

## **PEDAGOGY & EVALUATION**

1. The study of variation in psychological characteristics of individuals is known as study of:
  - a) Learning and teaching
  - b) Behavioural disorders
  - c) Social discrimination
  - d) Individual differences
2. The knowledge of individual differences among students can help a teacher in:
  - a) Maintaining proper class discipline
  - b) Studying necessary literature
  - c) Devising suitable teaching strategies
  - d) Effective classroom management
3. Rogers defined the process of learning as change from:
  - a) Ignorance to knowledge
  - b) Real life to Ideal life
  - c) Concrete to abstract understanding
  - d) Known to unknown concepts
4. As a result of feedback based on formative assessment, learners modify their existing knowledge. In this case, it is:
  - a) Assessment of learning
  - b) Assessment with learning
  - c) Assessment for learning
  - d) Assessment as learning
5. The degree to which a learner is prepared to receive formal instruction is technically known as:
  - a) Learning ability
  - b) Learning readiness
  - c) Learning capacity
  - d) Learning eagerness
6. The characteristic of a test-item by virtue of which it can separate good learners from poor ones is technically termed as:
  - a) Difficulty value of the item
  - b) Discriminating power of the item
  - c) Validity of the item
  - d) Reliability of the item
7. Which of the following is least important for a teacher while providing for individual differences in the classroom?
  - a) Diverse backgrounds of learners
  - b) Heights and weights of learners
  - c) Learning styles of learners
  - d) Level of motivation of learners
8. Which of the following educational theorists gave the sociocultural theory of cognitive development (social constructivism)?
  - a) Jean Piaget
  - b) J S Bruner
  - c) Lev Vygotsky
  - d) John Dewey
9. The most useful teaching-learning material (TLM) to be used by a teacher is the one which:
  - a) Attracts attention of learners towards teacher
  - b) Is attractive and beautiful to look at
  - c) Involves several sense organs in learning
  - d) Helps maintain better classroom discipline
10. The main purpose of assessment in constructivist learning approach is to:
  - a) Develop habit of reading and writing
  - b) Know how children learn & what they learn
  - c) Ensure classroom discipline
  - d) Encourage learners to respect teacher's views



11. The major element of humanistic theory of learning given by Carl Rogers is the concept of:

- a) Immense capacity of man
- b) Fully functioning individual
- c) Trial and error in learning
- d) Importance of perception

12. Which of the following terms is most closely associated with the constructivist pedagogy of learning?

- a) Description
- b) Explanation
- c) Experimentation
- d) Indoctrination

13. In formative assessment system, feedback provided by the teacher to learners acts as:

- a) Punishment
- b) Reinforcement
- c) Reward
- d) Prompt

14. The first step in the process of test construction is:

- a) Identification of content-domain
- b) Development of test blueprint
- c) Formulation of objectives of testing
- d) Collection or construction of test items

15. Which of the following types of test-items are most appropriate for assessing higher order thinking abilities?

- a) True-False type
- b) Matching type
- c) Essay type
- d) Short-answer type

16. Which of the following is an example of formative assessment?

- a) Probing questions in the classroom
- b) Examination after the end of the course
- c) Final submission of project report
- d) Examination for promotion to the next grade

17. Which of the following is audio-visual aid for use by teachers?

- a) Model
- b) Television
- c) Tape recorder

d) Projector

18. Which of the following teaching methods ensures active participation of learners?

- a) Lecture method
- b) Self-study method
- c) Discussion method
- d) Online presentation

19. The basic purpose of diagnostic assessment is to:

- a) Know the learner's ability to learn
- b) Understand learner's strengths and weaknesses
- c) Decide the strategies of teaching
- d) Motivate learners for active learning

20. Which of the following strategies should be preferred by a teacher for ensuring effective learning about birds and their life?

