

Questionbank Biology

■ Functions of Ecosystem

1. flow of energy
2. Bio-geo-chemical cycle of matter.

- Food chain.

1. grazing food chain
2. Detritus food chain

- Food web -

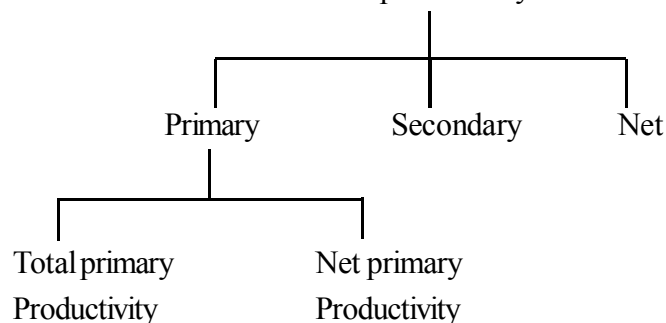
organisms have interrelationships for food in form of complex network, termed as food web.

- Ecological pyramids -

1. Numerical pyramids
2. Bio-mass pyramid
3. Energy pyramid

- Flow of energy is unidirectional in ecosystem

- During specific time period free organisms, species, population or ecosystem forms mass of organic substances or production of biomass is termed as productivity.

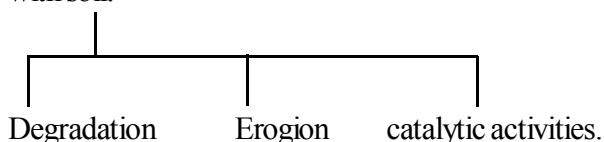


- Sequence of productivity

Forest > grass land > desert.

- In aquatic system productivity decreases with increase in depth.

- Decomposition - Dead or complex substances are converted into simple form and mixes with soil.



Questionbank Biology

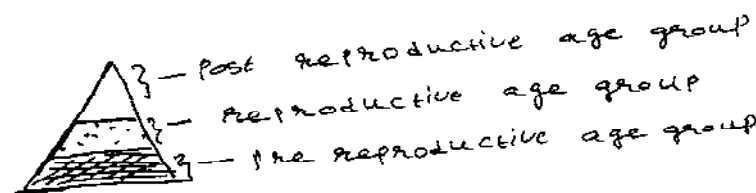
• Biogeochemical cycle

In cyclic path, from environment to organisms organisms to environment, constant & regular transport of organic substances.

There are two types of biogeochemical cycles

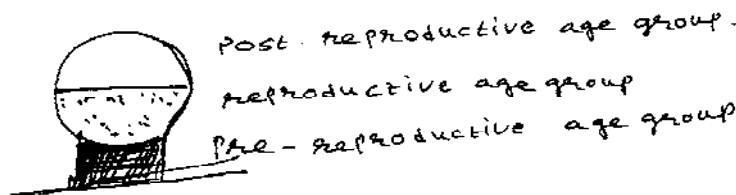
1. gaseous cycle	2. phosphorus cycle
e.g. oxygen cycle	e.g. phosphorus cycle
nitrogen cycle	sulphur cycle

1. What does following diagram indicate ?



- | | |
|---------------------------|-----------------------------------|
| (A) Declining Population | (B) Constant declining Population |
| (C) Increasing Population | (D) Stable Population |

2. Which option is not correct for the given diagram ?

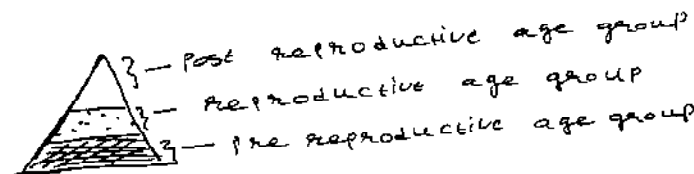


- (A) It indicates decreasing population stable
- (B) It indicates stable population
- (C) The post-population age group people are more in number
- (D) The death rate is higher than birth rate

3. A snake feeds on a frog, the hawk feeds on this snake. What is the place of a snake in a food chain?

- | | |
|------------------------|-----------------------|
| (A) producer | (B) primary consumer |
| (C) secondary consumer | (D) Tertiary consumer |

4. What is correct for the given diagram?



- (A) Pre-reproductive group people are more in number
- (B) Post-reproductive group people are more in number
- (C) Post-reproductive group people are more less
- (D) In it pre-reproductive and post-reproductive age-group are placed respectively.

