

BOTANY +2 SC

01. In Whittaker's classification prokaryotes are placed in the kingdom:
- (A) Protista
  - (B) Monera
  - (C) Animalia
  - (D) Fungi
02. Which of the following pairs of organelles in eukaryotic cells are believed to have endosymbiotic origin?
- (A) Mitochondria and ribosome
  - (B) Chloroplast and endoplasmic reticulum
  - (C) Mitochondria and chloroplast
  - (D) Ribosome and peroxisome
03. Streptomycin, one of the best known aminoglycosidic antibiotic is produced by the soil bacterium:
- (A) *Streptomyces griseous*
  - (B) *Azotobacter chroococum*
  - (C) *Bacillus subtilis*
  - (D) *Streptomyces noursei*
04. Fat is hydrolysed by the enzyme:
- (A) Trypsin
  - (B) Lipase
  - (C) Pepsin
  - (D) Amylase
05. The non-protein part of an enzyme is called:
- (A) Apoenzyme
  - (B) Prosthetic group
  - (C) Preenzyme
  - (D) Holoenzyme
06. Ribosome, the protein synthesizing machinery of the cell is chemically composed of:
- (A) RNA only
  - (B) DNA only
  - (C) RNA and protein
  - (D) DNA and protein

07. Which of the following is known as the “suicidal bag” of the cell?
- (A) Peroxisome
  - (B) Lysosome
  - (C) Mesosome
  - (D) Carboxysome
08. Morphology of chromosomes is best studied during which stage of mitosis?
- (A) Prophase
  - (B) Anaphase
  - (C) Metaphase
  - (D) Telophase
09. During meiotic cell division, chiasmata is seen in:
- (A) Leptotene
  - (B) Zygotene
  - (C) Pachytene
  - (D) Diplotene
10. Pinocytosis is a type of :
- (A) Endocytosis
  - (B) Exocytosis
  - (C) Active transport
  - (D) Passive transport
11. Which of the following biomolecules would not be found in the animal cell membrane?
- (A) Proteins
  - (B) Phospholipids
  - (C) Glycolipids
  - (D) Nucleic acids
12. Which one of the following reactions is involved in splitting of water and the release of O<sub>2</sub>?
- (A) Cyclic electron transport pathway
  - (B) Non-cyclic electron transport pathway
  - (C) Substrate level phosphorylation
  - (D) Oxidative phosphorylation

13. Which of the following molecules act as the terminal electron acceptor during aerobic respiration?
- (A) Oxygen
  - (B) Carbon dioxide
  - (C) Pyruvate
  - (D) Lactate
14. In some plants, water is lost in a liquid state through a specialized structure called:
- (A) Hydathodes
  - (B) Stomata
  - (C) Cuticle
  - (D) Tendril
15. In the cross AaBb X aabb, what percentage of the offspring are expected to show a completely dominant phenotype?
- (A) 10
  - (B) 25
  - (C) 50
  - (D) 100
16. The appearance of an organism resulting from a given gene combination is referred to as the:
- (A) Genotype
  - (B) Serotype
  - (C) Phenotype
  - (D) Prototype
17. Which of the following is commonly known as white clover?
- (A) *Trifolium repens*
  - (B) *Vicia faba*
  - (C) *Pisium sativum*
  - (D) *Crotolaria juncea*
18. The effort to decipher the genetic code was led by
- (A) Nirenberg
  - (B) Lederberg
  - (C) Watson
  - (D) Crick

19. The iron containing pink pigment present in the root nodules of the leguminous plants is:
- (A) Haemoglobin
  - (B) Leghaemoglobin
  - (C) Nodglobulin
  - (D) Bacterioviridin
20. \_\_\_\_\_ is involved in the conversion of  $\text{NO}_2^-$  to  $\text{NO}_3^-$ .
- (A) *Azotobacter*
  - (B) *Nitrosomonas*
  - (C) *Nitrobacter*
  - (D) *Clostridium*
21. In plants, the chlorophyll molecules are esterified with long chain alcohol:
- (A) Phytol
  - (B) Dulcitol
  - (C) Farnesol
  - (D) Ribitol
22. All of the following organisms are capable of fixing atmospheric  $\text{N}_2$  except:
- (A) *Bradyrhizobium*
  - (B) *Azotobacter*
  - (C) *Nostoc*
  - (D) *Pseudomonas*
23. Which one of the following is a gaseous plant hormone?
- (A) Indole acetic acid
  - (B) Abscisic acid
  - (C) Ethylene
  - (D) Gibberellin
24. All populations within an ecosystem interconnected to one another are known as:
- (A) Community
  - (B) Species
  - (C) Family
  - (D) Biomes

25. Formation of pollinia is characteristic of the family:
- (A) Asteraceae
  - (B) Fabaceae
  - (C) Orchidaceae
  - (D) Malvaceae
26. In \_\_\_\_\_, the stomata remain sunken to reduce the rate of transpiration.
- (A) Xerophytes
  - (B) Hydrophytes
  - (C) Halophytes
  - (D) Mesophytes
27. The virus mediated transfer of genetic material from one bacterium to another was discovered by:
- (A) Griffith
  - (B) Iwanowsky
  - (C) Zinder and Lederberg
  - (D) Lederberg and Hayes
28. The most commonly used fusogen for plant protoplast fusion is:
- (A) Mannitol
  - (B) Sorbitol
  - (C) Polyethylene glycol
  - (D) Polyurathane
29. Circinate vernation characteristic of ferns is also seen in
- (A) *Cycas*
  - (B) *Pinus*
  - (C) *Gnetum*
  - (D) *Podocarpus*
30. Indefinite stamens are characteristic feature of the family:
- (A) Asteraceae
  - (B) Malvaceae
  - (C) Brassicaceae
  - (D) Liliaceae

