Questions
&
Answers
on
ZLY 101 & ZLY 103

ZLY 101

1 When we study a(n) _____, we are concerned with the community plus its physical and chemical environment.
A) habitat
B) niche
C) ecosystem
D) population
E) species

2 An ecosystem possesses _____.
A) only living components
B) only non-living components
C) both living and non-living components

3 _____ are autotrophic organisms with the ability to carry on photosynthesis and to make food for themselves.
A) Herbivores
B) Carnivores
C) Omnivores
D) Producers
E) Consumers

4 Examples of consumers include _____.
A) herbivores
B) carnivores
C) omnivores
D) all of the above

5 Decomposers break down detritus, which is living organic matter.
A) True
B) False

6 Every ecosystem is characterized by which fundamental phenomena?
A) energy flow and chemical cycling
B) energy and matter
C) water and soil
D) evaporation and precipitation
E) a balance in energy production and energy loss

7 _____ flows through an ecosystem and does NOT cycle.
A) Water
B) Nitrogen
C) Energy
D) Carbon
E) Oxygen

8 Energy flow begins when producers take inorganic nutrients from the physical environment.
A) True
B) False

9 Energy flows through an ecosystem because when one form of energy is transformed into another form, and there is always a loss of some energy as heat.
A) True
B) False

10 With every energy transformation, some energy is degraded into a less available form such as _____.
A) chemical energy
B) fossil fuels
C) biomass
D) calories
E) heat

11 A _____ indicates who eats whom in an ecosystem.
A) food pyramid
B) food web
C) biomass weight
D) calorimeter
E) trophic level

12 When numerous food chains link to each other in an ecosystem, it is known as a(n) _____.
A) food pyramid
B) food web
C) food cluster
D) feeding guild
E) energy pyramid

13 All organisms that feed at each link in a food chain comprise a/an _____.
A) trophic level
B) biomass
C) food pyramid
D) energy pyramid
E) calorie

14 In some ecosystems, there is more energy stored in the forest floor and the primary consumer feeds mostly on detritus .
A) True
B) False

15 Because some organisms move from soil to above ground plants, the _____ food chain is connected to a grazing food chain.
A) detritus
B) pyramidal

C) energy
D) climax
E) trophic

16 The trophic structure of an ecosystem can be summarized in the form of an _____.
A) detritus dendrogram
B) ecological pyramid
C) energy network
D) climax schematic
E) trophic level chart

17 An ecological pyramid contains _____.
A) a producer trophic level
B) a consumer trophic level
C) higher predator level(s)
D) all of the above ✓

18 Ecological pyramids are built from a _____.
A) pyramid of numbers
B) pyramid of energy
C) pyramid of biomass
D) all of above ✓

19 _____ is the number of organisms multiplied by their weight.
A) Energy content
B) Trophic level
C) Biomass ✓
D) An ecosystem
E) A pyramidal cross section

20 A pyramid of energy shows that there is an increasing amount of energy available at each successive trophic level.
A) True ✗
B) False ✓

21 Because only about ten percent of the energy of one trophic level is converted into organisms at the next trophic level, _____.
A) food chains are rarely longer than 4 or 5 links
B) there are far fewer big fierce animals
C) a lot of tissue is available to decomposers
D) there will nearly always be more herbivore tissues than carnivore tissues
E) all of the above are true ✓

22 It is generally stated that only about 10 % of the energy available at one trophic level is incorporated into the tissues of animals at the next level.
A) 10 ✓
B) 20
C) 30

D) 40
E) 80

23 In contrast to energy, _____ do/does cycle through large natural ecosystems.
A) aquifers
B) inorganic chemicals ✓
C) trophic levels
D) ATP
E) vital life forces

24 For each chemical element essential for life the cycling process involves _____.
A) a reservoir
B) an exchange pool
C) the biotic community
D) all of the above ✓

25 The two general categories of biogeochemical cycles are the _____ cycles.
A) biological and geological
B) biogeographical and geological
C) solid and liquid
D) gaseous and sedimentary ✓
E) costly and free

26 Groundwater located in permeable layers of rock is called a/an _____.
A) reservoir
B) aquifer ✓
C) artesian well
D) spring
E) transpiration zone

27 Given enough time, all water eventually returns to the _____.
A) aquifers
B) lakes and ponds
C) atmosphere through transpiration
D) atmosphere through evaporation
E) oceans ✓

28 In the carbon cycle, both terrestrial and aquatic organisms exchange _____ with the atmosphere.
A) sugar (C 6H12 O6)
B) oxygen gas
C) carbon monoxide
D) carbon dioxide ✓
E) methane (CH 4)

29 Respiration releases carbon dioxide, the molecule needed for photosynthesis.
A) True
B) False

30 When aquatic organisms respire, the carbon dioxide they give off becomes bicarbonate.
A) True
B) False

31 Most of the fossil fuels were formed during the Cretaceous period.
A) True
B) False

32 The oceans are a primary reservoir for carbon in the form of _____.
A) marine plants
B) calcium carbonate shells
C) marine animals
D) coal
E) oil

