

SECTION: _____



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PRESIDENCY UNIVERSITY
BENGALURU
SCHOOL OF INFORMATION SCIENCE

MIDTERM EXAMINATION – APRIL 2023

Semester: Semester - 2021

Date: 17.04.2023

Course Code: CHE1018

Time: 11:00 AM – 12:00 PM

Course Name: Environmental Science

Max Marks: 50

Program : BCA

Weightage: 25%

Instructions:

- (i) Read the question properly and answer all the questions accordingly.
(ii) Complete the test within the time given.
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Choose the correct option. Each question carries 0.5 mark. (100 x 0.5 = 50)

1. Biogeochemical cycle includes _____ **(CO1, Knowledge)**
 - a) Nutrient cycling through biotic components
 - b) Nutrient cycling through abiotic components
 - c) Nutrient cycling through biotic and abiotic components
 - d) None of the above
2. The importance of ecosystem lies in _____ **(CO1, Knowledge)**
 - (a) flow of energy
 - (b) cycling of materials
 - (c) both the above
 - (d) none of the above
3. The source of energy in an ecosystem is _____ **(CO1, Knowledge)**
 - (a) decomposition of animals and plants by bacteria
 - (b) photosynthesis by plants
 - (c) fermentation by sugar
 - (d) sun light
4. The first link in any food chain is always a green plant because _____ **(CO1, Knowledge)**
 - (a) they are widely distributed
 - (b) they are firmly fixed to soil
 - (c) they alone have the capacity to fix atmospheric carbon dioxide in the presence of sunlight
 - (d) there are more herbivorous animals than carnivores
5. Trophic level are formed by _____ **(CO1, Knowledge)**
 - (a) only plants
 - (b) only animals
 - (c) only carnivores
 - (d) organism linked in food chains
6. Biological equilibrium occurs among the _____ **(CO1, Knowledge)**
 - (a) producers and consumers
 - (b) producers and decomposers
 - (c) producers, consumers and decomposers
 - (d) producers themselves
7. A plant, being eaten by a herbivore which in turn is eaten by a carnivore, makes _____ **(CO1, Knowledge)**
 - (a) food chain
 - (b) food web
 - (c) food net
 - (d) interdependence

8. If all the green plant were to disappear from the Earth _____ (CO1, Knowledge)
 (a) all the animals will die (b) only herbivores will die
 (c) only carnivores will die (d) it will not matter to any animal
9. The non-green plants, like fungi, are as important as green plants because they _____ (CO1, Knowledge)
 (a) cause human diseases (b) cause diseases of other plants
 (c) are useful in several industries
 (d) bring about the decomposition of dead animals and plants remains
10. The pyramid of numbers in grassland ecosystem will be _____ (CO1, Knowledge)
 (a) linear (b) upright (c) irregular (d) inverted
11. _____ is the protective blanket of gases, surrounding the earth. (CO1, Knowledge)
 a) Hydrosphere b) Biosphere c) Lithosphere d) Atmosphere
12. Producers, consumers and decomposers creates _____ (CO1, Knowledge)
 a) Biogeochemical cycle b) Biological disorder c) Biological equilibrium d) All the above
13. _____ deals with the study of ecosystem. (CO1, Knowledge)
 a) Ecology b) Biology c) Zoology d) Geology
14. The pyramid of number in an ecosystem _____ (CO1, Knowledge)
 a) Always upright b) Always inverted c) May be upright or inverted d) None of the above
15. The living beings exists in _____ (CO1, Knowledge)
 a) Stratosphere b) Mesosphere c) Troposphere d) Exosphere
16. The plants prepare their own food by using _____ (CO1, Knowledge)
 a) H₂O, CO₂, Light, and chlorophyll b) Chlorophyll, O₂, H₂O, and Light
 b) Light, CO, H₂O, and chlorophyll d) CO₂, H₂O, Air and chlorophyll
17. Example of quaternary consumer _____ (CO1, Knowledge)
 a) Lion b) Grasshopper c) Snake d) Frog
18. Secondary consumers derive their energy from _____ (CO1, Knowledge)
 a) Producers b) Herbivores c) Tertiary consumers d) All the above
19. The following is the correct food chain of an aquatic ecosystem _____ (CO1, Knowledge)
 a) Phytoplankton → Zooplankton → Fish → Bird → Vulture
 b) Phytoplankton → Fish → Zooplankton → Bird → Vulture
 c) Zooplankton → Phytoplankton → Vulture → Fish → Bird
 d) Fish → Zooplankton → Phytoplankton → Bird → Vulture
20. Which of the following is TRUE for food chain _____ (CO1, Knowledge)
 a) Energy flow b) Nutrient cycling c) Ecological balance d) All the above
21. The planktonic forms of plants are _____ (CO1, Knowledge)
 (a) autotrophs (b) heterotrophs (c) chemotrophs (d) insectivorous types
22. Ecosystem has two components _____ (CO1, Knowledge)
 (a) plants and animals (b) animals and birds (c) biotic and abiotic
 (d) vertebrates and non-vertebrates
23. The organisms at the base of food chain are _____ (CO1, Knowledge)
 (a) herbivores (b) photosynthetic plants (c) saprophytic plants (d) carnivores
24. In abiotic components of an ecosystem which of the following occurs _____ (CO1, Knowledge)
 (a) flow of energy (b) cycling of materials (c) consumption of food
 (d) flow of energy and cycling of material
25. The weather changes take place in _____ (CO1, Knowledge)
 (a) Troposphere (b) Stratosphere (c) Mesosphere (d) Thermosphere

