possible .



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140. Match the word in column I with those in column II.

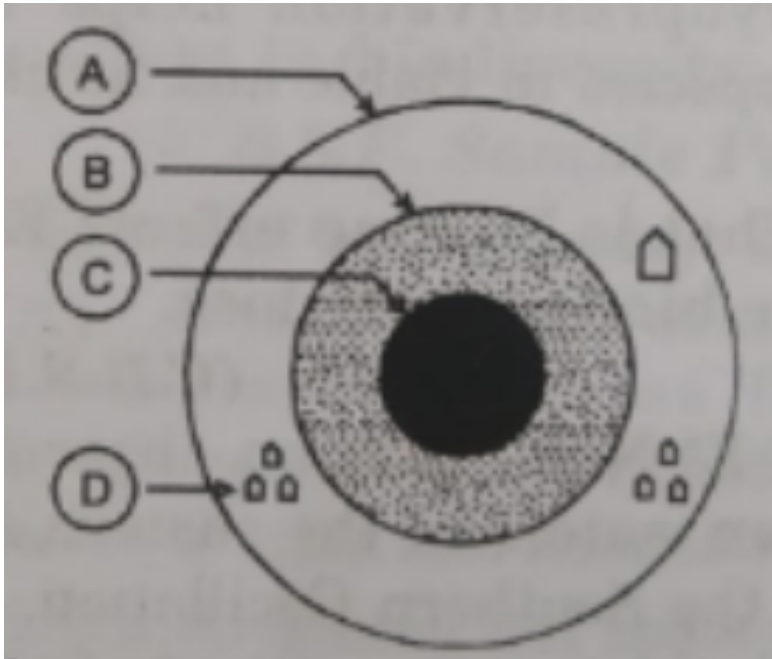
Column I	Column II
(i) 25,500 genes	(a) <i>Escherichia coli</i>
(ii) 3200 genes	(b) <i>Lantana camara</i>
(iii) Exotic weed.	(c) <i>Arabidopsis thalianna</i>
(iv) Anticancer Drug	(d) India
(v) 14 biosphere reserves	(e) <i>Taxus baccata</i> .



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141. Study the figure of zones of terrestrial biosphere reserve.

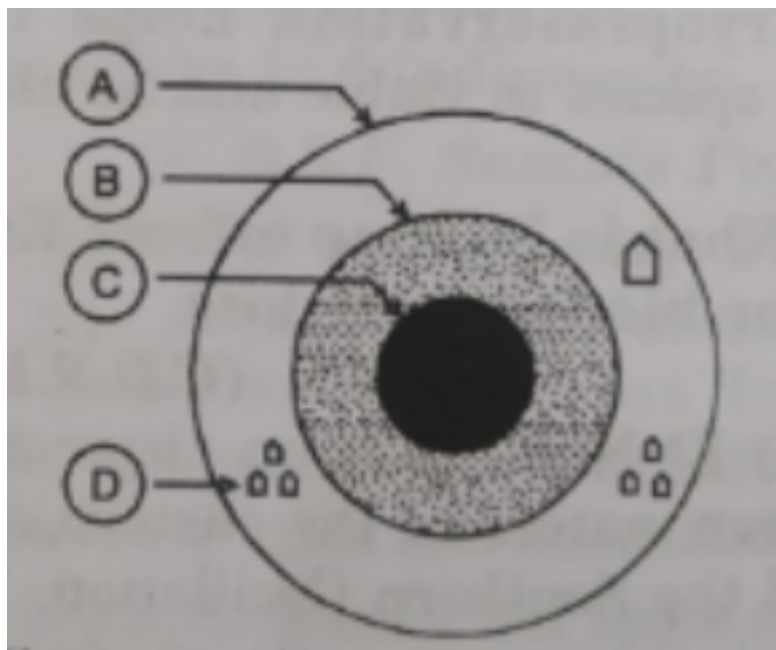
Name the different zones



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142. Study the figure of zones of terrestrial biosphere reserve.

Also write where is human settlement allowed.