- a) Displaying models of birds
- b) Displaying sketches of birds
- c) Organising a trip to zoo
- d) Using pictures of birds

### CHEMISTRY

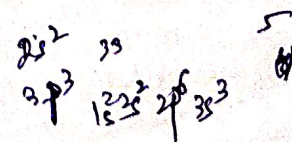
21. For H-like atoms, the ground state energy is proportional to [where,  $\mu$  is the reduced mass and  $Z$  is the nuclear charge]:

- a)  $\mu/Z^2$
- b)  $Z^2/\mu$
- c)  $1/\mu Z^2$
- d)  $\mu Z^2$

$$E = -13.6 \times \frac{Z^2}{n^2}$$

22. The decreasing order of the first ionisation energy of the following elements is:

- a) Xe > Be > As > Al
- b) Xe > As > Al > Be
- c) Xe > As > Be > Al
- d) Xe > Be > Al > As



23. The correct valence shell electronic configuration of the element with atomic number 22 is:



- a)  $[\text{Ar}]3d^24s^2$
- b)  $[\text{Ar}]4s^23d^2$
- c)  $[\text{Ar}]3d^4$
- d)  $[\text{Ar}]4s^24p^2$

24. With increase in pressure, the temperature range, over which the liquid state is stable:

- a) Decreases
- b) Increases
- c) Remains constant
- d) Decreases till the critical pressure and then increases

25. The V-shape of  $\text{SO}_2$  is due to the presence of:

- a) two  $\sigma$  and one  $\pi$  bonds
- b) two  $\sigma$  and two  $\pi$  bonds
- c) two  $\sigma$  and one lone pair of electrons
- d) two  $\sigma$  and two  $\pi$  bonds and one lone pair of electrons

26. The number of P=O bonds present in the tetra basic acid  $\text{H}_4\text{P}_2\text{O}_7$  is:

- a) 3
- b) 2
- c) 1
- d) None of these

27. At room temperature, HCl is a gas while HF is a liquid because:

- a) of the strong bond between H and F in HF
- b) HF is less acidic as compared to HCl
- c) of strong intermolecular H-bonding in HF
- d) HCl is less acidic as compared to HF

28. The metal that is extracted by the reduction method is:

- a) Al
- b) Hg
- c) Au
- d) Mg

29. Number of moles of ions produced by complete dissociation of one mole of Mohr's salt in water is:

- a) 3

- b) 4
- c) 5
- d) 6

30. The average speed of  $\text{H}_2$ ,  $\text{N}_2$  and  $\text{O}_2$  gas molecules is in the order of:

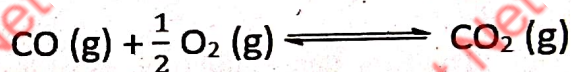
- a)  $\text{H}_2 > \text{N}_2 > \text{O}_2$
- b)  $\text{O}_2 > \text{N}_2 > \text{H}_2$
- c)  $\text{H}_2 > \text{O}_2 > \text{N}_2$
- d)  $\text{N}_2 > \text{O}_2 > \text{H}_2$

Handwritten note:  $\frac{1}{\sqrt{M}} \propto \frac{1}{\sqrt{2}} > \frac{1}{\sqrt{3}} > \frac{1}{\sqrt{4}}$

31. On hydrolysis, Aluminium carbide produces:

- a)  $\text{CH}_4$
- b)  $\text{C}_2\text{H}_6$
- c)  $\text{C}_2\text{H}_4$
- d)  $\text{C}_2\text{H}_2$

32. The relationship between the equilibrium constant  $K_1$  for the reaction



and the equilibrium constant  $K_2$  for the reaction



is:

- a)  $2K_1 = K_2$
- b)  $K_1 = K_2^2$
- c)  $K_1 = K_2$
- d)  $K_1^2 = K_2$

Handwritten note:  $K_1$

33. For the distribution of molecular velocities of gases, identify the correct order from the following (where  $V_{mp}$ ,  $V_{av}$ ,  $V_{rms}$  are the most probable velocity, average velocity and root mean square velocity respectively).

- a)  $V_{rms} > V_{av} > V_{mp}$
- b)  $V_{mp} > V_{rms} > V_{av}$
- c)  $V_{av} > V_{rms} > V_{mp}$
- d)  $V_{mp} > V_{av} > V_{rms}$

34. According to kinetic theory of gases, the ratio of the root mean square velocity of molecular oxygen and molecular hydrogen at 300K is:

- a) 1:1



- b) 1:2
- c) 1:4
- d) 1:16

35. Species acting as both Bronsted acid and base is:

- a)  $\text{HSO}_4^-$
- b)  $\text{Na}_2\text{CO}_3$
- c)  $\text{NH}_3$
- d)  $\text{OH}^-$

