

ZOOLOGY

1. Spermiogenesis is the process of transformation of
 - A. Spermatogonium into sperm
 - B. Spermatid into sperm
 - C. Spermatogonium into spermatid
 - D. Spermatocytes to sperm
2. The foetal membrane which protects the embryo from drying up is the
 - A. Amnion
 - B. Chorion
 - C. Allantois
 - D. Yolk sac
3. Biogenetic law was proposed by
 - A. Malpighi
 - B. Von Baer
 - C. Weismann
 - D. Haeckel
4. When the coelom originates from archenteron, it is called
 - A. Enterocoel
 - B. Schizocoel
 - C. Pseudocoel
 - D. True coelom
5. Inner lining of buccal cavity is derived from
 - A. Ectoderm
 - B. Mesoderm
 - C. Endoderm
 - D. All of these
6. Which of the following stays longest in our stomach?
 - A. Food rich in starch
 - B. Food rich in fat
 - C. Food rich in protein
 - D. Fruits and vegetables
7. Leydig's interstitial cells are found in
 - A. Ovary
 - B. Intestine
 - C. Testes
 - D. Heart

8. Respiratory movements are under the control of
- A. Medulla oblongata
 - B. Cerebellum
 - C. Cerebrum
 - D. Crura cerebri
9. Corneal grafts are generally not rejected by the recipient because cornea is
- A. Non cellular
 - B. Non vascularised
 - C. Non living
 - D. Non proteinaceous
10. The neurogenic heart is found in
- A. Cockroach
 - B. Bird
 - C. Man
 - D. Frog
11. Which of the following is termed 'molecular scissors'?
- A. Taq polymerase
 - B. Recombinant DNA
 - C. Restriction endonuclease
 - D. None of these
12. Which one of the following is the most suitable ingredient of contraceptive pills?
- A. Thyroxine
 - B. Oxytocin
 - C. Progesterone
 - D. Oestrogen
13. 'Bt' of Bt cotton stands for
- A. *Bacillus tomentosa*
 - B. *Bacillus thuringiensis*
 - C. Biotechnologically improved cotton
 - D. Better type of cotton
14. Which enzyme is necessary for PCR?
- A. RNA polymerase
 - B. Endonuclease
 - C. Taq polymerase
 - D. Ribonuclease

15. A nonsense or termination codon is
A. CCC
B. UAA
C. GCG
D. AUG
16. Cancer cells undergo
A. Angiogenesis
B. Metastasis
C. Both (A) and (B)
D. None of the above
17. A tumor suppressor gene-
A. Prevents cancer
B. Inhibits cell division
C. Opposes oncogenes
D. Does all the above
18. Leukemia is
A. Cancer of white blood cells
B. Cancer of red blood cells
C. Cancer of platelets
D. Cancer of liver
19. Loop of Henle is found in
A. Kidney
B. Heart
C. Lung
D. Liver
20. Jawless vertebrates are the members of
A. Agnatha
B. Gnathostomata
C. Urochordata
D. Cephalochordata
21. The example of a motor nerve is
A. Optic
B. Vagus
C. Oculomotor
D. Olfactory

22. Diabetes insipidus is characterised by
- A. Low level of urination
 - B. High level of urination
 - C. Low urination & dysentery
 - D. Low urination with general weakness
23. Thymus secretes
- A. Thyroxin
 - B. Thymosin
 - C. Parathormone
 - D. Vasopressin
24. Members of phylum protozoa may bear
- A. Pseudopodium
 - B. Pseudopodia or flagella
 - C. Pseudopodia or flagella or cilia
 - D. Cuticle
25. Excretory organ of cockroach is
- A. Malpighian tubules
 - B. Green gland
 - C. Flame cell
 - D. Stigma
26. Which of the following is not hormone
- A. Auxin
 - B. Cytokinin
 - C. Myoglobin
 - D. Gibberellin
27. Haematopoiesis takes place in
- A. Heart
 - B. Bone marrow
 - C. Digestive gland
 - D. Liver

28. Vaccines may be administered through
- A. Oral route
 - B. Parenteral route
 - C. Subcutaneous route
 - D. All of the above
29. Blood transfusion may transmit diseases like
- A. Malaria
 - B. AIDS
 - C. Viral hepatitis
 - D. All of the above
30. Which one of the following agents may cause cancer?
- A. Coal tar
 - B. Cigarette smoke
 - C. Mustard gas
 - D. All of the above

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BOTANY

31. Which of the following bacteria is used as the main source of biopesticide?
- (A) *Bacillus megaterium*
 - (B) *Bacillus subtilis*
 - (C) *Bacillus cereus*
 - (D) *Bacillus thuringiensis*
32. Which of the following is not a part of the innermost whorl of the flower?
- (A) Pistil
 - (B) Style
 - (C) Stamens
 - (D) Stigma
33. In enveloped viruses the nucleocapsid is surrounded by a membranous covering which is made up of:
- (A) Lipoprotein
 - (B) Protein
 - (C) Sterols
 - (D) Amino sugars
34. Cells of *Spirogyra* characteristically possess:
- (A) Spindle-shaped chloroplast
 - (B) Star-shaped chloroplast
 - (C) Cup-shaped chloroplast
 - (D) Ribbon-shaped spirally arranged chloroplast
35. Which of the following is *not applicable* to eukaryotic cells?
- (A) Presence of nuclear membrane
 - (B) Presence of one or more chromosomes
 - (C) Presence of membrane bound organelles

