

Biology 2012

1. Pond is an example of which ecosystem?

- (a) Natural (b) Artificial
- (c) Forest (d) None of these

Ans. (a)

2. The ecological niche of population is a

- (a) geographical area that it covers
- (b) place where it lives
- (c) set of conditions and resource it uses
- (d) none of these

Ans. (c)

3. Mendel's dihybrid cross ratio is

- (a) 1:2:1 (b) 9:3:3:1
- (c) 9:3:4 (d) 1:1

Ans. (b)

4. Parachute mechanism of seed dispersal occurs in

- (a) sunflower (b) Calotropis
- (c) mango (d) apple

Ans. (b)

5. Hand of man, wing of bat and flipper of seal represent

- (a) vestigial organs
- (b) analogous organs
- (c) evolutionary organs
- (d) homologous organs

Ans. (d)

6. If an organism is crossed with homozygous recessive individual, it is called

- (a) back cross (b) test cross
- (c) simple cross (d) monohybrid cross

Ans. (b)

7. Which is correct for the structure of cell wall of bacteria and fungi?

- (a) Both are made up of cellulose
- (b) Both have mucopolysaccharide
- (c) Both are made up of N-acetylglucosamine
- (d) None of these

Ans. (c)

8. Photorespiration takes place only in

- (a) lysosomes of plant cell
- (b) green parts of the plant
- (c) mitochondria of plant cell
- (d) none of these

Ans. (b)

9. Nitrogen fixation means:

- (a) N₂ changes in NO₃
- (b) N₂ changes in NH₃
- (c) NO₂ changes into nitrates
- (d) none of these

Ans. (b)

10. In a pond ecosystem, benthos means

- (a) primary consumers in the depth of a poiid
- (b) virus
- (c) zooplankton on the water surface
- (d) bacteria

Ans. (a)

11. There are special proteins that help to open up DNA double helix in front of the replication fork. These protein are

- (a) DNA ligase (b) DNA gyrase
- (c) DNA polymerase I (d) none of these

Ans. (b)

12. Peripatus is known as a connecting link, because it has the characters of both

- (a) Ayes and Fishes
- (b) Reptiles and Birds
- (c) Fishes and Amphibians
- (d) Arthropoda and Annelids

Ans. (d)

13. In which segment the clitellum is present in earthworm?

- (a) 16 segments (b) 17-19 segments
- (c) 14-16 segments (d) 5-6 segments

Ans. (c)

14. Which of the following is absent in the mouth part of housefly?

- (a) Labrum (b) Epipharynx
- (c) Mandibles (d) Maxillary palps

Ans. (c)

15. The colour of the body in earthworm is brown due to

- (a) porphyrin (b) haemoglobin
(c) blood Cd) haemocyanin

Ans. (a)

16. The egg found in monotremata is

- (a) microlecithal (b) mesolecithal
(c) macrolecithal (d) none of these

Ans. (c)

17. Which hormone causes stunted growth in pea?

- (a) Gibberellic acid (b) Auxin
(c) Cytokinin (d) Ethylene

Ans. (d)

18. In five kingdom classification of Whittaker, eukaryotes were assigned to

- (a) 3 of 5 kingdoms (b) 2 of 5 kingdoms
(c) 4 of 5 kingdoms (d) all the 5 kingdoms

Ans. (d)

19. Which is responsible for recycling of material?

- (a) Bacteria (b) Algae
(c) Fungi (d) Virus

Ans. (a)

20. Which is following group of plant can grow in N₂ deficient soil?

- (a) Bryophytes (b) Algae
(c) Insectivorous (d) Pteridophytes

Ans. (c)

21. Which region is responsible for origin of rhizoids in Funaria?

- (a) Lateral region (b) Dorsal region
(c) Ventral region (d) Basal region

Ans. (d)

22. Powdery mildews of crops are caused by

- (a) basidiomycetes (b) phycomycetes
(c) ascomycetes (d) eumycocetes

Ans. (c)

23. The codons, causing chain termination are

- (a) AGT, TAG, UGA (b) UAG, UGA, UAA
(c) TAG, TAA, TGA (d) GAT, AAT, AGT

Ans. (b)

24. Biological concept of species is mainly based on

- (a) methods of reproduction only
(b) reproductive isolation
(c) morphological features only
(d) none of these

Ans. (b)

25. The organism which carries a disease from one organism to another is called?

- (a) Parasite (b) Host
(c) Vector (d) None of these

Ans. (c)

26. The morphine obtained from opium is a

- (a) tannin (b) alkaloids
(c) gums (d) latex

Ans. (b)