33 There is much concern that an increased amount of carbon dioxide in the atmosphere is causing global _____.
A) warming
B) shortage of carbon
C) shortage of oxygen
D) cooling
E) ozone depletion

34 The relationship between _____ and aerobic cellular respiration should be kept in mind when discussing the carbon cycle.
A) photosynthesis
B) trophic levels
C) pollution
D) food pyramids
E) food webs

35 There has been a recent increase in the amount of carbon dioxide in the atmosphere.
A) True
B) False

36 If nothing is done to control the level of greenhouse gases in the atmosphere, a/an _____ in global temperature is expected.
A) rise
B) drop
C) evening off
D) random fluctuation

37 Nitrogen makes up _____ % of the atmosphere by volume.
A) 48
B) 68
C) 78

D) 94

38 Plants cannot incorporate nitrogen into organic compounds and therefore depend on _____ to make nitrogen available to them.
A) animals
B) viruses
C) geological uplift
D) bacteria
E) humans

39 Nitrogen fixation occurs when nitrogen is converted to a form plants can use and becomes part of the organic compounds.
A) True
B) False

40 Chlorofluorocarbons (CFCs) were agents used in production of refrigerants and styrofoam.
A) True
B) False

41 The atmosphere has two layers, the stratosphere and the _____.
A) troposphere
B) lithosphere
C) cosmosphere
D) biosphere

42 The troposphere is the atmospheric layer farthest away from the earth's surface.
A) True
B) False
ANSWERS
1C, 2C, 3D, 4D, 5B, 6A, 7C, 8B, 9A, 10E, 11B, 12B, 13A, 14A, 15A, 16B, 17D, 18D, 19C, 20B, 21E, 22A, 23B, 24D, 25D, 26B, 27E, 28D, 29A, 30A, 31B, 32B, 33A, 34A, 35A, 36A, 37C, 38D, 39A, 40A, 41A, 42B

Population Ecology

1 Which distribution pattern does territoriality produce?
A) random
B) uniform
C) clumped
D) None of the above. Territoriality isn't important in determining distribution patterns.

2 A metapopulation is
A) a population in an urban area
B) a network of distinct and non-interacting species
C) a population that constantly occupies all suitable habitats in an area
D) a network of distinct but interacting species

3 The mortality rate of organisms following a type III survivorship curve is
A) fairly constant throughout life

B) higher in post-reproductive years
C) lower after the organisms become established
D) unrelated to age

4 Organisms whose life history adaptation is called semelparity
A) produce young only late in life
B) produce a large batch of young and die
C) produce young over most of their life
D) produce a single offspring near the end of their reproductive potential

5 Which of the following is not an outcome of high population density?
A) toxic waste accumulation
B) mortality increase
C) predators tend to ignore prey that is overabundant
D) reproduction reduction

6 The statistical study of populations is called
A) density
B) fecundity
C) dispersion
D) mortality
E) demography

7 What type of survivorship curve do humans have?
A) Type I
B) Type II
C) Type III
D) Type IV
E) none of the above

8 Which dispersion pattern is most common in nature?
A) randomly spaced
B) uniformly spaced
C) clumped
D) all are equally common
E) none of these are found in nature

9 r strategists tend to have
A) few offspring
B) little parental care
C) sigmoid growth curves
D) all of the above
E) none of the above

10 The number of individuals that a particular place can support indefinitely is called the
A) biotic potential
B) survivorship
C) cohort

D) carrying capacity
E) community

11 To obtain optimal yield, populations should be harvested at what part of the sigmoid growth curve?
A) the very beginning
B) the steep part
C) where it levels off
D) it doesn't make any difference
E) populations should never be harvested

12 A community plus the nonliving factors with which it interacts is called a(n)
A) ecosystem
B) age structure
C) biome
D) population
E) cohort

13 Which of the following populations is most likely to go extinct?
A) a very small population in an unstable environment
B) a moderate-sized population of r strategists
C) a large population with lots of genetic variability
D) all would be equally likely to go extinct

14 The number of individuals per unit area determines the population's
A) survivorship
B) mortality
C) age distribution
D) density
E) fundamental niche

15 In the formula for biotic potential ($dN/dt = riN$), what does N stand for?
A) the carrying capacity of the environment
B) the change in time
C) the number of individuals in the population
D) the intrinsic rate of natural increase of the population
E) the age distribution of the population

16 Which of the following factors will affect population growth rates?
A) net emigration
B) net immigration
C) birth rate
D) all of the above
E) none of the above

17 During exponential growth,
A) the number of individuals in a population increases rapidly
B) the rate of increase fluctuates