26. Organisms of the same trophic level are _____ (CO1, Knowledge)
 a) cheetah and wild boar b) deer and honey bee c) snake and earthworm d) crow and cow
27. There is no difference between the following _____ (CO1, Knowledge)
 (a) trophic level 1 and herbivores b) primary consumers and herbivores
 (b) primary consumers and trophic level II d) secondary consumers and herbivores
28. The driving force of the ecosystem is _____ (CO1, Knowledge)
 (a) carbohydrates in plants b) biomass c) producer d) solar energy
29. Which of the following is a correct sequence of food chain? _____ (CO1, Knowledge)
 (a) fallen- leaves- bacteria- insect- larvae- birds b) phytoplankton – zooplankton- fish
 (b) grasses-fox-rabbit d) grasses-chamelion-insects-birds
30. _____ provides more than one alternatives of food to most of the organisms in an ecosystem and thus increases their chances of survival. (CO1, Knowledge)
 a) Food chain b) Food web c) Trophic structure d) Ecological pyramid
31. Producers in an aquatic environment are _____ (CO1, Knowledge)
 a) Carnivores b) Herbivores c) Zooplanktons d) Phytoplanktons
32. _____ is known as ionosphere (CO1, Knowledge)
 a) Stratosphere b) Mesosphere c) Thermosphere d) Exosphere
33. Which is called as autotrophs _____ (CO1, Knowledge)
 a) Producers b) Consumers c) Decomposer d) All the above
34. The uppermost layer of the atmosphere is _____ (CO1, Knowledge)
 a) Stratosphere b) Mesosphere c) Troposphere d) Exosphere
35. In a food chain, the energy flow is _____ (CO1, Knowledge)
 a) Always unidirectional b) Always bidirectional
 b) Always multidirectional d) Unidirectional or multidirectional
36. Radio waves transmitted by earth are reflected back in _____ sphere (CO1, Knowledge)
 a) Stratosphere b) Mesosphere c) Thermosphere d) Exosphere
37. In an upright pyramid of biomass, the tertiary consumer occupy the position _____ (CO1, Knowledge)
 a) 4 b) 3 c) 2 d) 1
38. Human alter the carbon cycle by adding excess CO₂ to the atmosphere through _____ (CO1, Knowledge)
 a) Burning fossil fuels b) Using more number of automobiles
 b) clearing vegetation faster than it is replaced d) All the above
39. Select the correct water cycle process. _____ (CO1, Knowledge)
 a) Condensation, evaporation, runoff, precipitation, infiltration
 b) Evaporation, condensation, precipitation, infiltration, runoff
 c) Evaporation, infiltration, runoff, precipitation, condensation
 d) Precipitation, infiltration, Evaporation, runoff, condensation
40. The shape of pyramid of energy in the grassland and ocean ecosystem is _____ (CO1, Knowledge)
 (a) Inverted b) upright c) inverted and upright d) rhomboidal
41. Part of the earth that inhabits living organism is called _____ (CO1, Knowledge)
 (a) Biome b) biotrophy c) biosphere d) biodata
42. In a food chain, the total amount of living material is depicted by _____ (CO1, Knowledge)
 (a) pyramid of energy b) pyramid of numbers c) pyramid of biomass d) all the above
43. The treeless biome includes _____ (CO1, Knowledge)
 (a) deserts b) grassland c) tundra d) all of these