Questionbank Biology

5. Orchid living on the tree is an example of?
- (A) Parasitic (B) Predator
(C) Commensalism (D) Mutualism
6. Population of which of the following will be highest in the foodchain?
- (A) Decomposer (B) Primary Producer
(C) Photosynthetic organism (D) Secondary consumers
7. Who is food component of the grazing food chain?
- (A) Consumer (C) Decomposer
(D) Photosynthetic living organism (D) Photosynthetic consumers
8. System resulting from interaction of all the known living factors and population of all the species of a unit area is...
- (A) Ecology (B) Genetics
(C) Science of plants and animal (D) Ecosystem
9. In which of the following plants are included in any food chain?
- (A) Primary Producer (C) primary consumer
(B) Primary predator & producer (D) Primary decomposer
10. Which of the following is the correct statement for food chain?
- (A) Every chain formed by nutritional relations, is used to understand energy flow.
(B) Energy component of the food chain forms trophic level.
(C) Inter- relation amongst different food chains forms food web.
(D) All of the given
11. Which of the following uses maximum energy?
- (A) Primary consumer (B) Secondary consumer
(C) Decomposer (D) Primary Producers
12. Through, which of the following, energy enters in an ecosystem?
- (A) Herbivores (B) Producer
(C) Decomposer (D) Primary producers
13. Why is algae placed in first place of food chain ?
- (A) Algae is first to synthesize food.
(B) Algae is first to consume food.
(C) Every living organism can utilize food.
(D) None of the given.
14. In which of the following wheat eating regions included ?
- (A) Decomposer (B) Primary consumer.
(C) primary producers (D) secondary consumer.
15. which of the following is placed in upper most (highest) level of ecological pyramids.
- (A) Herbivores (B) Carnivores
(C) Primary and Secondary Producers. (D) Primary and Secondary consumer.

Questionbank Biology

16. As we proceed in food chain, bio-mass.....
 (A) Remain Same (B) Decreases
 (C) Increases (D) Initially same and later keep decreasing.
17. In ecosystem the source of energy is...
 (A) ATP (B) Sun (C) The Green plant (D) Sugar.
18. Who is primary consumer of biotic community ?
 (A) Herbivores/ Grazing animal (B) Omnivores
 (C) Scavengers (D) Carnivores.
19. In which of the following weeds are placed ?
 (A) Primary producers (B) Secondary consumer.
 (C) Primary consumer. (D) Decomposer.
20. When does the energy flow start in an ecosystem ?
 (A) When material cycle starts
 (B) When sun rises
 (C) When any living organism gain food.
 (D) When light energy is converted in chemical energy.
21. which of the following option is correct for storage place phosphorus and nitrogen respectively ?
 (A) Consumer (B) Parental rock and environment
 (C) Environment and producers (D) Environment and parental rock
22. An individual "x" uses mashroom as food then in which trophic level mashroom and "x" are included?

Mashroom	X	Foodchain
(A) Secondary	Primary	→ Detritivorous food chain
(B) Primary	Secondary	→ Detritivorous food chain
(C) Primary	Secondary	→ Grazing food chain
(D) Secondary	Primary	→ Grazing food chain
23. Which of the following is trophic level of the orchid staying on mango tree ?
 (A) First (B) Tertiary/ Third
 (C) Second (D) Fourth
24. Which age group in pyramid indicate less reproductive potential ?
 (A) Bell shaped
 (C) Triangular
 (B) Inverted Bell shaped
 (D) All of them have equal(same) potential
25. It is correct for ecosystem.....
 (A)(Plants, Animals, Microorganisms) + Abiotic environment
 (B) Community formed by various species present in a particular region.
 (C) Animal, plants and micro- organisms.
 (D) Abiotic factors