C) the curve on the graph levels off
D) all of the above
E) none of the above

18 When members of a population move out of a given area, it is called
A) survivorship
B) immigration
C) mortality
D) demography
E) emigration

19 What causes a sigmoid growth curve to level off?
A) the population stops reproducing
B) mortality decreases in the population
C) the population shifts from a clumped to a uniformly spaced dispersion
D) the population reaches the environmental carrying capacity
E) sigmoid growth curves never level off

20 What type of effect has an increasing impact as the population size increases?
A) density-independent effect
B) cohort effect
C) age effect
D) survivorship effect
E) density-dependent effect

21 What is the size of the human population today?
A) over 10 billion
B) almost 6 billion
C) less than 2 billion
D) just under 1 billion
E) less than 4 million

22 What type of population would be associated with a population pyramid that had an extremely broad base?
A) a rapidly expanding population
B) a stable population
C) a population where the birth rate equaled the death rate
D) a population where there were more old individuals than young individuals
E) a population with more males than females

23 In this chapter, glanville fritillary butterflies are used as an example of a species with
A) a Type II survivorship curve
B) a uniformly spaced population
C) K selected adaptations
D) metapopulations
E) a high cost of reproduction (CR)

24 If the life history pattern for a species is to reproduce once and then die, it is called

A) fecundity
B) iteroparity
C) semelparity
D) density-dependent
E) density-independent

25 The pattern of dispersion known as _____ probably results from a form of antagonism occurring between individuals.
A) random dispersion
B) uniform dispersion
C) clustered dispersion
D) patchy dispersion

26 When does the growth rate of a natural population equal zero?
A) when N/K is exactly one
B) when N nears the carrying capacity of the habitat
C) when N/K equals zero
D) when mortality is greater than natality

27 Choose the factor that is unlikely to limit population growth.
A) predation
B) harsh weather
C) disease
D) All are factors that could limit population growth.

28 Which of these is not a density-dependent factor that could act to limit population growth as population size increases?
A) waste accumulation
B) fire
C) inhibitory pheromones
D) lowered immune function due to stress

29 A _____ survivorship curve is most typical of an opportunistic species.
A) type I
B) type II
C) type III
D) All of these are typical of opportunistic species.

30 Even though humans are animals, it is unlikely that humans will exhibit symptoms of overcrowding seen in other species.
A) True
B) False

31 The number of individuals that can be supported in a given location is the:
A) density-dependent effect
B) realized rate of population increase
C) biotic potential
D) innate capacity for increase

E) none of the above

32 An example of an organism fitting a type I survivorship curve is:
A) an oyster
B) a human being
C) a hydra
D) lizards
E) none of the above

33 Clumped patterns of dispersion are indicative of an environment in which resources are unevenly distributed.
A) True
B) False

34 The sigmoid growth curve is characteristic of most survivorship curves.
A) True
B) False

1B, 2D, 3C, 4B, 5C, 6E, 7A, 8C, 9B, 10C, 11B, 12C, 13A, 14D, 15C, 16D, 17A, 18E, 19E, 20E, 21B, 22A, 23D, 24C, 25B, 26A, 27D, 29C, 30B, 31E, 32B, 33A, 34A.

Climax and Succession

1. Which of the following is an example of ecological succession?
A. gradual change from a pioneer community to a climax community
B. primary succession
C. secondary succession
D. All of the above choices are correct.

2. Primary succession is ecological succession that begins in a place that _____
A. does not have soil
B. does not have rock
C. does not have lichens.
D. already has soil

3. Secondary succession begins in a place that _____
A. was once the home of living organisms
B. has no soil
C. does not have lichens
D. already has soil

4. Ecological succession makes it possible for _____
A. a forest to stand where once there was only bare rock
B. weeds, grasses, and trees to grow in a vacant lot
C. trees to become mature
D. new species to survive in an environment

5. The final stage of ecological succession is _____
A. a pioneer community
B. newly formed soil
C. an intertidal zone
D. a climax community

6. How are climax communities different from pioneer communities?
A. Pioneer communities have complex food webs, while climax communities have simple food chains.
B. Pioneer communities contain few species, while climax communities have many species.
C. Pioneer communities have trees, while climax communities may have only lichens on bare rock.
D. Pioneer communities do not change, while climax communities will inevitably change.

7. Precipitation includes _____
A. hail
B. snow
C. rain
D. All of the above choices are correct.

8. Which of the following factors contribute to a regions climate?
A. temperature
B. latitude
C. altitude
D. All of the above choices are correct.

9. A biome is _____.
A. a large geographical area that has similar climates and ecosystems
B. made up of one community and the abiotic factors that affect it
C. a region dominated by climax communities of grasses
D. All of the above choices are correct.

