

ABHINAV ACADEMY

UDUPI

CET25B12 ECOSYSTEM

Class 12 - Biology

Time All	owed: 1 hour and 30 minutes		Maximum Marks: 75
1.	Zone of Earth occupied by living organisms is called:	4	[1]
	a) Flora and Fauna	b) Biosphere	
	c) Ecosystem	d) Biome	
2.	The metabolic process which causes a reduction in gro	oss primary production:	[1]
	a) Excretion	b) Respiration	
	c) Transportation	d) Digestion	
3.	The primary productivity in an ecosystem is expressed	l as:	[1]
	a) gm ⁻² yr	b) gm ⁻² yr ⁻¹	
	^{c)} K cal m ⁻² yr ⁻¹	d) K cal m ⁻²	
4.	Phytoplanktons are found in which of the following zo	ones?	[1]
	a) Limnetic zone	b) Aphotic zone	
	c) Profundal zone	d) Littoral	
5.	The first order consumers are called:		[1]
	a) Herbivores	b) Chemotrophs	
	c) Producers	d) Autotrophs	
6.	The amount of energy flow in an ecosystem generally:		[1]
	a) Decreases at each higher trophic level	b) Remains same at each trophic level	
	c) Is different in different food chains	d) Increase at each higher trophic leve	ł
7.	Primary consumers are:		[1]
	a) Herbivores	b) Omnivores	
	c) Carnivores	d) Decomposers	
8.	Sparrow is:		[1]
	a) only 1 ^o consumer	b) only 2° consumer	
	c) both 1 ^o consumer and 2 ^o consumer	d) 3º consumer	
9.	In a pyramid of biomass, if the total dry weight (kg/m ² tertiary consumer level upto:	²) of primary producers is about 809 , it	will decrease at [1]

a) _{5 kg/m²} b) _{37 kg/m²}

	c) 1.5 kg/m ²	d) _{11 kg/m²}	
10.	Which of the following type of ecosystem is expected mean annual rainfall is below 100mm?	l in an area where evaporation exceeds precipitation, and	[1]
	a) Grassland	b) Shrubby forest	
	c) Desert	d) Mangrove	
11.	Which of the following supports a dense population of	of planktons and littoral vegetation?	[1]
	a) Eutrophic	b) Oligotrophic	
	c) Agroecotrophic	d) Lithotrophic	
12.	Deserts, grasslands, forests and tundra are the example	les of:	[1]
	a) Biogeographical realms	b) Biospheres	
	c) Ecosystems	d) Biomes	
13.	In which area, diurnal temperature in soil surface vary	y?	[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 terrest	trial 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	n in a food chain?	[1]
	a) Secondary consumers	b) Producers	
	c) Decomposers	d) Primary consumers	
19.	What is the percentage of photosynthetically active ra	adiation (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 he	erbivore to carnivore level is:	[1]
	a) 20%	b) 30%	
	c) 5%	d) 10%	
22.	The decomposition of organic matter is brought a	bout by:	[1]
	a) Plants	b) Protozoans	
	c) Both Protozoans and Plants	d) Micro-organisms	
23.	Which of the following is called a link between p	roducers 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 uprigl	ht and can never be inverted?	[1]
	a) Pyramid of energy	b) Pyramid of numbers	
	c) Pyramid of biomass	d) Both Pyramid of biomas 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/ar	e:	[1]
	a) Acacia	b) Lichens and mosses	
	c) Marshy plants	d) Conifers	
31.	A tree providing food to several herbivores and p	arasitic organisms will represent:	[1]