36. An organic compound contains 4% Sulphur. Its minimum molecular weight is:

- a) 200
- b) 400
- c) 800
- d) 1600

37. Number of moles of  $\text{K}_2\text{Cr}_2\text{O}_7$  reduced by 1 mole of  $\text{Sn}^{2+}$  is:

- a)  $1/3$
- b)  $1/6$
- c)  $2/3$
- d) 1

38. Reimer-Tiemann reaction involves an intermediate:

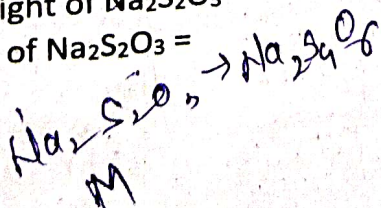
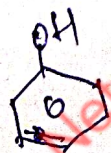
- a) Carbocation
- b) Carbene
- c) Carbanion
- d) Free radical

39. Among the following compounds, the most acidic is:

- a) p-Nitrophenol
- b) p-Hydroxybenzoic acid
- c) o-Hydroxybenzoic acid
- d) p-Toluic acid

40. In a reaction,  $\text{Na}_2\text{S}_2\text{O}_3$  is converted to  $\text{Na}_2\text{S}_4\text{O}_6$ . The equivalent weight of  $\text{Na}_2\text{S}_2\text{O}_3$  for this reaction is (mol. wt. of  $\text{Na}_2\text{S}_2\text{O}_3 = M$ ):

- a) M
- b)  $M/4$
- c)  $M/2$



- d)  $M/3$

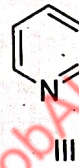
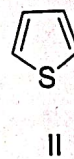
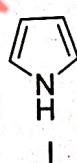
41. In volumetric analysis, the point at which the indicator changes color is called:

- a) Equivalence point
- b) Titration point
- c) End point
- d) Saturation point

42. Benzene cannot be iodinated with  $\text{I}_2$  directly. However, in presence of oxidants such as  $\text{HNO}_3$ , iodination is possible. The electrophiles formed in the case is:

- a)  $[\text{I}^+]$
- b)  $[\text{I}^-]$
- c)  $[\text{I}^{+\delta} \dots \text{O}^{+\delta} \text{H}_2]^+$
- d)  $[\text{I}^{-\delta} \dots \text{O}^{-\delta} \text{H}_2]^+$

43. The decreasing order of the reactivity of the following compounds towards electrophile is:



- a)  $\text{II} > \text{I} > \text{III}$
- b)  $\text{II} > \text{III} > \text{I}$
- c)  $\text{III} > \text{I} > \text{II}$
- d)  $\text{I} > \text{II} > \text{III}$

44. The most abundant element in earth's crust is:

- a) Aluminium
- b) Iron
- c) Silicon
- d) Oxygen

45. Which of the following processes is used to extract highly reactive metals, such as sodium, potassium and calcium from their compounds?

- a) Roasting
- b) Reduction with carbon
- c) Froth flotation
- d) Electrolysis of molten compounds



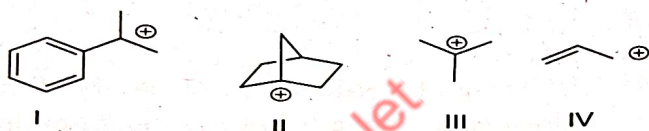
46. Which method is commonly used for the extraction of a metal from its sulphide ore?

- Electrolysis of molten ore
- Reduction with aluminium
- Roasting followed by reduction
- Magnetic separation

47. o-bromophenol is readily prepared from phenol using following conditions:

- (i)  $(\text{CH}_3\text{CO})_2\text{O}$  (ii)  $\text{Br}_2$  (iii)  $\text{HCl-H}_2\text{O}, \Delta$
- (i)  $\text{H}_2\text{SO}_4, 100^\circ\text{C}$  (ii)  $\text{Br}_2$  (iii)  $\text{H}_3\text{O}^+, 100^\circ\text{C}$
- N-Bromosuccinimide, dibenzoyl peroxide  $\text{CCl}_4, \Delta$
- $\text{Br}_2/\text{FeBr}_3$

48. The correct order of stability for the following carbocation is:

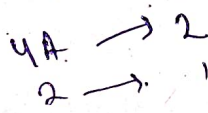


- $\text{I} < \text{III} < \text{IV} < \text{II}$
- $\text{III} < \text{II} < \text{IV} < \text{I}$
- $\text{II} < \text{IV} < \text{III} < \text{I}$
- $\text{IV} < \text{III} < \text{I} < \text{II}$

49. 2 mol of Al reacts with 3 mol of  $\text{O}_2$ . How many moles of  $\text{Al}_2\text{O}_3$  are thus formed?