10. Which of the following is a description of the tundra?
A. cold region of cone-bearing trees
B. the driest biome on Earth
C. cold, dry treeless region
D. forests in which the dominant plants are deciduous trees

11. The frozen soil below the surface in the tundra is called _____.
A. an intertidal zone
B. plankton
C. a pioneer community
D. permafrost

12. Which of the following biomes is home to pines, firs, hemlocks, spruces, moose, black bears, and wolves?
A. tundra
B. taiga

C. tropical rain forest
D. deciduous forest

13. In which of the following biomes are the organisms adapted to dryness?
A. tropical rain forest
B. desert
C. taiga
D. tundra

14. Estuaries are areas where _____
A. a river meets an ocean
B. grazing animals such as wildebeests and zebras live
C. more species live than in any other kind of ecosystem
D. the shoreline is exposed to air during the high tide

15. Which are the following are freshwater biomes?
A. lakes
B. rivers
C. ponds
D. All of the above choices are correct.

16. Which of the following would take place on a cooled bed of lava?
A. primary succession
B. secondary succession
C. tertiary succession
D. None of the above choices is correct.

17. Succession involves changes in which of the following factors?
A. abiotic
B. biotic
C. Both of the above choices are correct.
D. Neither of the above choices is correct.

18. Which of the following is supplied by the sun?
A. light energy for photosynthesis
B. heat energy for warmth
C. Both of the above choices are correct.
D. Neither of the above choices is correct.

19. Due to the rain shadow effect, the region on the opposite side of a mountain receives _____.
A. snow instead of rain
B. large amounts of rain
C. hail
D. very little rain

20. Self-sufficient ecosystems in glass spheres are known as _____.
A. ecospheres

B. macrospheres
C. microcosms
D. biomes

21. The layer of vegetation that provides shade to the ground below and homes for birds is called the _____.
A. understory
B. upper story
C. crown
D. canopy

22. Temperate regions usually have four _____.
A. distinct seasons each year
B. main species of trees
C. Both of the above choices are correct.
D. Neither of the above choices is correct.

23. Which of the following is NOT true of deserts?
A. some areas receive no rain for years
B. water on the ground evaporates quickly
C. most are covered with thin, sandy or gravelly soil
D. All of the above choices are correct.

24. Which of the following describes Antarctica?
A. made up of 70 percent of Earth's fresh water
B. doubles in size during the winter
C. winter temperatures can drop to -90°C.
D. All of the above choices are correct.

25. What are plankton?
A. microscopic algae and other organisms that float in bodies of water
B. organisms living in intertidal zones
C. organisms that live in swiftly moving water
D. None of the above choices is correct.

ANSWERS
1D, 2A, 3A, 4D, 5D, 6B, 7D, 8D, 9A, 10C, 11D, 12B, 13B, 14A, 15D, 16A, 17C, 18C, 19D, 20C, 21D, 22A, 23D, 24D, 25A

Environmental Issues

1. The major pollutant from automoblie exhaust is
a) NO
b) CO
c) SO2
d) Soot

2. The green house gases, otherwise called radioactively active gases includes

a) Carbon dioxide
b) CH_4
c) N_2O
d) All of these

3. Algal bloom results in
a) Global warming
b) Salination
c) Eutrophication
d) Biomagnification

4. A high Biological Oxygen Demand (BOD) indicates that:
a) water is pure
b) absence of microbial action
c) Low level of microbial pollution
d) High level of microbial pollution

5. The effects of radioactive pollutants depends upon
a) Rate of diffusion
b) energy releasing capacity
c) rate of deposition of the contaminant
d) all of these

6. The range of normal human hearing is in the range of
a) 10 Hz to 80 Hz
b) 50 Hz to 80 Hz
c) 50Hz to 15000 Hz
d) 15000 Hz and above

7. The pollution which does not persistent harm to life supporting system is
a) Noise pollution
b) Radiation pollution
c) Organochlorine pollution
d) All of these

8. Soap and detergents are the source of organic pollutants like:
a) glycerol
b) polyphosphates
c) sulphonated hydrocarbons
d) all of these

9. Growing agricultural crops between rows of planted trees is known as
a) Social forestry
b) Jhum
c) Taungya system
d) Agroforestry

10. The main atmospheric layer near the surface of earth is

a) troposphere
b) mesophere
c) lonosphere
d) stratospere

Answers:
1. b) CO
2. d) All of these
3. c) Eutrophication
4. d) High level of microbial pollution
5. d) all of these
6. c) 50Hz to 15000 Hz
7. a) Noise pollution
8. d) all of these
9. c) Taungya system
10. a) troposphere

Environmental Issues

1. Man made sources of radiation pollution are:
a) mining
b) explosion of nuclear weapons
c) nuclear fuels and preparation of radioactive isotopes
d) all of these

2. The cutting down of trees and setting them on fire and raising crops on the resulting ash is called:
a) Pyrolysis
b) Jhum
c) Taungya system
d) Shift cultivation