27. Hybrid vigour is mostly due to

- (a) superiority of all the genes
(b) homozygosity of pure characters
(c) heterozygosity
(d) none of these

Ans. (c)

28. Flowers and lateral branches arise from the

- (a) lateral buds (b) lenticles
(c) stomata (d) cuticle

Ans. (a)

29. Chiasma shows the sites of

- (a) spindle formation (b) synapsis
(c) crossing over (d) none of these

Ans. (c)

30. The process of cytokinesis refers to the division of

- (a) nucleus (b) chromosomes
(c) cytoplasm (d) none of these

Ans. (c)

31. Which of the following organelle does not contain RNA?

- (a) Chromosome (b) Plasmalemma
- (c) Nucleolus (d) Ribosome

Ans. (b)

32. Arachidonic acid is

- (a) non-essential fatty acid (b) essential fatty acid
- (c) polyunsaturated fatty acid (d) both b' and 'c'

Ans. (b)

33. Which of the following is polymerized to form proteins?

- (a) Protein (b) Carbohydrates
- (c) Amino acid (d) Muramic acid

Ans. (c)

34. All enzymes are basically

- (a) carbohydrates (b) steroids
- (c) proteins (d) lipo-proteins

Ans. (c)

35. The nucleus is separated from surrounding cytoplasm by a nuclear membrane, which is

- (a) single layered without pores
- (b) double layered with pores
- (c) single layered with pores
- (d) double layered without pores

Ans. (b)

36. Which organ has a single unit membrane?

- (a) Lysosome (b) Mitochondria
- (c) Golgi body (d) Nucleolus

Ans. (a)

37. Which of the following animal has a notochord throughout its life?

- (a) Fish (b) Bird
- (c) Snake (d) Amphioxus

Ans. (d)

38. Piercing and sucking mouth parts are found in

- (a) mosquitoes (b) housefly
- (c) butterfly (d) ticks

Ans. (a)

39. When the number of organisms at successive levels are plotted they assume the shape of a pyramid. This is called the pyramid of

- (a) Biomass (b) Number
(c) Energy (d) None of these

Ans. (b)

40. Effect of pollution is on

- (a) crossing over (b) ecological balance
(c) linkage (d) mutation

Ans. (b)

41. Deforestation causes

- (a) thermal pollution (b) noise pollution
(c) soil erosion (d) none of these

Ans. (c)

42. A thin film of water is held by the soil particles under the influence of internal attractive force. It is called

- (a) hygroscopic water (b) gravitational water
(c) combined water (d) capillary water

Ans. (a)

43. Pneumatophores are usually present in

- (a) Murraya (b) Eichhonia
(c) Avicinnia (d) none of these

Ans. (c)

44. Balloon like outgrowth of parenchyma into the lumen of vessels, is known as

- (a) tyloses (b) tunica
(c) corpus (d) none of these

Ans. (a)

45. In some plants the style is shorter. But in some others, it is longer than the stamens. This condition is called

- (a) homogamy (b) homostyly
(c) heterostyly (d) none of these

Ans. (c)

46. Interferon is

- (a) bacteria (b) anti-viral
(c) anti-algal (d) anti-bacterial

Ans. (b)

47. Bacterium have flagella with all ove: body is known as

- (a) peritrichous (b) amphitrichous
- (c) monotrichous (d) none of these

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Ans. (a)

48. Helotism is a term used for the symbio-.sis of

- (a) algae and bacteria
- (b) algae and bryophytes
- (c) algae and pteridophytes
- (d) algae and fungi

Ans. (d)

49. In Dryopteris the opening mechanism of sporangium is effectively operated by

- (a) stalk (b) stomium
- (c) annulus (d) none of these

Ans. (b)

50. In DNA, when AGCT occur, their association is as per which of the following pair?

- (a) AG-CT (b) AC-GT
- (c) AT-GC (d) All of these

Ans. (c)

51. Anus is absent in

- (a) Unio (b) Pheretima
- (c) Periplaneta (d) Fasciolci

Ans. (d)

52. The vegetation of Rajasthan is

- (a) xerophytic (b) deciduous
- (c) hydrophytic (d) arctic

Ans. (a)

53. In food chain, lion is a

- (a) tertiary consumer
- (b) secondary consumer
- (c) primary consumer
- (d) none of these

Ans. (a)

54. Agricultural chemicals include

- (a) promotors (b) pesticides
- (c) fertilizers (d) all of these

Ans. (c)

