umers

yramid proceed through the various tropic levels as herbivores, then carnivores that eat herbivores, ores that eat other weaker carnivores, and so on).

consumers are those "who survive on the food ced by the plants i.e. producers"

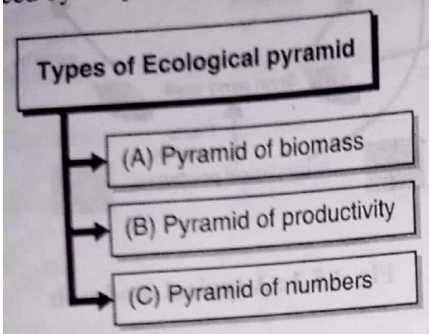

Fig. 3.5.4 : Types of Ecological pyramid

Pyramid of biomass

nass is the amount of living or organic matter ent in an organism. Biomass pyramids show how h biomass is present in the organisms in unit area at erent tropic levels. Typical units for a biomass amid could be grams per meter^2, or calories per ter^2.

) Pyramid of productivity

ecological pyramid of productivity shows the oduction or turnover of biomass at each tropic level. oductivity pyramids show the flow of energy through e food chain. Typical units would be grams per eter^2 per year or calories per meter^2 per year. As with e others, this graph begins with producers at the ottom and places higher tropic levels on top.

When energy is transferred to the next tropic level, ypically only 10% of it is used to build new biomass, he rest going to metabolic processes). As such, in a yramid of productivity each step will be 10% the size f the previous step (100, 10, 1, 0.1, 0.01).

(C) Pyramid of numbers

An ecological pyramid of numbers shows graphically he population of each level in a food chain.

Review Questions

Q. 1 Define terms Eco system (Refer Section 3.1)

Q. 2 Define terms Biotic and abiotic (Refer Section 3.2)

Q. 3 Explain the concept of an ecosystem. (Refer Section 3.2)

Q. 4 Explain with schematic diagram, the energy flow in a typical ecosystem. (Refer Section 3.2)

Q. 5 Give classification / Types of ecosystem. (Refer Section 3.3)

Q. 6 List the major ecosystem in world. (Refer Section 3.3.1)

Q. 7 Explain broad structure of ecosystem. (Refer Section 3.5)

Q. 8 What are the functions of ecosystem ? (Refer Section 3.5)

Q. 9 Explain energy flow in ecosystem. (Refer Section 3.5)

Q. 10 Define terms : Producer and Consumer. (Refer Section 3.5.2)

MULTIPLE CHOICE QUESTIONS

Q. 1 An _____ consists of biotic and abiotic components.

(i) Environment (ii) Ecosystem

(iii) Ecology (iv) None of the above

Ans. : (ii)

Q. 2 Biotic and abiotic components together form an _____.

(i) Ecosystem (ii) Pond

(iii) River (iv) None of the above

Ans. : (i)

Q. 3 Community of living organisms make part of an _____.

(i) Environment (ii) Universe

(iii) Ecosystem (iv) None of the above

Ans. : (iii)

Q. 4 Non living organism community makes part of an _____.

(i) Ecosystem (ii) Ecology

(iii) Environment (iv) None of the above

Ans. : (i)

Q. 5 Biotic and abiotic components are linked through _____.

(i) Energy flow (ii) Nutrient cycles
(iii) (i) and (ii) both (iv) None of the above

Ans. : (iii)

Q. 6 Energy flow in ecosystem links _____ and _____ together.

(i) Biotic and abiotic components
(ii) Organism and plants
(iii) Fruits and flowers
(iv) None of the above

Ans. : (i)

Q. 7 Nutrients cycles play important role in _____ together biotic and abiotic components.

(i) Combining (ii) Linking
(iii) Joining (iv) None of the above

Ans. : (ii)

Q. 8 Ecosystem can be of any _____.

(i) Size (ii) Shape
(iii) Type (iv) None of the above

Ans. : (i)

Q. 9 Energy flow in any ecosystem is primarily obtained from, _____.

(i) Coal (ii) Power
(iii) Sun (iv) None of the above

Ans. : (iii)

Q. 10 Energy flow involves all _____ to play role.

(i) Components (ii) Trees
(iii) Animals (iv) None of the above

Ans. : (i)