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143. Depict with the help of simple sketches the representation of global biodiversity of

major taxa of plants, invertebrates and vertebrates

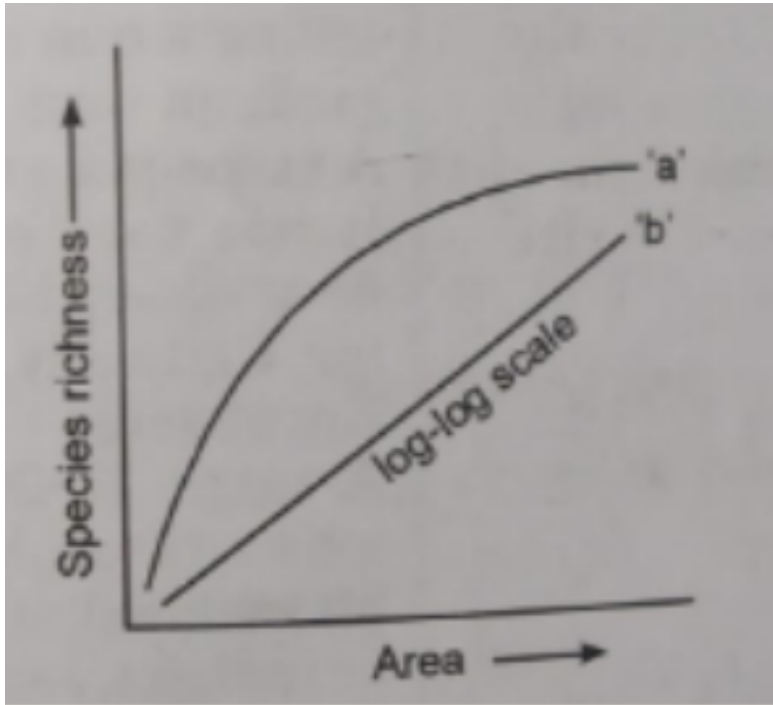


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144. The following graph shows the species area relationship. Answer the following questions as directed.

Name the naturalist who studied the kind of relationship shows in the graph. Write the

observations made by him.



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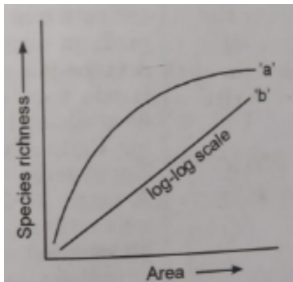
145. The following graph shows the species area relationship. Answer the following

questions as directed.

Write the situations as discovered by the ecologists when the value of 'Z' (slope of the line) lies between

0.6 and 1.2

What does 'Z' stand for?



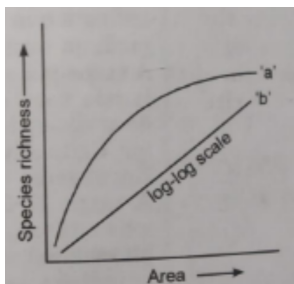
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146. The following graph shows the species area relationship. Answer the following questions as directed.

Write the situations as discovered by the ecologists when the value of 'Z' (slope of the line) lies between

0.6 and 1.2

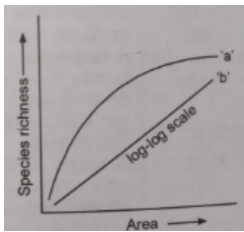
What does 'Z' stand for?



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147. The following graph shows the species area relationship. Answer the following questions as directed.

When would the slope of the line 'b' become steeper?



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148. Give the approximate numbers of species which have been described and identified all over the world.



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149. Give the approximate numbers of plant and animal species recorded in India.



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150. Explain effects of habitat fragmentation on biodiversity.



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151. How is introduction of exotic species leading to endangering the species?



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152. Define the IUCN Red list categories.



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153. List the uses of biodiversity.



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154. What are the uses of IUCN Red list categories.



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155. Why should we conserve biodiversity ?

How can we do it?



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156. Explain the importance of biodiversity hotspots and sacred groves.



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157. Name the type of biodiversity represented by the following:

50,000 different strains of rice in India.



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158. Name the type of biodiversity represented by the following:

Estuaries and alpine meadows in India.



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159. Write the basis on which an organism occupies a space in its community-natural surrounding .



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160. "India has greater ecosystem diversity than Norway. "Do you agree with the statement? Give reasons in support of your answer.



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161. Differences between genetic diversity and species biodiversity.



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162. Differences between genetic diversity and species biodiversity.



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Exercise

1. What is common to the techniques (i) in-vitro fertilisation, (ii) Cryopreservation and (iii) tissue culture?

A. All are in situ conservation methods

B. All are ex situ conservation methods

C. All require ultra modern equipment and large space

D. All are methods of conservation of extinct organisms

Answer:



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2. Select the incorrect statement.

A. Species diversity increases as we move away from the equator towards the poles.

B. Stellar's sea cow and passenger pigeon got extinct due to over exploitation by

man

C. Lantana and Eichhornia are invasive weed species in India.

D. Among animals, insects are the most species-rich taxonomic group

Answer:



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3. Define Biodiversity. Who coined the term Biodiversity?



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4. What does the term frugivorous mean?



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5. Define the terms bioprospecting and endemism.



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6. What is an endangered species? Give an example of an endangered plant and animal species each?



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7. Differentiate in situ and ex-situ conservation.



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