44. The correct sequence of food chain is _____ (CO1, Knowledge)
 (a) bacteria- grass- rabbit- wolf b)grass- snake- insect- deer
 (b) grass- wolf- deer- buffalo d)grass- insect- birds -snake
45. Producers in an aquatic environment are _____ (CO1, Knowledge)
 (a) carnivores b)herbivores c)zooplanktons d)phytoplanktons
46. The transfer of energy from organism to organism in a natural community establishes _____ (CO1, Knowledge)
 (a) food chain b)biological control c)natural barriers d)all of these
47. Ecological pyramid is occupied by _____ (CO1, Knowledge)
 (a) herbivores b)carnivores c)produces d)all of the above
48. Falling stars are found in _____ sphere (CO1, Knowledge)
 (a) Stratosphere b)Mesosphere c)Troposphere d)Exosphere
49. The snakes are included under _____ (CO1, Knowledge)
 (a) Saprophytes b)primary consumer c)secondary trophic level d)none of these
50. Transpiration is the _____ (CO1, Knowledge)
 (a) Evaporation from sea surface b)Evaporation from pond surface
 (b) Evaporation from river surface d)Evaporation from surface of leaves of plants
51. Which of the following is NOT TRUE on the objectives of environmental studies as per UNESCO (1971)? (CO1, Knowledge)
 (a) Creating the awareness about environmental problems among people
 (b) Imparting basic knowledge about the environment and its allied problems
 (c) Developing an attitude of concern for the environment
 (d) Manipulating public to participate in environmental protection
52. The purpose of studying environmental ethics is to overcome _____ (CO1, Knowledge)
 (a) environment damage produce by the present generation
 (b) What acts must be give up to slow such damage?
 (c) Only a d)Both a and b
53. In which of the following there will be no disturbance in the natural balance? (CO1, Knowledge)
 (a) Reservoir b)Cropland ecosystem c)Tundra d)Hydroelectric power generation
54. Ozone is found in _____ km range (CO1, Knowledge)
 a) 8-15 km b) 20-30 km c) 30-50 km d) 50-80km
55. Troposphere is also called as _____ (CO1, Knowledge)
 (a) Ozonosphere b)Ionosphere c)Changing sphere d)Thermosphere
56. Ecology is concerned with the general principles that apply to both _____ and _____ (CO1, Knowledge)
 (a) Flora and Fauna b)Environment and Ecosystem
 (b) Lithosphere and hydrosphere d)Biosphere and humans
57. Which of the following is not a terrestrial ecosystem? (CO1, Knowledge)
 a) Forest b)Grassland c)Lake d)Desert
58. The coldest sphere in the atmosphere is _____ (CO1, Knowledge)
 a) Stratosphere b)Mesosphere c)Thermosphere d)Exosphere
59. Which of the following is NOT an ecosystem? (CO1, Knowledge)
 a) Desert b)Forest c)Ionosphere d)Salt water lake
60. The layer of earth where life is found in _____ (CO1, Knowledge)
 a) biosphere b)stratosphere c)mesosphere d)exosphere
61. Which of the following is not an aquatic ecosystem? (CO1, Knowledge)
 a) River b)Grassland c)Lake d)Ocean