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	a) An upright pyramid of number	b) An inverted pyramid of biomass	
	c) A downright pyramid of number	d) An inverted pyramid of number	
32.	Which of the following is a tertiary consumer?		[1]
	a) Birds	b) Zooplanktons	
	c) Wolf	d) Lion	
33.	The rate of biomass production and rate of production respectively:	n of organic matter during photosynthesis are called	[1]
	 a) Gross primary productivity, gross secondary productivity. 	b) Net primary productivity, secondary productivity.	
	c) Net primary productivity, gross primary productivity.	d) Total productivity, primary production.	
34.	In a pond ecosystem, the food chain starts with:		[1]
	a) Phytoplanktons	b) Small insects	
	c) Small fishes	d) Zooplanktons	
35.	Healthy ecosystems are the base for a wide range of		[1]
	a) Economic, environmental and aesthetic	b) Only aesthetic goods and services.	
	goods and services.		
	c) Only economic services.	d) Only economic goods.	
36.	Which of the following scientists proposed the concept	pt of ecological food pyramid?	[1]
	a) Tansley	b) Elton	
	c) Blackmann	d) Odum	
37.	The zone at the edge of a lake or ocean which is alter	natively exposed to air and immersed in water is called:	[1]
	a) Lentic one	b) Littoral zone	
	c) Benthic zone	d) Pelagic zone	
38.	Which one of the following is not a major component	t of the ecosystem?	[1]
	a) Decomposition	b) Energy flow	
	c) Stratification	d) Nutrient cycling	
39.	In a pyramid of numbers, in a grassland ecosystem, th	ne largest population is that of:	[1]
	a) Tertiary consumers	b) Primary consumers	
	c) Secondary consumers	d) Producers	
40.	Bacteria and fungi in a forest ecosystem are generally	<i>r</i> :	[1]
	a) Producers	b) Primary consumers	
	c) Secondary consumers	d) Decomposers	
41.	The rate of storage of organic matter in producers in e	excess of their metabolic consumption is:	[1]
	a) Community productivity	b) Biomass	

	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 oce	ans 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 molec	cules 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:	N N N N N N N N N N N N N N N N N N N	[1]
	a) Energy consumption during photosynthesis	b) Energy transfer from lower trophic level to	
	in C ₄ plants.	higher trophic level.	
	c) Mendelian genetics	d) Non-Mendelian genetics	
48.	In an ecosystem a) Micro and macronutrients cycle at same pace	b) Energy cycling is an independent process	[1]
	c) Energy cycling and nutrient cycling a	d) Movement of energy is unidirectional	
	coupled process		
49.	Large unit of land having different types of plants and	d animals is called:	[1]
	a) Ecosystem	b) Uniform vegetation	
	c) Niche	d) Biome	
50.	Productivity is the rate of production of biomass expr	ressed in terms of:	[1]
	i. (kcal m ⁻³) yr ⁻¹		
	ii. $g^{-2} yr^{-1}$		
	iii. $g^{-1} yr^{-1}$		
	iv. (kcal m^{-2}) 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 essen	tial 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 b	ecome limiting for primary production?	[1]
	a) Light	b) Water	
	c) Chlorophyll	d) Temperature	
60.	Extinction of a species in a food chain is compensa	ted 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 ear	rth 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 refer	red 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 p	roductivity is:	[1]
	a) Tundra	b) Temperate grassland	
	c) Desert	d) Tropical rain forest	
66.	The flow of energy among various trophic levels of a	an ecosystem is:	[1]
	a) Multidirectional	b) Circular	
	c) Unidirectional	d) Bidirectional	
67.	_	are plotted they assume the shape of a pyramid. This is	[1]
	called pyramid of:		
	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		[1]
	a) 60%	b) 10%	
	c) 100%	d) 1%	
70.	An inverted pyramid of number and an inverted pyra		[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 transferre		[1]
	a) 10%	b) 20%	
	c) 90%	d) 80%	
72.	Which of the following is secondary production in an		[1]
	a) Goat	b) Grass	
	c) Lion	d) Both Grass and Goat	

- 73. Which of the following is the correct food chain?
 - a) Eagle \longrightarrow Snake \longrightarrow Grasshopper \longrightarrow $Grass \longrightarrow Frog$
 - c) Frog \longrightarrow Snake \longrightarrow Eagle \longrightarrow $Grasshopper \longrightarrow Grass$
- 74. Pyramid of energy in aquatic ecosystem is:
 - a) Always upright
 - c) Always inverted
- 75. Flow of energy in our ecosystem takes place
 - a) only in one direction
 - c) in three dimensions

- b) Grass \longrightarrow Grasshopper \longrightarrow Frog \longrightarrow $Snake \longrightarrow Eagle$
- d) Grasshopper \longrightarrow Grass \longrightarrow Snake \longrightarrow $Frog \longrightarrow Eagle$
- d) Both Always upright and Always inverted
- [1]

[1]

- b) possible in two directions
- d) may occur in multiple directions

b) Bell-shaped