3. Percentage of forest area recommended by the the national forest policy for plains is
a) 33%
b) 67%
c) 30%
d) 10%

4. Example of primary pollutant
a) SO2
b) NO2
c) CO
d)hydrocarbons

5.Commonly used radioactive isotopes in scientific research
a) 14 C
b) 125 I

c) 32 P
d) all of these

6. Drinking of fluoride containing water results :
a) fluorosis
b) chlorosis
c) minemata
d) methaemoglobinema

7. Chipco movement is a public agitation that occurred in
a) Mansbal area in Kashmir
b) Silent valley in Kerala
c) Sundarban area in Bengal
d) Tehri Garhwal area of Uttar Pradesh

8. High biological oxygen demand indicates:
a) absence of microbial pollution
b) moderate microbial pollution
c) intense level of microbial pollution
d) all of these

9. Ozonospere seen in
a) ionosphere
b) thermosphere
c) mesophere
d) stratosphere

10. Harmful trace metals in fly ash:
a) antimony
b) cadmium
c) arsenic
d) all of the above

Answers
1. d) all of these
2. b) Jhum
3. a) 33%
4. d)hydrocarbons
5. d) all of these
6. a) fluorosis
7. d) Tehri Garhwal area of Uttar Pradesh
8. c) intense level of microbial pollution
9. d) stratosphere
10. all of the above

ZLY 103

Phylum Porifera (Sponges)

1. A sponge can be distinguished from other animals by the presence of
a) Hollow body
b) coelenteron
c) choanocytes
d) dermal papillae

2. Animal of phylum Porifera are characterised by
a) Diploblastic organisation
b) canal system
c) coelom
d) coelenteron

3. Larva of sponge is known as
a) planula larva
b) trochophore larva
c) glochidium larva
d) amphiblastula larva

4. Gemmules are helpful in
a) digestion
b) sexual reproduction
c) Secretion of spicules
d) Survival in drought

5. Most of the sponges are
a) solitary
b) colonial
c) fresh water forms
d) cold water inhabitants

6. Choanocytes in sponges are present
a) on the external body surface
b) line the gastric cavity
c) in the mesodermal layer
d) located between the outer and inner layers

7. Sycon belong to the class
a) Calcarea
b) porifera
c) Desmospongia
d) Hexactinellida

8. Bath sponge belongs to the class
a) porifera
b) Desmospongia
c) Hexactinellida
d) Calcarea

9. Parazoa includes
a) Cnidaria
b) Acidaria
c) Porifera
d) None of these

10. Most common method of reproduction in sponges is
a) binary fission
b) budding
c) multiple fission
d) sexual reproduction

11. Skeleton of sponges is produced by
a) Pinacocytes
b) thescocytes
c) choanocytes
d) sclerocytes

12. The only fresh water species of sponges is
a) Scypha
b) Euspongia
c) Spongilla
d) Oscarella

13. Venus's flower basket is a
a) Sea anemone resembling a flower basket
b) sponge resembling a flower basket
c) glass rope sponge
d) ornamental mollusc

14. Common bath sponge is
a) Euplectella
b) Spongilla
c) Syon
d) Euspongia

15. Digestion in sponges is
a) intracellular
b) intercellular
c) both a and b
d) extracellular

Answers:
1- c 2- b 3-d 4-d 5-b
6-b 7-a 8-b 9-c 10-b
11-d 12-c 13-b 14-d 15-a

Phylum Cnidaria (Coelenterata)

1. Nematocysts are the specialized cells found in the members of the phylum
a) Cnidaria
b) Porifea
c) Annelida
d) Mollusca

2. Tentacles of Hydra help in
a) locomotion
b) food capturing
c) both a and b

3. Hydra is put under the phylum cnidaria because it has
a) Cnidoblasts
b) tentacles
c) hypostome
d) interstitial cells

4. The poisonous fluid present in the nematocysts of Hydra is
a) toxin
b) Hypnotoxin
c) venom
d) Haematin

5. Nematocysts are the organs of
a) sensation
b) reproduction
c) Defence and offence
d) respiration

6. Hydra prevents self fertilization by being
a) Protogynous
b) hermaphrodite
c) protandrous
d) monoecious

7. The planula larva is found in the life history of
a) Hydrozoan
b) Anthozoan
c) Scyphozoan

d) All of the above

8. Polymorphic cnidarians are the members of the class
a) Hydrozoa
b) Scyphozoa
c) Actinozoa
d) None of these

9. Coral reef forming coelenterates belong to the class
a) Hydrozoa
b) Scyphozoa
c) Actinozoa
d) All of the above

10. Among coelenterates medusoid individuals are absent in members of the class
a) Anthozoa
b) Hydrozoa
c) Scyphozoa
d) None of these