62. All water sources and water bodies are found in_____ (CO1, Knowledge)
 a) Lithosphere b)Hydrosphere c)Stratosphere d)Biosphere
63. A grass land has a biomass of roughly 1,000,000 calories of energy. About how many calories of energy will be available for the lion for the following food chain?
 Grass→ Deer→ Lion (CO1, Knowledge)
 a) 10,000 b)1000 c)100,000 d)1,000,000
64. What happens if a portion of food chain is broken? (CO1, Knowledge)
 a) Only consumers would be affected. b)All the organisms in the chain are affected.
 b) The decomposers and producers are affected d)No change
65. _____ is located between 80 to 400 km above the mesosphere. (CO1, Knowledge)
 a) Troposphere b)Stratosphere c)Thermosphere d)Exosphere
66. Outer mantle of solid earth is _____. (CO1, Knowledge)
 a) Biosphere b)Lithosphere c)Cryosphere d)Hydrosphere
67. Which of the following is maintained by a human? (CO1, Knowledge)
 a) Grasslands b)Cropland c)Forests d)Streams
68. Thermosphere consists of only _____particles. (CO1, Knowledge)
 a) Ionic b)Non-ionic c)Neutral d)All the above
69. Water source running water like spring, stream, or rivers are referred to as _____. (CO1, Knowledge)
 a) Lotic Ecosystem b)Lentic Ecosystem c)Fresh water ecosystem
 b) Salt water ecosystem
70. Which of the following food chain produces greater available energy for man? (CO1, Knowledge)
 a) Phytoplanktons →small fish→large fish→birds→man
 b) Green plant→rabbit→man
 c) Green plant→small insect→frog→big fish →man
 d) Green plant→man
71. What will happen if decomposers are removed from the ecosystem? (CO1, Knowledge)
 a) Producers can produce food
 b) Nutrient recycle is stopped
 c) Consumers cannot absorb solar energy
 d) Rate of decomposition of mineral increases
72. Spraying of insecticides, led to the deaths of cats and spreading of plague due the increment of rat population. This incident represents the: (CO1, Knowledge)
 a) Interconnectedness between the different components of an ecosystem
 b) Significance of food chain
 c) Both (a) and (b)
 d) Neither (a) nor (b)
73. Which of the following statement is correct? (CO1, Knowledge)
 a) An ecosystem is a functional unit of nature and comprises abiotic components.
 b) Abiotic components are biological elements.
 c) Biotic components are producers, consumers and decomposers.
 d) Energy flow is multidirectional.
74. Burning of fossil fuels affects_____ (CO1, Knowledge)
 a) Nitrogen cycle b)Carbon cycle c)Phosphorus cycle d)Sulpher cycle
75. Which of the following pair is not correctly matched? (CO1, Knowledge)
 a) Autotrophs – Fungi b)Primary consumers - Zooplankton
 b) Secondary consumers – Fishes d)Decomposers – Bacteria