Questionbank Biology

26. What is the original source of energy for the living organisms ?
(A) Carbohydrate (B) Sun light
(C) ATP (D) Lipid
27. In which of the following curd eating people are included ?
(A) Producer (B) First[1st]
(C) Tertiary[3rd] (D) Second[2nd]
28. The functional efficiency of ecosystem is effected when decomposers are removed from it, because..
(A) Energy flow will stop
(B) Rest components decomposition will become faster
(C) Herbivorous will not get sun light
(D) Flow of nutrient will stop.
29. From which of the following detritus food chain will start ?
(A) Algae (B) Bacteria
(C) Protozoa (D) Virus
30. Which of the following is gaseous cycle ?
(1) Sulphur cycle (3) Phosphorous cycle
(2) Carbon cycle (4) Nitrogen cycle
(A) 1 (B) 1,2 (C) 3, 4 (D) 1,3,4
31. At Each trophic level, in which form energy is lost ?
(A) Heat (B) Chemical
(C) Light (D) None
32. Which Source of eutrophication is the modern source of phosphorus ?
(A) Detergent (B) Fertilizer
(C) Faecal of animal (D) Rivers
33. It helps in absorption of phosphorous ?
(A) Leaves (B) Mycorrhiza
(C) Root (D) Stem
34. In a day, How many times an individual inspire and expire (breathing) ?
(A) 10,000 (B) 20,000
(C) 40,000 (D) 50,000
35. What percentage of total metabolic energy is produced through fermentation of lactic acid ?
(A) 80% (B) 70%
(C) 100% (D) 40%
36. Which adaptation is observe only in xerophytes ?
(A) CAM (C) Hatch-Slack
(B) TCA (D) C₃ cycle

Questionbank Biology

37. Which of the following option is correct for CO₂ absorption in CAM ?

- (A) During night (B) Only at midnight
(C) During day time (D) Morning

38. It- (I) Liver → Liver lobule

(II) kidney → Uriniferous tubule

(III) Ecology → X

than What does "x" represent ?

- (A) Biotic community (B) Ecosystem
(C) Population (D) All of the given

39. What can be Explained through following chart ?

Birds	25 ppm
↑	↑
Big fishes	2ppm
↑	↑
Small fishes	0.5ppm
↑	↑
Zoo Plankton	0.5ppm
↑	↑
Phyto planktons	0.04 ppm
↑	↑
DDT in water	0.003ppb

(i) Biological magnification concentration of DDT

(ii) Aquatic food web

(iii) Food chain

(iv) DDT is non degradable

(v) One aquatic ecosystem

- (A) (i), (ii), (iii) (B) (i), (iii), (iv)
(C) (ii), (iii), (iv) (D) (iii), (iv), (v)

40. With reference to process of decomposition arrange the following in proper sequence.

(1) Deadmaterial → Predation by detrivore → digestion in animals → defecation → mixes with soil.

(2) Mineralization and synthesis of fertilization of substances.

(3) Complex substance $\xrightarrow{\text{Extracellular enzymes}}$ Ions & salts (simple sub.)

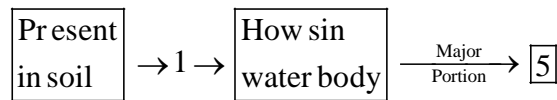
(4) Transport of soluble substances in the inner layer of soil

(A) 1,2,3,4 (2) 1,4,3,2 (3) 3,1,4,2 (4) 1,3,4,2

Questionbank Biology

41. An element which is generally obtain from rocks.

From the given information which is correct option for the same



no recycling

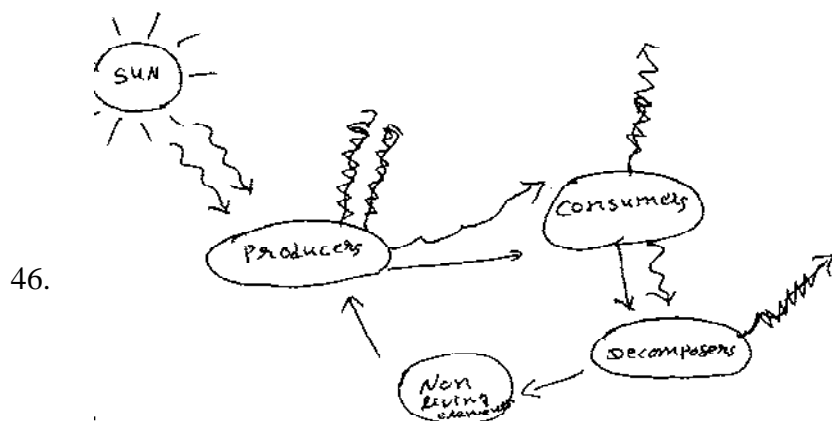
- (A) (1) dissolve in water,
 (2) depositeda at the bottom of the sea
 (3) used by forest
 (4) eaten by fishes
 (5) eaten by sea birds
- (B) (1) dissolve in water,
 (2) used by planktons
 (3) Fishes
 (4) Sea birds
 (5) deposited at the bottom of the sea
- (C) (1) Fishes
 (2) Sea birds
 (3) used by planktons
 (4) Sea birds
 (5) deposited at the bottom of the sea
- (D) (1) Fishes
 (2) used by planktons
 (3) Fishes
 (4) Sea birds
 (5) None