ZOOLOGY +2 SCIENCE

31. For the first time, heart transplantation was performed by
- A. William Harvey
  - B. Watson and Crick
  - C. Christian Bernard
  - D. Jagadish Bose
32. The testosterone controls
- A. Secondary sex characters
  - B. Sex impulse
  - C. Maintenance of genital ducts and accessory glands
  - D. All of the above.
33. Diabetes mellitus is due to deficiency of
- A. Insulin
  - B. Glucagon
  - C. Trypsin
  - D. ADH
34. Since cow, cat, horse, frog and cobra have cranium, vertebral column, ventral heart and lungs; all of these may be put under the same
- A. Family
  - B. Order
  - C. Class
  - D. Phylum
35. The blood pigment of molluscs is
- A. Myoglobin
  - B. Anthocyanin
  - C. Haemocyanin
  - D. Haemoglobin
36. Two basic components of blood are
- A. Erythrocytes and leucocytes
  - B. Blood corpuscles and plasma
  - C. Erythrocytes and platelets
  - D. Erythrocytes and serum
37. The body of *Sycon* is
- A. Monoblastic
  - B. Diploblastic
  - C. Triploblastic
  - D. None of the above

38. 'Diastema' is found in
- A. Guineapig
  - B. Dog
  - C. Human
  - D. Bird
39. The study of molluscs is known as
- A. Conchology
  - B. Malacology
  - C. Snailology
  - D. Theology
40. Intracellular digestion is not observed in
- A. *Taenia*
  - B. *Amoeba*
  - C. *Paramecium*
  - D. *Plasmodium*
41. Mutation theory was proposed by
- A. Darwin
  - B. Wallace
  - C. Dobzhansky
  - D. Hugo De Vries
42. Which of the following relationship is an example of symbiosis?
- A. Virus and bacteria.
  - B. Rhizome and pea plant
  - C. *Plasmodium* and *Anopheles*
  - D. Hermit crab and mollusc shell
43. Which of the following statements is false according to rules of zoological nomenclature?
- A. The generic name of a given animal is a single word and it begins with a capital letter.
  - B. The species name starts with a small letter.
  - C. No two animals can have the same generic name.
  - D. No two animals can have the same second name.
44. DNA replication occurs in the following phase of cell cycle
- A. M phase
  - B. S phase
  - C. G<sub>1</sub> phase
  - D. G<sub>0</sub> phase
45. Which of the following lists identifies organisms that are producers in the ecosystem?
- A. Algae, fern, sunflower
  - B. Mushroom, bacteria, earthworm
  - C. Insect, deer, tiger
  - D. Birds, crocodile, cow

46. Who wrote “Philosophie Zoologique”?
- A. Linnaeus
  - B. Lamarck
  - C. Hugo de Vris
  - D. Aristotle
47. Hemocytes are found in the blood of
- A. Human
  - B. Bird
  - C. Reptile
  - D. Many invertebrates
48. A carp is a
- A. Lung fish
  - B. Bony fish
  - C. Cartilaginous fish
  - D. Silver fish
49. The articulation of the head of humerus within the glenoid cavity is an example of
- A. Hinge joint
  - B. Ball and socket joint
  - C. Pivot joint
  - D. Rigid joint
50. Pore formation and thinning of bone is clinically termed as
- A. Osteoporosis
  - B. Osteoarthritis
  - C. Osteocancer
  - D. Osteotuberculosis
51. Which of the following tissues can be protective, excretory, secretory, sensory and absorptive in function?
- A. Epithelial tissue
  - B. Connective tissue
  - C. Muscular tissue
  - D. Nervous tissue
52. Comparative study of skull is known as.
- A. Osteology
  - B. Ophthalmology
  - C. Craniology
  - D. Pharmacology
53. Glycogenesis takes place in
- A. Small intestine
  - B. Liver



- C. Pancreas
- D. Spleen

54. Life span of RBC is around

- A. 2 days
- B. 12 days
- C. 120 days
- D. 1200 days

55. Nerves are of

- A. Sensory type
- B. Motor type
- C. Mixed type
- D. All of the above

56. The excretory organ of cockroach is

- A. Flame cells
- B. Organ of Bojanus
- C. Malpighian tubules
- D. Malpighian corpuscles

57. Steroid is

- A. Peptide hormone
- B. Amino acid derivative
- C. Hydrophilic chemical compound
- D. Lipophilic chemical compound

58. Which of the following organelle is known as “suicidal bag”?

- A. Ribosome
- B. Lysosome
- C. Peroxisome
- D. Endoplasmic reticulum

59. Lungs are enclosed by

- A. Peripheral membrane
- B. Pericardium
- C. Pleural membrane
- D. Peritoneum

60. A gene located on Y chromosome and therefore transmitted from father to son is known as

- A. Supplementary genes
- B. Complementary genes
- C. Duplicate genes
- D. Holandric genes