(Reaction:  $4\text{Al} + 3\text{O}_2 \rightarrow 2\text{Al}_2\text{O}_3$ )

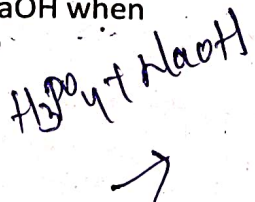
- 1 mol
- 1.5 mol
- 2 mol
- 3 mol



50. What is the equivalent mass of phosphoric acid ( $\text{H}_3\text{PO}_4$ ) in its reaction with NaOH when only two protons are neutralized?

(Molar mass of  $\text{H}_3\text{PO}_4 = 98 \text{ g/mol}$ )

- 98
- 49
- 32.7
- 24.5



51. Bohr's model fails to explain which of the following phenomena?

- The hydrogen spectrum in the ultraviolet region
- The fine structure in atomic spectra
- The discrete energy levels of the hydrogen atom
- The Balmer series in visible light

52. If the position of an electron is known within  $\pm 0.1 \text{ nm}$ , what is the minimum uncertainty in its momentum?

- $h/4\pi \times 0.1$
- $h/2 \times 0.1$
- $h/2\pi \times 0.1$
- $h/0.1$

Handwritten calculation:  $\Delta m \times \Delta p = \frac{h}{4\pi}$   
 $\pm 0.1 \times \Delta p = \frac{h}{4\pi}$   
 $\Delta p = \frac{h}{4\pi \times 0.1}$

53. Which group of elements shows both high electronegativity and high ionization energy?

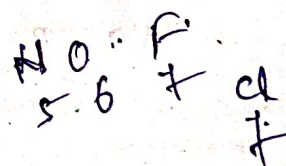
- Alkali metals
- Alkaline earth metals
- Halogens
- Noble gases

54. Which of the following orders of atomic radius is correct?

- $\text{Na} > \text{K} > \text{Rb}$
- $\text{Li} < \text{Na} < \text{K}$
- $\text{F} > \text{Cl} > \text{Br}$
- $\text{N} > \text{C} > \text{B}$

55. Which of the following elements has the most exothermic electron gain enthalpy?

- Fluorine
- Oxygen
- Chlorine
- Nitrogen



56. Redox reaction occurs in which of the following?

- Acid-base neutralization
- Precipitation reactions
- Combustion reactions
- Dissolution of sugar in water

57. The equivalent weight of  $\text{H}_2\text{SO}_4$  in the reaction  $\text{H}_2\text{SO}_4 + 2\text{NaOH} \rightarrow \text{Na}_2\text{SO}_4 + 2\text{H}_2\text{O}$  is:

- Molar mass of  $\text{H}_2\text{SO}_4$
- $\frac{1}{2} \times$  molar mass of  $\text{H}_2\text{SO}_4$
- $2 \times$  molar mass of  $\text{H}_2\text{SO}_4$



- d) Can't be defined
58. In redox titration involving  $\text{KMnO}_4$  and  $\text{FeSO}_4$ , the color change at endpoint is:
- Colorless to pink
  - Pink to colorless
  - Yellow to blue
  - Green to red
59. Which of the following changes will shift the equilibrium to the right for the reaction:
- $$2\text{NO}_2(\text{g}) \rightarrow \text{N}_2\text{O}_4(\text{g}), \Delta H = -58 \text{ kJ/mol}$$
- Increase temperature
  - Increase pressure
  - Add inert gas at constant pressure
  - Remove  $\text{N}_2\text{O}_4$
60. At  $60^\circ\text{C}$ , the ionic product of water is  $1.0 \times 10^{-13}$ . What is the pH of neutral water at this temperature?
- 7.00
  - 6.50
  - 6.00
  - 7.36

### BOTANY

61. The name Bentham and Hooker is associated with :

- Binomial System of Nomenclature
- Artificial System of Classification
- Natural System of Classification
- Phylogenetic System of Classification