76. Which of the following states the difference between food chain and food webs? **(CO1, Knowledge)**
- food webs provide more than one option of food for a species.
 - food webs represent the complex interaction among food chains.
 - food chains are single sequence of who eats whom in a community.
 - Both (a) and (b)
77. The system resulting from the interaction of all the living and non-living factors of the environment is called _____ **(CO1, Knowledge)**
- Ecology
 - Ecosystem
 - Environmental Science
 - All of the above
78. Pyramid of biomass represents _____ **(CO1, Knowledge)**
- Amount of matter lost between each trophic level
 - Number of species at different trophic level
 - Energy associated with different trophic level
 - None of the above
79. Which of these do not alter the water cycle? _____ **(CO1, Knowledge)**
- Clearing the vegetation
 - Withdrawing excess of ground water
 - Polluting the water
 - Depletion of ozone layer
80. _____ is defined as the study of interrelationship of different organisms with each other and with their environment. **(CO1, Knowledge)**
- Ecology
 - Ecosystem
 - Environment
 - All of the above
81. An ecosystem consists of the _____ community that occurs in some locale, and the physical and chemical factors that make up its non-living or abiotic environment. **(CO1, Knowledge)**
- Biosphere
 - Biological
 - Biochemical
 - Chemical
82. Wild fire will disturbs _____ **(CO1, Knowledge)**
- Phosphorus cycle
 - Nitrogen cycle
 - Carbon cycle
 - Sulphur cycle
83. Which of these processes do not belong to water cycle? **(CO1, Knowledge)**
- Transpiration
 - Evaporation
 - Sublimation
 - Precipitation
84. Which of these do not affect the carbon cycle? **(CO1, Knowledge)**
- Burning of excess of fossil fuels
 - Clearing vegetation
 - Carbon emission by industrial establishments
 - Polluting the water
85. Which of these is true in the case of pyramid of numbers? **(CO1, Knowledge)**
- Autotrophic level is much larger than higher trophic levels
 - Saprotrophic level is much larger than other trophic levels
 - Heterotrophic level is much larger than other trophic levels
 - None of the above
86. Unit not used in the pyramid of biomass _____ **(CO1, Knowledge)**
- Pounds
 - Kg
 - Grams
 - Litre
87. Why Troposphere is also called Changing sphere? **(CO1, Knowledge)**
- The air remains static in this layer
 - The air never remains static in this layer
 - The cloud never remains static in this layer
 - The water never remains static in this layer
88. Space, landforms and water bodies are related to which type of elements of environment? **(CO1, Knowledge)**
- Physical elements
 - Biological elements
 - Cultural elements
 - None of the above

89. Which of the following is a food chain? **(CO1, Knowledge)**
a) Egg → Hatchling → Chick → Hen b) Egg → Larva → Pupa → Butterfly
b) Eggplant leaves → Larva → Bird → Snake d) Egg → Tadpoles → Toadlets → Frog
90. What are the two basic categories of an ecosystem? **(CO1, Knowledge)**
a) Aquatic and terrestrial b) Aquatic and forest c) Ponds and lakes d) Rivers and forests
91. The word Ecology is a _____ word. **(CO1, Knowledge)**
a) French b) Greek c) English d) German
92. Which process is responsible for the formation of water vapor? **(CO1, Knowledge)**
a) Evaporation b) Transpiration c) Condensation d) Both (a) and (b)
93. A factory located on the bank of a river releases its effluent into the river. Which of the following process will be affected by this incident? **(CO1, Knowledge)**
a) Carbon cycle b) Water cycle c) Both (a) and (b) d) Neither (a) nor (b)
94. Where can be the microorganisms placed in any food chain? **(CO1, Knowledge)**
(a) At the starting of the food chain
(b) At the end of the food chain
(c) In the middle of the food chain
(d) Anywhere
95. Which of the following best completes the given food chain? **(CO1, Knowledge)**
Wheat → Mouse → ? → Eagle
a) Earthworm b) Rabbit c) Frog d) Snake
96. Which of the following statement is true for the given group of animals? Rat, Bear, Hen **(CO1, Knowledge)**
a) They are mammals
b) They are omnivores
c) They are carnivores
d) None of these
97. Which among the following are the scope of Environmental Studies? **(CO1, Knowledge)**
a) Conservation and management of natural resources
b) Conservation of biodiversities
c) Control of environmental pollutions
d) All the above
98. During water cycle, the formation of clouds is _____ **(CO1, Knowledge)**
a) Evaporation b) Condensation c) Precipitation d) Transpiration
99. Which layer protects us from harmful UV rays of the sun? **(CO1, Knowledge)**
a) Stratosphere
b) Mesosphere
c) Troposphere
d) Exosphere
100. Statement P: Natural things can be living or non-living. Statement Q: Living things can only be natural. **(CO1, Knowledge)**
a) Both statements P and Q are correct
b) Statement P is correct and Q is incorrect
c) Statements P and Q are false
d) Statement P is incorrect and Q is correct