Q. 11 Producers in any ecosystem may be _____.

(i) Primary only
(ii) Secondary only
(iii) All- primary/secondary/tertiary
(iv) None of the above

Ans. : (iii)

Q. 12 Ecosystem consists of components which play role as _____ consumer.

(i) Only primary (ii) Primary and tertiary
(iii) Primary / Secondary / Tertiary
(iv) None of the above

Ans. : (iii)

Q. 13 Biotic and abiotic components in ecosystem interact _____ with each other.

(i) Occasionally (ii) Continually
(iii) Rarely (iv) None of the above

Ans. : (ii)

Q. 14 The dead organic matter from living organisms is part of _____.

(i) Soil (ii) Environment
(iii) Ecosystems (iv) None of the above

Ans. : (iii)

Q. 15 _____ organisms can exchange between soil and water.

(i) Dead (ii) Living
(iii) No (iv) None of the above

Ans. : (ii)

Q. 16 Ecosystem are of _____ and _____ types.

(i) Aquatic and Terrestrial
(ii) Living and Nonliving
(iii) Clean and unclean
(iv) None of the above

Ans. : (i)

Q. 17 Coral reef is example of _____ type of ecosystem.

(i) Terrestrial (ii) Aquatic
(iii) Organic (iv) None of the above

Ans. : (i)

Q. 18 "Tundra" is example of _____ type ecosystem.

(i) Marine (ii) Terrestrial
(iii) Microbiological (iv) None of the above

Ans. : (ii)

Q. 19 The essential components of any ecosystem is, _____.

(i) Energy source (ii) Biotic and abiotic components
(iii) (i) and (ii) both (iv) None of the above

Ans. : (iii)

Q. 20 Biotic and abiotic components in ecosystem are linked through _____.

(i) Energy flow
(ii) Energy transformations
(iii) Energy balances (iv) None of the above

Ans. : (ii)

Q. 21 Biotic and a biotic components involve _____.

(i) Biochemical composition
(ii) Biochemical cycling
(iii) Biochemical balances
(iv) None of the above

Ans. : (ii)

Q. 22 _____ chain involves energy transformation.

(i) Food (ii) Reactions
(iii) Cyclisation (iv) None of the above

Ans. : (i)

Q. 23 _____ chain and _____ web involves energy transformation.

(i) Food, food (ii) Producer, consumer
(iii) Producer, food (iv) None of the above

Ans. : (i)

Q. 24 All ecosystems involve _____ transformations.

(i) Ecology (ii) Energy
(iii) Cycle (iv) None of the above

Ans. : (ii)

Q. 25 All ecosystems involve _____ cycling.

(i) Biological (ii) Geological
(iii) Biogeochemical (iv) None of the above

Ans. : (iii)

Q. 26 Biogeochemical cycling links _____ and _____ components in ecosystem.

(i) Plants and animal
(ii) Living and non-living
(iii) Organic and Inorganic
(iv) None of the above

Ans. : (ii)

Q. 27 Food chain and food web concept is associated with _____ transformations.

(i) Chemical (ii) Ecological
(iii) Energy (iv) None of the above

Ans. : (iii)

Q. 28 _____ eat plants and plant products.

(i) Carnivores (ii) Herbivores
(iii) Animals (iv) None of the above

Ans. : (ii)

Q. 29 _____ survive on herbivores.

(i) Plants (ii) Carnivores
(iii) Aquatics (iv) None of the above

Ans. (ii)

Q. 30 Those which consume droppings of all of us.

(i) Detritivores (ii) Herbivores
(iii) Carnivores (iv) None of the above

Ans. : (i)

Q. 31 Dead tissues and waste products are used by _____.

(i) Detritivores (ii) Metagens
(iii) Soil (iv) None of the above

Ans. : (i)

Q. 32 Detritivores, Herbivores, Carnivores are part of _____.

(i) Food chain (ii) World
(iii) Ecosystem (iv) None of the above

Ans. : (i)

Q. 33 Energy flows from _____ to _____.

(i) Bottom, top (ii) Top, bottom
(iii) Earth, moon (iv) None of the above

Ans. : (i)