42. Few statements are given below in reference with Thermodynamics, Which of the following option shows all correct statements for it ?

- (I) Amount of energy is constant.
 (II) During transfer of energy some amount of energy is converted in to heat.
 (III) Free energy = energy which can do work.
 (IV) At each topic level amount of stored energy reduces.
- (A) (I) and(II)
 (B) (III) and (iv)
 (C) (i) and (iv)
 (D) All of the given

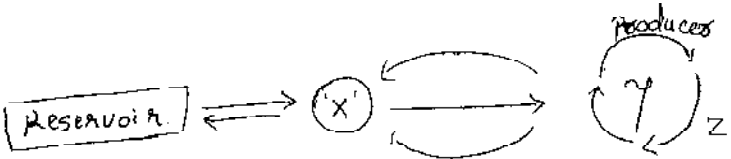
Questionbank Biology

43. Food chain always start with producer, which of the following is an exceptional to the given statement.
 (A) Rat (C) Fox
 (B) Lion (D) Earth - worm
44. X is released in Halophytes and Y is source of it, Z process occurs in- estuary, then What does x,y,z indicate?
 (A) X- Potassium Y - rocks
 Z- Biological magnification
 (B) X - DDT Y - Water
 Y- Biological magnification
 (C) X -Phosphorus Y - Sewage water
 Z- Eutophication
 (D) None of this.
45. If energy produced by producer is 1000 units, than What amount of energy will be found in highest level of consumer ?
 (A) 100 (B) 10
 (C) 1 (D)1000



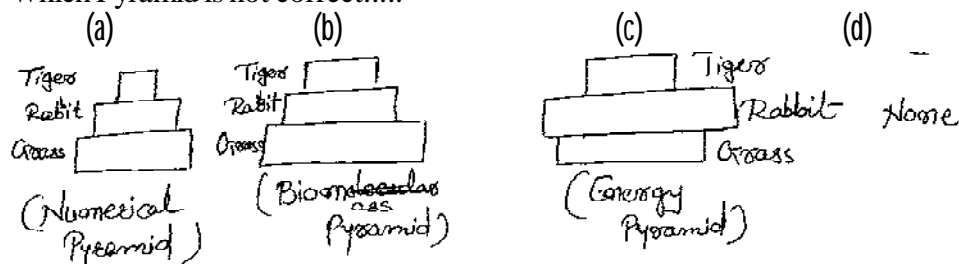
- What does given chart indicate ?
 (A) Structure of ecosystem.
 (B) Type of ecosystem
 (C) First and second law of Thermodynamics
 (D)- Bidirerectional flow of energy.
47. What is incorrect for oxygen ?
 (A) Most of the metabolic energy is produced by it.
 (B) Plants are included in the organisms producing it.
 (C) It is essential for all the organisms.
 (D) Its proportion in water is 90%.

