

CET25B12 ECOSYSTEM

Class 12 - Biology

Time Allowed: 1 hour and 30 minutes

Maximum Marks: 75

- [illegible]

- c) 1.5 kg/m^2 d) 11 kg/m^2
10. Which of the following type of ecosystem is expected in an area where evaporation exceeds precipitation, and mean annual rainfall is below 100mm? [1]
- a) Grassland b) Shrubby forest
c) Desert d) Mangrove
11. Which of the following supports a dense population of planktons and littoral vegetation? [1]
- a) Eutrophic b) Oligotrophic
c) Agroecotrophic d) Lithotrophic
12. Deserts, grasslands, forests and tundra are the examples of: [1]
- a) Biogeographical realms b) Biospheres
c) Ecosystems d) Biomes
13. In which area, diurnal temperature in soil surface vary? [1]
- a) Sea b) Desert
c) Tundra d) Lake
14. Which of the following is most stable ecosystem? [1]
- a) Desert b) Mountain
c) Ocean d) Forest
15. How much of the net primary productivity of a terrestrial ecosystem is eaten and digested by herbivores? [1]
- a) 90% b) 10%
c) 40% d) 1%
16. In a food web, hyaenas and vultures are: [1]
- a) Primary consumers b) Decomposers
c) Predators d) Scavengers
17. The dominant producers of the neritic zone of the sea are: [1]
- a) Diatoms b) Zooplanktons
c) Phytoplanktons d) Micro-organisms
18. Which one of the following has the largest population in a food chain? [1]
- a) Secondary consumers b) Producers
c) Decomposers d) Primary consumers
19. What is the percentage of photosynthetically active radiation (PAR), in the incident solar radiation? [1]
- a) 100 % b) 1-5%
c) 2-10% d) 50%
20. In a particular climatic condition, decomposition rate is slower if: [1]
- a) Detritus is rich in sugars. b) Detritus is rich in lignin and chitin.
c) Detritus is rich in humus. d) Detritus is rich in nitrogen.

21. The average efficiency of energy transfer from herbivore to carnivore level is: [1]
a) 20% b) 30%
c) 5% d) 10%
22. The decomposition of organic matter is brought about by: [1]
a) Plants b) Protozoans
c) Both Protozoans and Plants d) Micro-organisms
23. Which of the following is called a link between producers and carnivores in a grassland ecosystem? [1]
a) Snake b) Insects
c) Both Frog and Snake d) Frog
24. Estuaries are considered rich in nutrients and trap: [1]
a) Ocean b) River
c) Pond d) Lake
25. Primary carnivores are: [1]
a) Primary producers b) Secondary consumers
c) Tertiary consumers d) Primary consumers
26. A food chain always starts with: [1]
a) Nitrogen fixation b) Photosynthesis
c) Respiration d) Decomposition
27. Stability of ecosystem depends upon: [1]
a) Primary productivity b) Number of producers
c) Interchange between producers and consumers d) Number of consumers
28. Which of the following pyramids is always upright and can never be inverted? [1]
a) Pyramid of energy b) Pyramid of numbers
c) Pyramid of biomass d) Both Pyramid of biomass and Pyramid of energy
29. If we remove half of the forest cover of earth the crisis that will occur: [1]
a) Many species would become extinct. b) Population, pollution and ecological imbalance will rise.
c) Energy crisis will commence. d) The remaining forest will correct the imbalance.
30. The characteristic vegetation of arctic desert is/are: [1]
a) Acacia b) Lichens and mosses
c) Marshy plants d) Conifers
31. A tree providing food to several herbivores and parasitic organisms will represent: [1]

- c) Gross primary productivity
d) net primary productivity
42. Transducers is the term used for: [1]
a) Herbivores
b) Decomposers
c) Green plants
d) Carnivores
43. The greatest biomass of autotrophs in the world's oceans is that of: [1]
a) Benthic brown alga, coastal red algae and daphnids.
b) Sea grasses and slime moulds.
c) Free floating micro-algae, cyanobacteria and nanoplanktons.
d) Benthic diatoms and marine viruses.
44. Ecosystem creates: [1]
a) Food chains
b) Both of these
c) Food web
d) Ecological pyramid
45. Pyramid of energy is: [1]
a) Always upright
b) Both Always inverted and Always upright
c) Sometimes inverted sometimes upright
d) Always inverted
46. Sequence of species through which the organic molecules in a community process is: [1]
a) Ecological pyramid
b) Population
c) Food chain
d) Ecosystem
47. The **10 Per cent law** is related to: [1]
a) Energy consumption during photosynthesis in C_4 plants.
b) Energy transfer from lower trophic level to higher trophic level.
c) Mendelian genetics
d) Non-Mendelian genetics
48. In an ecosystem [1]
a) Micro and macronutrients cycle at same pace
b) Energy cycling is an independent process
c) Energy cycling and nutrient cycling a coupled process
d) Movement of energy is unidirectional
49. Large unit of land having different types of plants and animals is called: [1]
a) Ecosystem
b) Uniform vegetation
c) Niche
d) Biome
50. Productivity is the rate of production of biomass expressed in terms of: [1]
i. $(\text{kcal m}^{-3}) \text{ yr}^{-1}$
ii. $\text{g}^{-2} \text{ yr}^{-1}$
iii. $\text{g}^{-1} \text{ yr}^{-1}$
iv. $(\text{kcal m}^{-2}) \text{ yr}^{-1}$