11. Ephyra is the larval form of
a) Sea anemone
b) Aurellia
c) Obelia
d) Hydra

12. Six septa or six mesenteries are characteristic of
a) Aurelia
b) Hydra
c) Obelia
d) Sea anemone

13. Sea anemone is
a) diploblastic, radially symmetrical animal
b) diploblastic, bilaterally symmetrical animal
c) triploblastic, radially symmetrical animal
d) triploblastic, bilaterally symmetrical animal

14. The most primitive invertebrate to possess musculo- epithelial cells and nerve cells is
a) Sycon
b) Spongilla
c) Fasciola
d) Hydra

15. The first invertebrates to develop a true nervous system are
a) flat worms
b) sponges
c) coelenterates

d) annelids

Answers :
1- a 2- c 3-a 4-b 5-c
6-c 7-d 8-a 9-c 10-a
11-b 12-c 13-a 14-d 15-c

Phylum Echinodermata

1. Which of the following systems is found in echinoderms?
a) Nervous system
b) Excretory system
c) Respiratory system
d) System of internal skeleton

2. The locomotory organs of Echinoderms are called
a) Parapodia
b) Pseudopodia
c) Tube feet
d) Setae

3. The echinoderms are related to chordates by their similarity in the development of
a) gut
b) nervous system
c) heart
d) coelom
4. Aristotle's lantern is a characteristic feature of
a) starfishes
b) sea urchins
c) brittle stars
d) Holothurians

5. Auricularia is the larva of
a) Echinoidea
b)Asteriodea
c) Ophiuroidea
d) Holothuroidea

6. The terrestrial species of Echinodermata is
a) Brittle star
b) Starfish
c) sea lilly
d) None of these

7. Which of the following is a living fossil?
a) Holothuria (Sea cucmber)

b) Antedon (Feather star)
c) Ophiothrix (Brittle star)
d) Echinus (Sea urchin)

8. Which of the following is not true of echinoderms?
a) Exclusively marine habitat
b) Schizocoelic coelom
c) No excretory organs
d) Water vascular system

9. Bipinnaria larva is found in the development of a
a) Sea-lily
b) Starfish
c) Sea cucumber
d) Sea star

10. Pedicellariae are modified
a) tube feet
b) integumentary structures
c) Spines
d) some other structures

11. Starfishes are
a) herbiborous
b)Carnivorous
c) filter feeders
d) Omnivorous

12. The larva that occurs in the development of sea urchin is
a) auricularia
b) echinopluteus
c) Bipinnaria
d) pluteus

13. Main difference between starfishes and brittle stars is in the
a) number of arms
b) tube feet
c) structure of the ambulacral groove
d) pedicellariae

14. Sausage shaped body form is a chacteristic of
a) Echinoidea
b) Asteriodea
c) Ophiuroidea
d) Holothuroidea

15. Madreporite is associated with
a) Haemal system

b) Digestive system
c) Ambulacral system
d) Reproductive System

Answers:
1-D 2-C 3-D 4-B 5-D
6-D 7-B 8-B 9-B 10-C
11-B 12-B 13-C 14-D 15-A

Phylum Annelida

1. Annelids show advancement over the nematode in having
a) Metameric segmentation
b) True coelom
c) Closed circulatory ststem
d) all of the above

2. Anticoagulant secreted by leech is
a) Heparin
b) Hirudin
c) Haematin
d) Hamoglobin

3. Leech belongs to the class
a) Oligochaeta
b) Hirudinea
c) Polycheta
d) Chaetopoda

4. Total marine annelids belong to the class
a) Oligochaeta
b) Hirudinea
c) Polycheta
d) Chaetopoda

5. The mode of respiration in earthworm is
a) cutaneous
b) gills
c) Pulmonary
d) Subcutaneous

6. The excretory units of Annelids are
a) uriniferous tubules
b) flame cells
c) Nephiridia
d) Nephrostomes

7. The first body segment of earthworm is
a) Peristome
b) Peristomium
c) Protostomium
d) Protostome

8. The nephridia of earthworm without nephrostomes are
a) Integumentary
b)Pharyngeal
c) septal
d) both a and c

9. The mode of feeding in Leech is
a) Herbivorous
b) Carnivorous
c) Omnivorous
d) Sanguinivous

10. Which one is known as Nature's plough man
a) Nereis
b) Cattle leech
c) Earhworm
d) Polygordius

11. In earthworm fertilization occurs in
a) oviduct
b) water
c) coon
d) Ootheca

12. Chromophil cells in earthworm are concerned with the secretion of
a) Amylase
b) Protease
c) Lipases
d) Coccon

13. Nereis is commonly called
a) Earhworm
b) Calm worm
c) Ring worm
d) Round worm

14. Role of typhlosole in the intestine of earthworm is
a) to increase absorptive surface
b) to control flow of blood
c) to produce digestive enzymes
d) to kill bacteria