Q. 34 Amount of energy _____ from bottom to top.

(i) Increases (ii) Decreases
(iii) Remains same (iv) None of the above

Ans. : (ii)

Q. 35 In food chain, Grass hopper is _____ consumer.

(i) Primary (ii) Secondary
(iii) Initial (iv) None of the above

Ans. : (i)

Q. 36 Snake is _____ consumer in food chain.

(i) Secondary (ii) Tertiary
(iii) Primary (iv) None of the above

Ans. : (i)

Q. 37 In the presence of sun and water, _____ produces food.

(i) Decomposer (ii) Producer
(iii) Consumer (iv) None of the above

Ans. : (ii)

Q. 38 Fungi act as _____ in food chain.

(i) Decomposer (ii) Producer
(iii) Consumer (iv) None of the above

Ans. : (i)

Q. 39 Decomposer helps to send _____ to producers.

(i) Components (ii) Nutrients
(iii) Constituents (iv) None of the above

Ans. : (ii)

Q. 40 Grass is categorized as _____ in grazer food chain.
(i) Plant (ii) Producer
(iii) Vegetable (iv) None of the above
Ans. : (ii)

Q. 41 Hawk act as _____ consumer in a grazer food chain.
(i) Primary (ii) Secondary
(iii) Tertiary (iv) None of the above
Ans. : (iii)

Q. 42 _____ and _____ are types of food chains.
(i) Grazer, Detritus (ii) Natural, synthetic
(iii) Organic, inorganic (iv) None of the above
Ans. : (i)

Q. 43 In _____ food chain, dead organic matter is serves as principal energy input.
(i) Detritus (ii) Flowing
(iii) Original (iv) None of the above
Ans. : (i)

Q. 44 Any food chain has no more than _____ links.
(i) 4 to 5 (ii) 3
(iii) 3 to 4 (iv) None of the above
Ans. : (i)

Q. 45 The interconnected food chains form _____.
(i) Ecosystem (ii) Environment
(iii) Food web (iv) None of the above
Ans. : (iii)

Q. 46 In a food web, food chains are _____.
(i) Interconnected (ii) Cycled
(iii) Joined (iv) None of the above
Ans. : (i)

Q. 47 Food webs are very _____.
(i) Simple (ii) Small
(iii) Complicated (iv) None of the above
Ans. : (iii)

Q. 48 Most animals are part of more than _____ food chain.
(i) One (ii) Two
(iii) Three (iv) None of the above
Ans. : (i)

Q. 49 Any food web indicates that _____ is connected to _____ else.
(i) Everything, Everything
(ii) Nothing, Everything
(iii) Everything, Nothing
(iv) None of the above
Ans. : (i)

Q. 50 Ecological pyramid is a _____ representation.
(i) Geological (ii) Pyramidal
(iii) Graphical (iv) None of the above
Ans. : (iii)

Q. 51 Ecological pyramid shows _____ productivity.
(i) Biome (ii) Biomass
(iii) Organic (iv) None of the above
Ans. : (ii)

Q. 52 In ecological pyramid primary producers are shown at _____.
(i) Top (ii) Base
(iii) Periphery (iv) None of the above
Ans. : (ii)

Q. 53 Primary producers are followed by _____ consumers.
(i) Secondary (ii) Primary
(iii) All (iv) None of the above
Ans. : (ii)

Q. 54 Tertiary consumers are shown at _____ of ecological pyramid.
(i) Base (ii) Top
(iii) Corners (iv) None of the above
Ans. : (ii)

Q. 55 Ecological pyramid is _____ in shape.
(i) Circular (ii) Triangular
(iii) Oval (iv) None of the above
Ans. : (ii)

Q. 56 Ecological pyramid consists of _____ and _____ in sequence.
(i) Plants, animals
(ii) Producers, consumers
(iii) Consumers, producers
(iv) None of the above
Ans. : (ii)

Q. 57 _____ pyramids show amount of organic matter in an organism.
(i) Biomass (ii) Biome
(iii) Biotic (iv) None of the above
Ans. : (i)

Q. 58 Pyramid of _____ shows turnover of biomass at each topic at each tropic level.

(i) Productivity (ii) Production
(iii) Consumption (iv) None of the above

Ans. : (i)