(D) Absence of nuclear membrane

36. The protonema is a stage in the life cycle of:

- (A) *Funaria*
- (B) *Fusarium*
- (C) *Fucus*
- (D) *Ficus*

37. All of the following are heterosporous except:

- (A) *Marselia*
- (B) *Pinus*
- (C) *Dropteris*
- (D) *Selaginella*

38. Hypanthodium is the type of inflorescence characteristically found in:

- (A) Pineapple
- (B) Fig
- (C) Sunflower
- (D) Pea

39. Which of the following is the characteristic fruit of the family Fabaceae?

- (A) Nut
- (B) Legume
- (C) Siliqua
- (D) Bery

40. Which of the following enzymes synthesizes a complementary strand of mRNA using DNA as a template?

- (A) RNA dependent RNA polymerase
- (B) RNA dependent DNA polymerase
- (C) DNA dependent RNA polymerase

(D) DNA dependent DNA polymerase

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41. To which of the following does thymine normally form hydrogen bonds in DNA?
- (A) Adenine
 - (B) Guanine
 - (C) Cytosine
 - (D) Thymine
42. All of the following are required for PCR reaction except:
- (A) Template DNA
 - (B) Thermostable DNA polymerase
 - (C) Primers
 - (D) Dideoxy-dNTPs
43. A medium which is prepared by mixing chemically defined compounds is called a:
- (A) Natural medium
 - (B) Reduced medium
 - (C) Synthetic medium
 - (D) Differential medium
44. Which of the following bacteria lacks cell wall?
- (A) *Bacillus*
 - (B) *Proteus*
 - (C) *Mycoplasma*
 - (D) *Clostridium*
45. Growth hormone which causes apical dominance in plants is:
- (A) Auxin
 - (B) Gibberelline
 - (C) Ethylene
 - (D) Cytokinin

46. Which of the following organelles contain 70S ribosomes?

- (A) Chloroplasts
- (B) Golgi bodies
- (C) Peroxisomes
- (D) Lysosomes

47. Enzymes involved in feed-back inhibition are called:

- (A) Apozymes
- (B) Allosteric enzymes
- (C) Extremozymes
- (D) Ribozymes

48. Chromosomes with centromere at the middle are commonly called:

- (A) Metacentric
- (B) Acrocentric
- (C) Submetacentric
- (D) Acentric

49. Fruits can be artificially ripened through the use of:

- (A) Auxin
- (B) Cytokinins
- (C) Ethylene
- (D) Abscissic acid

50. In ecological succession, hydrosere is defined as the:

- (A) Secondary succession starting in a pond
- (B) Primary succession starting in a pond
- (C) Primary succession starting in a dry soil
- (D) Secondary succession starting in a dry soil

51. Which of the following organelles in plant is involved in the digestion of fat?
- (A) Glyoxysomes
 - (B) Cellulosomes
 - (C) Endoplasmic reticulum
 - (D) Peroxisomes
52. The largest genus (in terms of the number of species) of the family Malvaceae is:
- (A) *Sida*
 - (B) *Bombax*
 - (C) *Theobroma*
 - (D) *Hibiscus*
53. Which of the following techniques is best used for production of vitamins by plant tissue culture?
- (A) Callus culture
 - (B) Suspension culture
 - (C) Organ culture
 - (D) Anther culture
54. Which one of the following statements is not valid for ground nut?
- (A) Ground nut oil is edible
 - (B) Ground nut oil is used in manufacturing vanaspati
 - (C) Ground nut oil is used for making soap
 - (D) Ground nut oil is used as an antiviral agent
55. Shrinkage of protoplast of a cell from its cell wall under the influence of hypertonic solution is called:
- (A) Plasmolysis
 - (B) Deplasmolysis
 - (C) Absorption

(D) Adsorption

56. In plant cell, water is mostly retained in the:

- (A) Cell wall
- (B) Cytoplasm
- (C) Vacuole
- (D) Nucleus

57. In a cell, hydrolytic enzymes are mostly found in?

- (A) Lysosomes
- (B) Mitochondria
- (C) Ribosomes
- (D) Plastids

58. Powdery mildew of pea is caused by:

- (A) *Xanthomonas orzae*
- (B) *Erysiphe pisi*
- (C) *Agrobacterium tumefaciens*
- (D) *Bacillus anthracis*

59. The rate of transpiration in plants is primarily influenced by all the environmental factors except:

- (A) Light
- (B) Humidity of air
- (C) Temperature
- (D) Soil nitrogen content

60. In C_3 plants the first compound that is formed after CO_2 fixation is:

- (A) 3-phosphoglyceric acid
- (B) Phosphoenol pyruvate
- (C) Ribulose 1,5 biphosphate

(D) Oxaloacetic acid

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