15. Hemoglobin is dissolved in plasma in
a) Earthworm
b) Ascaris
c) Tapeworm
d) Insects

Answers:
1-d 2-b 3-b 4-c 5-a
6-c 7-b 8-a 9-d 10-c
11-a 12-b 13-b 14-a 15-a

Phylum Arthropoda

1. Metamerically segmented, bilaterally symmetrical animals bearing jointed appendages. These are characteristic of
a) Helminthes
b) Annelida
c) Mollusca
d) Arthropoda

2. Pronounced cephalisation is a characteristic
a) Echinoderms
b) Annelida
c) Mollusca
d) Arthropoda

3. Hemocoelic body cavity is a characteristic of
a) Ascaris
b) Leech
c) Cockroach
d) Snails

4. Division of the body into head, thorax and abdomen is a characteristic of
a) Insecta
b) Insecta and Archnida
c) Insecta and Crustacea
d) Insecta and Myriapoda

5. Most primitive arthropods belong to the class
a) Archnida
b) Insecta
c) Onychophora
d) Myriapoda

6. Lung books are the respiratory organs of
a) Insects

b) Crustaceans
c) Archnids
d) Peripatus

7. The organs of taste in cockroach are present in
a) epipharynx only
b) hypopharynx
c) pharynx
d) palps and epipharynx

8. The distal parts of Malpighian tubules in Cockroach
a) open into haemolymph
b) open into coelomic cavity
c) float freely in haemolymph
d) are attached to alimentary canal

9. The nitrogenous waste in cockroach is mainly excreted as
a) Urea
b) Uric acid
c) Ammonia
d) Urea and uric acid

10. A common feature between cockroach and earthworm is
a) nephridia
b) ommatidia
c) coccon formation
d) ventral nerve cord

11. The male and female cockroach can be distinguished by their
a) size
b) wings
c) anal styles
d) colour

12. True and complete metamorphosis is found in
a) Silver fish
b) grass hopper
c) cockroach
d) moth and mosquito

13. The communication in bees by special body movements (dances) was discovered by
a) T.H. Morgan
b) Karl Von Frisch
c) Robert Koch
d) I.Pavlov

14. A photosensitive part of insect ommatidium is
a) crystalline connes

b) pigment cells
c) rhabdome
d) sensory neuron

15. The mouth parts of house fly are of
a) piercing and sucking type
b) biting and chewing type
c) sucking and sponging type
d) biting, sucking and lapping type

Answers:
1-d 2-d 3-c 4-a 5-c
6-c 7-d 8-c 9-b 10-d
11-c 12-d 13-b 14-c 15-c

Phylum Platyhelminthes

1. Platyhelminthes are best described as
a) flatworms, triploblastic , acoelomate animals
b) flatworms, diploblastic , acoelomates
c) flatworms, triploblastic , coelomates
d) flatworms, triploblastic , pseudocoelomates animals

2. An important character which platyhelminthes share with the acnidarians is
a) diploblastic condition
b) single cavity communicating with the exterior
c) three germ layers and no coelom
d) Presence of complicated reproductive system

3. Free living platyhelminthes forms belong to the class
a) Cestoda
b)Trematoda
c) Turbellaria
d) Nematoda

4. In helminthes, flame cells are component of their
a) reproductive system
b) excretory system
c) nervous system
d) respiratory system

5. Fasciola hepatica is an endoparasite that lives in the
a) liver of sheep
b) blood of sheep
c) spleen of sheep
d) intestine of sheep

6. The intermediate host in the life cycle of Taenia saginata is
a) Pig
b) Goat
c)Dog
d) Cattle

7. Taenia solium lacks alimentary canal because
a) it does not require any food
b) it lives in the intestine
c) it has saprozoic mode of feeding
d) None of the above

8. Which of the following is called 'Blood fluke' of man?
a) Taenia
b) Paragonium
c) Fasciola
d) Schistoma

9. Rhabdites are present in the cells of epidermis in
a) Cestoda
b) Trematoda
c) Turbellaria
d) None of these

10. Cilia help in locomotion over solid surfaces in
a) Miracidium larva of Fasciola
b)Planaria
c) Hydra
d) Turbellaria

11. Which of the following swim by ciliary action?
a) Adult Fasciola
b) Miracidium redia, and cercaria of Fasciola
c) Miracidium larva of Fasciola
d) Redia larva of Fasciola

12. In the life cycle of Liver fluke the sheep get infection when they ingest
a) encysted cereriae
b) miracodia
c) sporocysts
d) rediae

13. A well developed nervous system and sense organs are present in members of the class
a) Turbellaria
b) Cestoda
c) Trematoda
d) None of these

14. Miracidium is a larval stage in the development of
a) Taenia solium
b) Fasciola hepatica
c) Ascaris
d) Echinococcus

15. The intermediate host of Fasciola is
a) Limnaea truncatula
b) Pila globosa
c) Lamellidens
d) Helix

Answers:
1- a 2- b 3-c 4-b 5-a
6-d 7-c 8-d 9-c 10-d
11-c 12-a 13-a 14-b 15-a

Phylum Mollusca
1. Which of the following includes coelomate unsegmented organisms?
a) Annelida
b) Molusca
c) Chordata
d) Arthropoda