Q. 59 Productivity pyramid shows flow of _____ in food chain.

(i) Production (ii) Turnover
(iii) Energy (iv) None of the above

Ans. : (iii)

Q. 60 Productivity is expressed as _____ unit.

(i) Grams per meter^2 per year
(ii) Calories per meter^2 per year
(iii) Both above
(iv) None of the above

Ans. : (iii)

Q. 61 In all ecological pyramids, producers are always at _____.

(i) Centre (ii) Bottom
(iii) Top (iv) None of the above

Ans. : (ii)

Q. 62 _____% energy is used to build new biomass in ecological pyramid.

(i) 25 (ii) 10
(iii) 10 – 25 (iv) None of the above

Ans. : (ii)

Q. 63 In _____ pyramid, each step us 10% the size of previous step.

(i) Productivity (ii) Ecological
(iii) Biomass (iv) None of the above

Ans. : (i)

Q. 64 Pyramid of numbers is graphical representation of _____ at each level in food chain.

(i) Production (ii) Population
(iii) Consumer (iv) None of the above

Ans. : (ii)

Q. 65 The _____ itself is a major ecosystem.

(i) Air (ii) Sun
(iii) Earth (iv) None of the above

Ans. : (iii)

Q. 66 Island is example of _____ ecosystem.

(i) Water (ii) Earth
(iii) Ocean (iv) None of the above

Ans. : (iii)

Q. 67 Grass lands is example of _____ water ecosystem.

(i) Fresh (ii) Waste
(iii) Polluted (iv) None of the above

Ans. : (i)

Q. 68 Forests are part of _____ ecosystem.

(i) Tropical (ii) Terrestrial
(iii) Marine (iv) None of the above

Ans. : (ii)

Q. 69 Regional ecosystem governed by temperature and other atmospheric parameters is known as _____.

(i) Biomass (ii) Biome
(ii) Biotic (iv) None of the above

Ans. : (ii)

Q. 70 Grass lands have _____ soil and _____ content of O_2.

(i) Rich, High (ii) Poor, High
(iii) Poor, Low (iv) None of the above

Ans. ; (i)

Q. 71 Grass lands have _____ and _____ grasses.

(i) Thick, Thin (ii) Dense, Tall
(iii) Dense, Thick (iv) None of the above

Ans. : (ii)

Q. 72 In Coniferous forest, _____ are cold.

(i) Stones (ii) Winter
(iii) Seasons (iv) None of the above

Ans. (ii)

Q. 73 In Deciduous forest, _____ are warm.

(i) Summer (ii) All seasons
(iii) No seasons (iv) None of the above

Ans. : (i)

Q. 74 Short, strong, leafy, thorny plants are _____.

(i) Cacti (ii) Berry
(iii). Legumes (iv) None of the above

Ans. : (i)

Q. 75 Chaparrels are found in _____.

(i) Austria (ii) Australia
(iii) Africa (iv) None of the above

Ans. : (iii)

Q. 76 Ground is always frozen in _____.

(i) Tundra (ii) Forest
(iii) Tropical (iv) None of the above

Ans. : (i)

Q. 77 _____ is just below Tundra.
(i) Chapparrel (ii) Rain forest
(iii) Taiga (iv) None of the above
Ans. : (iii)

Q. 78 Biome above 10000 feet is _____.
(i) Tundra (ii) Taiga
(iii) Alpine (iv) None of the above
Ans. : (iii)

Q. 79 Biome just below Himalayan mountain is _____.
(i) Alpine (ii) Wet lands
(iii) Taiga (iv) None of the above
Ans. : (i)

Q. 80 Alpine is on _____ feet height.
(i) 5000 (ii) 7000
(iii) 10000 (iv) None of the above
Ans. : (iii)

Q. 81 Alpine has summer from _____ to _____.
(i) March, May (ii) June, September
(iii) April, June (iv) None of the above
Ans. (ii)