55. Biological equilibrium is found among the

- (a) producers, consumers and decom posers
- (b) producers and consumers

- (c) producers and decomposers
(d) none of these

Ans. (a)

56. Light energy in photosynthesis is utilized in

- (a) H₂O converted into H₂
(b) ADP converted into ATP
(c) ATP converted into ADP
(d) none of these

Ans. (b)

57. Nitrates are converted into N₂ by

- (a) N₂ fixing bacteria
(b) sulphur fixing bacteria
(c) denitrifying bacteria
(d) none of these

Ans. (c)

58. Genetic dwarfness can be overcome by treating with

- (a) cytokinin (b) auxins
(c) gibberellins (d) ethylene

Ans. (c)

59. The nephridia, in earthworm, are analogous to

- (a) gills of prawn
(b) trachea of insects
(c) nematoblasts of Hydra
(d) flame cells of Planaria

Ans. (d)

60. Which special feature present in slime moulds?

- (a) Capsule (b) Capillitium
(c) Claters (d) None of these

Ans. (b)

61. Aggregate fruit develops from

- (a) multicarpellary, apocarpous ovary
(b) multicarpellary ovary
(c) multicarpellary, syncarpous ovary
(d) monocarpellary ovary

Ans. (a)

62. Respiratory quotient (R.C.L) during early stages of germination of castor seed is

- (a) one (b) zero
- (c) more than one (d) less than one

Ans. (a)

63. In DNA helix, cytosine is paired with guanine by

- (a) three hydrogen bonds
- (b) two hydrogen bonds
- (c) single hydrogen bond
- (d) covalent bond

Ans. (b)

64. High content of lysine is present in

- (a) wheat (b) apple
- (c) maize (d) banana

Ans. (a)

65. In a pond ecosystem the pyramid of biomass is always

- (a) irregular (b) inverted
- (c) upright (d) none of these

Ans. (b)

66. Members of phylum Porifera are

- (a) exclusively marine animals
- (b) exclusively fresh water animals
- (c) mostly fresh water animals but few are marine animals
- (d) mostly marine animals but few are fresh water animals

Ans. (d)

67. Hydra recognises its prey by

- (a) riematocyst
- (b) some special organs
- (c) chemical stimulus of prey
- (d) mechanical stimulus of prey

Ans. (a)

68. Shell of mollusc is produced by its

- (a) radula (b) thorax
- (c) mantle (d) abdomen

Ans. (c)

69. Asymmetry in gastropoda is due to

- (a) torsion (b) coiling
- (c) twisting (d) none of these

Ans. (c)

70. The joint of femur, with pelvic girdle, is

- (a) hinge joint
- (b) pivot joint
- (c) non-movable joint
- (d) ball and socket joint

Ans. (d)

71. Which of the following is the part of mid brain of rabbit?

- (a) Diencephalon (b) Cerebrum
- (c) Corpora quadrigemina (d) None of these

Ans. (c)

72. Which of the following is a motor nerve?

- (a) Auditory (b) Abducens
- (c) Optic nerve (d) Trigeminal nerve

Ans. (b)

73. Which of the following is called emergency gland of the body?

- (a) Testis (b) Thymus
- (c) Adrenal (d) Pituitary

Ans. (c)

74. Which of the following is both exocrine and endocrine gland

- (a) Liver (b) Pancreas
- (c) Thyroid (d) Adrenal

Ans. (b)

75. Corpus luteum is developed from

- (a) oocyte (b) nephrostome
- (c) graffian follicle (d) none of these

Ans. (c)

76. In most mammals, the testes are located in scrotal sac for

- (a) spermatogenesis
- (b) sex differentiation
- (c) more space to visceral organs
- (d) independent functioning of kidney

Ans. (a)

77. Third cleavage of frog's development is

- (a) equatorial (b) vertical
- (c) latitudinal (d) none of these

Ans. (c)

78. Which of the following is a transparent tissue?

- (a) Tendon (b) Hyaline cartilage
- (c) Fibrous cartilage (d) All of these

Ans. (b)

79. Which of the following are not true cells in the blood

- (a) Platelets (b) Monocytes
- (c) Neutrophils (d) Basophils

Ans. (a)

80. Vitamin D is synthesised in skin, by the action of sunlight on

- (a) cholesterol
- (b) seven-hydroxy-cholesterol
- (c) cephancholesterol
- (d) all of these

Ans. (b)

81. In which animal, diaphragm has no role in respiration?

- (a) Frog (b) Rat
- (c) Camel (d) Rabbit

Ans. (a)