Questionbank Biology

48. X is source of y. but y never return to x, Than which option is wrong for x and y.
 (A) X = plant, Y= organic compound (B) X= sun, Y=Energy
 (C) a & b Both are correct. (D) A and B are Wrong.
49. What does pyramid of Bimass of an ecosystem indicate in....
 (A) Number of species in each trophic level
 (B) Number of organisms in each trophic level
 (C) Organisation of tissue of each tophic level
 (D) All of the given.
50. Which option is correct for the given information ?
 (1) Ecosystem is an outcome of an interaction between all living components and non- living components of Environment.
 (2) GPP= NPP- loss due to respiration
 (3) Primary productivity is measured in dry biomass.
 (A) TFT (B)FFT
 (C) FTF (D)TTF.
51. 
 (A) x = Exchange Place y = Consumer z = Population
 (B) x = Exchange Place y = Population z = Mclro Organism
 (C) x= Biotic Community y = Population z = Consumer
 (D) x = Exchange Place y = Biotic Community z = Consumer
52. What is responsible for change in the size of population of any particular area ?
 (A) Availability of food. (C) Pressure
 (B) Predation (D) All three
53. In one forest maximum 500 lions can be allowed with than what does 500 indicate ?
 (A) Maximum birth rate (B) Population of lion
 (C) Carrying Capacity of Population (D) Realed birth rate
54. At which vital index population is stable ?
 (A) 1 (B) 0
 (C) Infinitive (D) 100
55. In any of the ecosystem man can be....
 (A) Primary Consumer (C) Secndary Consumer
 (B) Producer (D) a & c
56. If earth is considered a unit region then biosphere can be compared to....
 (A) Eco-System (C) Population
 (B) Biotic Community (D) Species

Questionbank Biology

57. If earth is considered a unit region then it can be compared to....
 (A) Eco-System (B) Population
 (C) Biotic Community (D) Species
58. Who accepts the nutrient released in environment by decomposer ?
 (A) Consumers (B) Producers
 (C) Secondary Consumers (D) None of the given
59. If herbivores are "5" in number in the given food chain then, what will be the total number of trophic layers in the it ?
 (A) 7 (B) 8
 (C) 5 (D) can not be predicted
60. which organism provided useable phosphate from dead organisms?
 (A) Fungi, Bacteria (B) Fungi , Algae
 (C) Bacteria, Algae (D) Bacteria, Fungi
61. How many times do we breathe per day ?
 (A) 20,000 (B) 40,000
 (C) 20,000 (D) None of theme
62. Which Pyramid is not correct.....



63. It is first stem of the decomposition of organic compound.
 (A) Fragmentation - In body of Scavengers
 (B) Catabolism - In body of decomposer
 (C) Leaching - In soil
 (D) Catabolism - In soil
64. Autotrophs use [X] and Produces [Y], which is store as [Z], which of the given option is correct for X, Y, and Z ?
- | X | Y | Z |
|------------------|-----------------|----------|
| (A) Sunlight | Nutrient | Chemical |
| (B) Energy | Chemical energy | Sunlight |
| (C) Grass (Herb) | Energy | Starch |
| (D) Sunlight | Glycogen | ATP |
65. What is an Original Source of energy flow in any food chain ?
 (A) Sun (B) Produces
 (C) Primary (D) None

Questionbank Biology

66. Immature fall of floral bud and fruits are observed in a farm, and on leaves Red and purple pigments spots are observed, In which of following place is Such Symptoms will not be observed in plants
 (A) Sea shore (B) Bank of river
 (C) Foot hills of mountain (D) Red Soil
67. who is responsible for the process like, Phosphate Containing Organic compound → Phosphate
 (A) Certain fungi (B) Certain algae
 (C) Certain Specific bacteria (D) All three
68. which of the following eco-system has highest annual primary productivity ?
 (A) Tropical deciduous forest
 (B) Tropical Rain forest
 (C) Temperate deciduous forest
 (D) Temperate Ever green forest.
69. Which of the following is not a functional unit of ecosystem ?
 (A) Stratification (B) Flow of energy
 (C) Decompos (D) productivity.
70. Which of the following associations do not establish functional interspecific association ?
 (A) Mutualism (B) Exoparasite
 (C) Endoparasite (D) Commensalism
71. Which statement is correct ?
 (A) Plant uses CO₂ during respiration.
 (B) Biomass of the plant is available to only herbivores.
 (C) In all CO₂ acceptor plants, organic compounds are produced through photosynthesis.
 (D) All three.
72. It is the type of photosynthesis occurs in most of the plants ?
 (A) C₄ - Cycle (B) C₃ - Cycle
 (C) CAM - Cycle (D) C₂ - Cycle
73. In which of the following alimentary canal, " starch → glucose" is produced ?
 (A) Producer (B) Ist trophic layer
 (C) IInd trophic layer (D) All of types
74. Which is the correct options ?

Interspecific association**Examples**

(i) Reproductive

(x) Producer → Herbivores → Carnivores.