Q. 82 _____ has drastic fluctuation.
(i) Alpine (ii) Tundra
(iii) Taiga (iv) None of the above
Ans. : (i)

Q. 83 Alpine region _____ animals have _____ lungs.
(i) Large (ii) Small
(iii) Normal (iv) None of the above
Ans. : (i)

Q. 84 In Alpine, October to May is _____ season.
(i) Monsoon (ii) Winter
(iii) Summer (iv) None of the above
Ans. : (ii)

Q. 85 In Alpine, animals are _____ in height.
(i) Normal (ii) Short
(iii) Average (iv) None of the above
Ans. : (ii)

Q. 86 In Alpine, animals have _____ legs.
(i) Four (ii) Short
(iii) Bent (iv) None of the above
Ans. : (ii)

Q. 87 In Alpine, animals have large lungs, to survive _____ pressure and _____ O_2 content.
(i) High, Low (ii) Low, High
(iii) High, High (iv) None of the above
Ans. : (i)

Q. 88 In Alpine, animals have _____ blood vessels.
(i) More (ii) Large
(iii) Thick (iv) None of the above
Ans. ; (i)

Q. 89 Animals in Alpine region have _____ blood vessels to store more _____.
(i) More, Haemoglobin (ii) Thick, O_2
(iii) Large, blood (iv) None of the above
Ans. : (i)

Q. 90 In Alpine, _____ also have adaptations as animals.
(i) Plants (ii) Humans
(iii) Aquatics (iv) None of the above
Ans. : (ii)

Q. 91 Just like in Alpines, in _____ also have adaptations of lungs.
(i) Nepal (ii) Canada
(iii) India (iv) None of the above
Ans. ; (i)

Q. 92 People in Nepal / Tibet are called _____.
(i) Sherapas (ii) Gorkha
(iii) Himalayan (iv) None of the above
Ans. : (i)

Q. 93 About _____% area of earth is Oceans.
(i) 75 (ii) 40
(iii) 30 (iv) None of the above
Ans. : (i)

Q. 94 Plants under ocean are _____.
(i) Aquatic (ii) Aquifers
(iii) Oceanicy (iv) None of the above
Ans. : (ii)

Q. 95 Aquifers prepare food by _____.
(i) Metabolism (ii) Photosynthesis
(iii) Photolysis (iv) None of the above
Ans. : (ii)

Q. 96 Nearly _____% photosynthesis takes place in ocean by aquifers.

(i) 75 (ii) 40

(iii) 100 (iv) None of the above

Ans. : (ii)

Q. 97 Access of O_2 is more in _____ ocean water.

(i) Deep (ii) Shallow

(iii) Entire (iv) None of the above

Ans. : (ii)

Q. 98 Photosynthesis does not take place in _____ ocean water.

(i) Deep (ii) Shallow

(iii) Both above (iv) None of the above

Ans. : (i)

Q. 99 Due to absence of photosynthesis, deep ocean is rich in _____.

(i) Minerals (ii) O_2

(iii) Aquifers (iv) None of the above

Ans. : (i)

Q. 100 Minerals / Oils/ Salts mainly occurs in _____.

(i) Deep ocean (ii) Shallow ocean

(iii) Air (iv) None of the above

Ans. : (i)

Q. 101 Ocean ecosystem gives _____.

(i) Minerals/oil/salt (ii) Only minerals

(iii) Only oil (iv) None of the above

Ans. : (i)

Q. 102 Geographically ecological region with similarity in vegetation and climate is _____.

(i) Abiotic (ii) Biome

(iii) Biotic (iv) All of the above

Ans. : (ii)

Q. 103 The variety of habitats is _____.

(i) Ecosystem Diversity (ii) Ecological Variation

(iii) Biodiversity (iv) Diversity

Ans. : (i)

Q. 104 A group of co-existing organisms which interact with the environment _____.

(i) Diversity (ii) Ecosystem

(iii) Biodiversity (iv) Will

Ans. : (ii)

Q. 105 A plant that can produce food is called _____.

(i) Provider (ii) Producer

(iii) Consumer (iv) Developer

Ans. : (ii)

Q. 106 Developmental action-meeting present requirements – not affecting future needs is _____.

(i) Appropriate action

(ii) Proper development

(iii) Sustainable Development

(iv) Redevelopment

Ans. : (iii)

□□□

Chapter Ends...