2. Head. Foot and visceral mass-this combination of characters is diagnostic of
a) Echinoderms
b) Arthropods
c) Molluscs
d) Annelida

3. Internal shell is present in
a) Pila
b)Sepia
c) Chiron
d) Lamellidens

4. Identify the larva which is present only in members of gastropods
a) Trochophore
b) Veliger
c) Glochidium
d) Muller's larva

5. Osphradium is to test the purity of water in
a) Pila
b) Starfish
c) Housefly
d) Earhworm

6. The respiratory organs in a freshwater mussel are
a) book lungs
b)pulmonary sacs
c) gills
d) respiratory siphons

7. Sepia is commonly known as
a) star fish
b) jelly fish
c) cuttle fish
d) silver fish

8. Ink glands as a means of escape from predators are present in
a) Pila (Gastropoda)
b) Unio (Pelecypoda)
c) Sepia (Cephalopoda)
d) Dentalium (Scaphopoda)

9. Pearls of commercial value are produced by which of the following genera
a) Pinctada
b) Unio
c) Anodonta
d) Ostrea

10. 'Pearl mother layer' is
a) prismatic layer
b) Periostracum
c) Nacre
d) Mantle

11. Which of the following produces a shell of great ornamental value?
a) Pila
b) Nautilus
c) Unio
d) Ostrea

12. The largest Invertebrate is
a) Octopus
b) Loligo
c) Sepia
d) Architeuthis

13. Shipworm is
a) an annelid
b) an echinoderm
c) a mollusc
d) a limbless amphibian

14. Devil fish is the common name of
a) Sepia
b) Loligo
c) Octopus
d) Teredo

15. Most advanced molluscs belong to the class
a) Cephalopoda
b) Gastropoda
c) Amphineura
d) Monopacophora

Answers:
1-b 2-c 3-b 4-b 5-a
6-c 7-c 8-c 9-a 10-c
11-b 12-d 13-c 14-c 15-d

Phylum Chordata

1. Which of the following structures is present in all the chordates?
a) Cranium
b) Notochord
c) Spinal cord
d) Vertebral column

2.Which of the following is a characteristic chordate character?
a) Autotomy
b) Myotomy
c) Pharyngotomy
d) Dermatotomy

3. The three germ layers , namely ectoderm, endoderm and mesoderm are found in
a) All the chordates only
b) All the chordates except the protochordates
c) All the chordates and higher invertebrates
d) Higher chordates and higher invertebrates

4. Bilateral symmetry is seen in the body organisation of
a) Only chordates
b) Vertebrates only
c) Vertebrates, annelids, arthropods, and cnidarians
d) annelids, arthropods and vertebrates.

5. Paired segmental nerves have dorsal and ventral roots in
a) Annelids
b) Arthropods

c) Vertebrates
d) All of these

6. Which of the following organisms neither have notochord nor vertebral column in the adult stage?
a) Cephalochordates
b) Herdmania
c) Petromyzon
d) Bdellostoma

7. The term "head" in vertebrate morphology includes
a) brain and its protective coverings
b) brain, its protective coverings and also major sense organs
c) brain ,skull, sense organs and also jaws
d) brain, skull, sense organs, jaws and also pharyngeal skeleton

8. In which of the following the heart is not ventral in position?
a) Fish
b) Frog
c) Lamprey
d) Crabs

9. Centrum, pre and post -zygapophysis, transverse process are parts of
a) skull of frog
b) Vertebrae of frog
c) Sternum of frog
d) Pectoral girdle of frog

10. Schizocoelic phyla are
a) Protozoa, Porifera, Cnidarians, and Platyhelminthes
b) Platyhelminthes, Aschelminthes and Annelida
c) Annelida, Artropoda, and Mollusca
d) Arthropoda, Mollusc and Echinodermata

11. Which of the following is a vertebrate organism?
a) Cuttle fish
b) Cray fish
c) Globe fish
d) Devil fish

12. In which of the following animals notochord does not persist throughout life?
a) Amphioxus
b) Tunicates
c) Petromyzon
d) Myxine

13. Pharyngeal gill slits
a) are unique chordate characteristic

b) are found in fishes, crabs, snails, aquatic insects
c) are found in higher invertebrates and vertebrates
d) are not found in protochordates, but are present in vertebrates, at least during the embryonic life.

14. Hepatic portal system is present in all
a) amniotes only
b) anamniotes only
c) Amniotes and anamniotesonly
d) amphibians and mammals

15. In which of the animals the heart does not have the left and right auricles?
a) Cartilaginous and bony fishes
b) Frogs and toads
c) Lizards and snakes
d) Crocodiles and alligators
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