(ii) Productive

(y) Animals and dispersion of fruit seed.

(iii) Nutritional

(z) Mimicry

(A) (i): Z

(B) (i): Z

(C) (i): Y

(D) (i): Y

(ii): X

(ii): Y

(ii): Z

(ii): X

(iii): Y

(iii): X

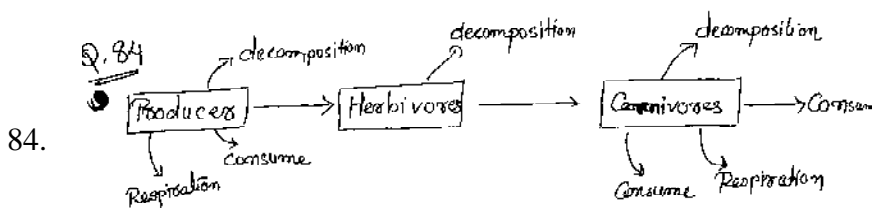
(iii): X

(iii): Z

Questionbank Biology

75. In an ecosystem, Which of the following is unidirectional ?
 (A) Sulphur (B) Organic nutrient
 (C) carbon (D) Free energy
76. Who is first to receive Phosphate released through leaching in phosphate cycle ?
 (A) Decomposer (B) producer
 (C) Consumer (D) None of the given
77. Which of the following is not a pair of Gaseous cycle ?
 (A) P&N (B) N & S
 (C) N & S (D) C & P
78. What is indicated by Pyramid of number ?
 (A) Number of individuals at every trophic layer.
 (B) Species belonging to a particular region.
 (C) Number of member of biotic- community
 (D) None of the given.
79. Which of the following has maximum importance (value) in grass- land.
 (A) Secondary Production (B) Net Production
 (C) Tertiary Production (D) Total Production.
80. Grass → cow → lion. If productivity of grass is 5000 kg/ Meter/ year. Then What will be the productivity of lion ? (In general)
 (A) 500 (B) >50
 (C) 1000 kg / mter² / year. (D) >100
81. Select correct statements
 (i) If 90% of Carnivores are removed from forest, then forest area increases.
 (ii) Generally 3 to 4 trophic layer are present in food chain due to loss of energy.
 (iii) Food chain always possesses 2 to 8 trophic layers.
 (iv) On removing 80% of tigers, number of herbivores will increase.
 (A) (ii), (iv) (C) (i), (iii) (B) (i), (ii) (D) (iii), (iv)
82. In which stage of the Decomposition, larger surface area for future decomposition is available?
 (A) 1st (B) 2nd (C) 3rd (D) All of the above
83. which option is Correct for the given statements x and y ?
 X : fungi, showing low level of body organization producer with thick wall.
 Y : On availability of favourable condition they produce sporophytic stage.
- | | | |
|-----|---|---|
| | x | y |
| (A) | √ | × |
| (B) | × | × |
| (C) | √ | √ |
| (D) | × | √ |

Questionbank Biology



In the given chart from carnivores to producer energy level gradually.

- (A) Decreases
 - (B) Increases
 - (C) Decreases & increases both are possible
 - (D) None
85. which of the given option is shows more stable ecosystem ?
- | Producer | primary consumer | Secondary consumer | Tertiary consumer | Total |
|----------|------------------|--------------------|-------------------|-------|
| (A) 100 | 200 | 150 | 80 | 530 |
| (b) 900 | 500 | 225 | 40 | 1665 |
| (c) 200 | 100 | 125 | 75 | 500 |
- (d) All of the given.
86. which of the following is one of the causes of cancer ?
- (A) Obesity
 - (B) Artheros cerosis
 - (C) Inadcquale of O₂ supply
 - (D) Hypertension
87. which option is more suitable for x and y ?
- X : Animal cells possesses mitochondria.
 Y : IN animal cell energy is released when carbohydrates are completely broken .
- (A) Both are correct
 - (B) Both are wrong
 - (C) If x is correct then only y is correct .
 - (D) X : correct Y : wrong
88. (X) $\xrightarrow{\text{energy}}$ (Y) from x energy is available to y and from y energy do not return to x then which option correct ?
- | | |
|---|---|
| X | Y |
|---|---|
- (A) The earth The Sun
 - (B) The Sun The earth
 - (C) The Sun A blotic
 - (D) All of given