82. The area of inner surface of bronchiole is

- (a) 1m (b) 10m
- (c) 100 m² (d) 1000 m

Ans. (c)

83. During the process of blood coagulation, vitamin K helps in

- (a) the formation of prothrombin
- (b) the formation of thromboplastin
- (c) the conversion of fibrinogen into fibrin
- (d) the conversion of prothrombin into thrombin

Ans. (a)

84. The heart muscles are

- (a) striated and involuntary
- (b) striated and voluntary
- (c) smooth and involuntary
- (d) non-striated and involuntary

Ans. (a)

85. Which of the following amino acids is present in ornithine cycle?

- (a) Valine and cystine
- (b) Arginin and citrulline
- (c) Glycine and methionine
- (b) None of these

Ans. (b)

86. The joint of radio-ulna with the upper arm is

- (a) hinge joint (b) pivot joint
- (c) socket joint (d) none of these

Ans. (a)

87. Haversian canals are present in

- (a) bone marrow (b) hyaline cartilage
- (c) bone matrix (d) calcified cartilage

Ans. (a)

88. Law of segregation of gametes was proposed by

- (a) Mendel (b) de Vries
- (c) Robert Hook (d) Huxley

Ans. (a)

89. Which of the following evidences does not favour the Lamarckian concept of inheritance of acquired characters?

- (a) Absence of limbs in snakes
- (b) Presence of webbed toes in aquatic birds
- (c) Melanization in peppered moth
- (d) Lack of pigment In cave-dwelling animals

Ans. (c)

90. The most important example of point mutation is found in a disease called

- (a) thalassemia (b) night blindness
- (c) Down's syndrome (d) sickle cell anaemia

Ans. (d)

Directions for Q. 91. to Q. 100 : In each of the following questions, a statement of Assertion (A) is given followed by a corresponding statement of Reason (R) Just below it. Of the statements, mark the correct answer as:

- (a) If both Assertion and Reason are true and Reason is correct explanation of Assertion
- (b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion
- (c) If Assertion is true but Reason is false
- (d) If both Assertion and Reason are false

91. Assertion: Agricultural output increased several times after introduction of DDT. Reason : DDT was the first insecticide used on a wide scale.

- (a) A (b) B
- (c) C (d) D
- (e) E

Ans. (a)

92. Assertion Diabetes insipidus is marked by excessive urination and too much thirst of water. Reason : Anti-diuretic hormone (ADH) is secreted by the posterior lobe of pituitary gland.

- (a) A (b) B
- (c) C (d) D
- (e) E

Ans. (b)

93. Assertion: Coacervates are believed to be the precursors of life. Reason: Coacervates were self-duplicating aggregates of proteins surrounded by lipid molecules.

- (a) A (b) B
- (c) C (d) D
- (e) E

Ans. (c)

94. Assertion: Tapeworm roundworm and pinworm are endoparasites of human intestine. Reason: Improperly cooked food is the source of intestinal infections.

- (a) A (b) B
- (c) C (d) D
- (e) E

Ans. (d)

95. Assertion: Fish meal is a rich source of protein for cattle and poultry. Reason: Fish meal is produced from non-edible parts of fishes like fins, tail etc.

- (a) A (b) B
- (c) C (d) D
- (e) E

Ans. (c)

96. Assertion : Animals adopt different strategies to survive in hostile environment. **Reason:** Praying mantis is green in colour which merges with plant foliage.

- (a)A (b)B
(c)C (d)D
(e) E

Ans. (b)

97. Assertion: Among the primates, chimpanzee is the closest relative of the present day humans. **Reason:** The banding pattern in the autosome numbers 3 and 6 of man and chimpanzee is remarkably similar.

- (a)A (b)B
(c)C (d)D
(e)E

Ans. (a)

98. Assertion : Dope test is used to estimate the level of blood alcohol by analysing the breath of persons drinking alcohol. **Reason :** A drunken person usually feels tense and less talkative.

- (a)A (b)B
(c)C (d)D
(e) E

Ans. (d)

99. Assertion : The honey bee queen copulates only ones in her life time. **Reason:** The honey bee queen can lay fertilized as well as unfertilized eggs.

- (a)A (b)B
(c)C (d)D
(e)E

Ans. (b)

100. Assertion: From evolutionary point of view, human gestation period is believed to be shortening.

Reason: One major evolutionary trend in humans has been the larger head undergoing relatively faster growth rate in the foetal stage.

- (a)A (b)B
(c)C (d)D
(e) E

Ans. (d)

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