- a) i and iii
b) ii
c) iii
d) ii and iv

51. In an ecosystem, at a particular time, standing crop includes: [1]
a) Total detritus
b) Both Total living material and Total detritus
c) Total living material
d) Total nutrients in the crop

52. Which of the following is not a producer? [1]
a) Agaricus
b) Spirogyra
c) Nostoc
d) Volvox

53. Which of the following groups are absolutely essential functional components of an ecosystem? [1]
a) Detritivores
b) Producers and herbivores
c) Producers and detritivores
d) Producers

54. Pond ecosystem shows: [1]
a) Inverted pyramid of biomass
b) Inverted pyramid of number
c) Inverted pyramid of energy
d) Upright pyramid of biomass

55. Source of energy in an ecosystem is: [1]
a) Decomposition of plants and animals by bacteria
b) Fermentation of sugars
c) Sunlight
d) Photosynthesis by plants

56. The minimum number of components required for an ecosystem to survive are: [1]
a) Producers & decomposers
b) Producers & secondary consumers
c) Producers & primary consumers
d) Primary consumers & decomposers

57. Ecosystem having the highest primary productivity is: [1]
a) Forest
b) Desert
c) Ocean
d) Pond

58. Pyramid of biomass in a pond ecosystem is: [1]
a) Always upright
b) Upright and sometimes inverted
c) Inverted
d) Sometimes upright

59. Among desert plants, which of the following will become limiting for primary production? [1]
a) Light
b) Water
c) Chlorophyll
d) Temperature

60. Extinction of a species in a food chain is compensated by: [1]
a) Food chain
b) Both Food chain and Ecological pyramid
c) Food web
d) Ecological pyramid

61. Dead parts of plants and animals that fall on the earth surface constitute: [1]
a) Humus
b) Litter

- c) Detritus
d) Detritivore
62. Edaphic factor refers to: [1]
a) Water
b) Altitude
c) Relative humidity
d) Soil
63. In a food chain, herbivores are: [1]
a) Decomposers
b) Secondary consumers
c) Primary producers
d) Primary consumers
64. In a grazing food chain, carnivores may also be referred to as: [1]
a) Secondary producers
b) Primary consumers
c) Secondary consumers
d) Primary producers
65. The type of ecosystem with the highest mean plant productivity is: [1]
a) Tundra
b) Temperate grassland
c) Desert
d) Tropical rain forest
66. The flow of energy among various trophic levels of an ecosystem is: [1]
a) Multidirectional
b) Circular
c) Unidirectional
d) Bidirectional
67. When the number of organisms at successive levels are plotted they assume the shape of a pyramid. This is called pyramid of: [1]
a) Both Biomass and Energy
b) Number
c) Biomass
d) Energy
68. The littoral zone is located along the: [1]
a) Sea
b) High mountains
c) Rivers
d) Deserts
69. How much solar energy falling on the leaf of plant is converted into chemical energy? [1]
a) 60%
b) 10%
c) 100%
d) 1%
70. An inverted pyramid of number and an inverted pyramid of biomass are respectively seen in: [1]
a) Sea and tree ecosystem
b) Grassland and tree ecosystem
c) Tree and sea ecosystem
d) Sea and grassland ecosystem
71. According to Lindeman law, the amount of transferred energy from one trophic level to the next is: [1]
a) 10%
b) 20%
c) 90%
d) 80%
72. Which of the following is secondary production in an ecosystem? [1]
a) Goat
b) Grass
c) Lion
d) Both Grass and Goat

73. Which of the following is the correct food chain? [1]
- a) Eagle → Snake → Grasshopper → Grass → Frog
- b) Grass → Grasshopper → Frog → Snake → Eagle
- c) Frog → Snake → Eagle → Grasshopper → Grass
- d) Grasshopper → Grass → Snake → Frog → Eagle
74. Pyramid of energy in aquatic ecosystem is: [1]
- a) Always upright
- b) Bell-shaped
- c) Always inverted
- d) Both Always upright and Always inverted
75. Flow of energy in our ecosystem takes place [1]
- a) only in one direction
- b) possible in two directions
- c) in three dimensions
- d) may occur in multiple directions