Questionbank Biology

96. In material cycle which of the following is last acceptor of material ?
 (A) Producer (C) Decomposer
 (B) Consumer (D) Is not passing
97. Which one is the maximum suitable to from top of the energy pyraind ?
 (A) Therdary consumer (B) Secondary consumer
 (C) Producers (D) None of this
98. Which of the following option is correct for the column I and II ?
- | <i>Column - I</i> | <i>Column - II</i> |
|---------------------------------|--------------------------------|
| (P) Grass | (i) Decomposer |
| (Q) Herbivors | (ii) Secondary carniveres |
| (R) Frog | (iii) producer |
| (S) Hawk | (iv) primary consumer |
| | (v) primary carniveres |
| (A) (P-iii) (Q-i) (R-v) (S-iv) | (B) (P-i) (Q-iii) (R-iv) (S-v) |
| (C) (P-iii) (Q-v) (R-iv) (S-ii) | (D) (P-ii) (Q-iv) (R-v) (S-ii) |
99. Which component are basic in maintaing body processes?
 (A) Carbohydrate (B) Water
 (C) Energy (D) All of this
100. What is mycorhizer ?
 (A) Root + Fungi = Symbioti (B) Root+ bacteria = Symbiotic
 (C) fungi +Root = Parasitism (D) Fungi +leaf = Parasitism
101. It is key- compound for all living organism ?
 (A) Sulphar (B) Phosphures
 (C) Nitrogen (D) Calcium
102. What is obtained by the activity of decomposer for the prodneers ?
 (A) Nutrient (C) Food
 (B) Carbohydrate (D) Energy
103. It 1 lac living organisms are included in third throphie level than what would be the number of producers ?
 (A)10 lac (B)10 thousand
 (C) 1 thousand (D) 1crore (millian)
104. In an ecosystem, when organisms can be included in more than one trophic lager ?
 (A) Phytoplankton (B) Fish
 (C) Zooplanktm (D) Frog
105. When organism of aquatic ecosystem is at equivalent trophee level in when cow is included ?
 (DUMET...2009)
 (A) Zooplankton (B) Phytoplakton
 (C) Nekton (D) Benthos

Questionbank Biology

106. Which of the follows is an in complent Ecosystem ? (WBJEE 2008)
(A) Grass land (B) Cave (C) River (D) Wet land
107. What is correct for human ?
(A) Herbivore (B) Carnivore (C) Autotrophs (D) Omnivores
108. which type of food chain is represented by following example ?
Dead animals → insect seavenger → Frog → Snake
(A) Grazing food chain (B) Detritivorous food chain
(C) Decomposer food chain (D) Predators food chain.
109. which type of organisms , fungi & Bacteria of forest ecosystem generally called ?
(A) Prodlucers (B) Decomposers
(C) Primary consumer (D) Secondary consumers
110. what is correct for the artificial ecosystem ?
(A) Biodiversity is less
(B) Biodiversity is High
(C) Ecosystem is can not be form by human
(D) It is more stable than Netural ecosystem

Questionbank Biology

ANSWER KEY

1	C	31	A	61	A	91	C
2	B	32	A	62	C	92	C
3	C	33	B	63	A	93	B
4	A	34	C	64	A	94	B
5	C	35	B	65	B	95	D
6	C	36	A	66	C	96	D
7	B	37	A	67	C	97	A
8	D	38	B	68	B	98	D
9	A	39	B	69	A	99	D
10	D	40	B	70	D	100	A
11	D	41	B	71	C	101	B
12	B	42	D	72	B	102	A
13	A	43	D	73	B	103	D
14	B	44	C	74	C	104	B
15	B	45	C	75	D	105	A
16	B	46	C	76	B	106	B
17	C	47	C	77	C	107	D
18	A	48	D	78	A	108	B
19	A	49	C	79	D	109	B
20	B	50	D	80	B	110	A
21	B	51	D	81	A		
22	B	52	D	82	A		
23	A	53	C	83	C		
24	B	54	D	84	B		
25	A	55	D	85	B		
26	B	56	B	86	C		
27	A	57	A	87	C		
28	D	58	B	88	B		
29	B	59	D	89	C		
30	C	60	D	90	D		