62. Mesophytes are group of plants that love to grow in/on:

- Water
- Rock
- Land
- Sand

63. Cyclic Photophosphorylation in photosynthesis leads to production of:

- ATP and  $\text{NADPH}_2$

- ATP
- $\text{NADPH}_2$
- ATP,  $\text{NADPH}_2$  and  $\text{O}_2$

64. Coralloid roots are seen with:

- Cycas
- Pinus
- Psilotum
- Gnetum

65.  $\text{C}_4$  plants are adapted to:

- Wet climate
- Temperate climate
- Cold and hot climate
- Hot and dry climate

66. The source of Oxygen liberated in Photosynthesis is:

- $\text{CO}_2$
- $\text{H}_2\text{O}$
- Glucose
- CO

67. The group of plants that produce seeds but lack flowers are:

- Thallophyta
- Bryophyta
- Pteridophyta
- Gymnosperm

68. A group of similar plants that normally breed freely among themselves is a :

- Genus
- Species
- Family
- Order

69. Circinate vernation is associated with:

- Ferns
- Rhynia
- Riccia
- Funaria

70. The Public document that records endangered species of plants and animals is:

- Green data book
- Grey data Book
- Red data Book



d) Brown data Book

71. The first stable compound in C<sub>3</sub> cycle of Photosynthesis is:

- a) Glucose
- b) PGAL
- c) PGA
- d) Fructose 1,6-diphosphate

72. The carotenoid pigments protect the plants from:

- a) Photo-oxidation
- b) Photosynthesis
- c) Desiccation
- d) Photorespiration

73. The photoperiodic behaviour of plants is mediated by a pigment known as:

- a) Cytochrome
- b) Phytochrome
- c) Ferrochrome
- d) Florigen

74. Ethylene is a:

- a) Solid hormone
- b) Liquid hormone
- c) Semisolid hormone
- d) Gaseous hormone

75. Heartwood in plants is a:

- a) Living tissue
- b) Growing tissue
- c) Decomposed tissue
- d) Dead tissue

76. The Dihybrid cross ratio of 9:3:3:1 represents the:

- a) Genotypic ratio
- b) Phenotypic ratio
- c) Both genotypic and phenotypic ratio
- d) Allelic ratio

77. Elaters seen in Bryophytes are responsible for:

- a) Spore development
- b) Spore multiplication
- c) Spore dispersal
- d) Spore germination

78. Conjoint, collateral and open vascular bundles are seen in:

- a) Monocot stem

- b) Dicot root
- c) Monocot root
- d) Dicot stem

79. Photorespiration takes place in:

- a) Chloroplast
- b) Mitochondria
- c) Mitochondria and Chloroplast
- d) Chloroplast, Mitochondria and Peroxisomes

80. Casparian strips are seen with:

- a) Epidermis
- b) Endodermis
- c) Pericycle
- d) Periderm

81. Vascular Cambium is a/an:

- a) Apical meristem
- b) Intercalary meristem
- c) Lateral meristem
- d) Secondary meristem

82. Mechanical tissue consisting of living cells is:

- a) Collenchyma
- b) Chlorenchyma
- c) Parenchyma
- d) Sclerenchyma

83. Monocot plants lack secondary growth because they have:

- a) Scattered open vascular bundle
- b) Cambium
- c) Bundle sheath
- d) Closed vascular bundles

84. In Dicot plants, Tyloses are seen in:

- a) Cambium
- b) Secondary xylem
- c) Secondary phloem
- d) Cork cambium

85. Plant cells without nuclei are seen with:

- a) Sieve tubes
- b) Cambium
- c) Companion cells
- d) Vessel element

86. Soyabean is a:

- a) Short day plant
- b) Long day plant



- c) Day neutral plant
- d) Day independent plant

87. Absciscic acid promotes:

- a) Cell elongation
- b) Leaf fall
- c) Budding
- d) Germination

88. 2,4-D is a/ an:

- a) Insecticide
- b) Pesticide
- c) Rodenticide
- d) Herbicide

89. Plant Physiologist, F.W. Went is linked to:

- a) Fruit ripening
- b) Oat coleoptile
- c) Long day plant
- d) Short day plant

90. The hormone that causes stunted growth in pea is:

- a) Auxin
- b) Gibberellin
- c) Ethylene
- d) Cytokinin

91. First of all, Double fertilization in plants was described by:

- a) Hofmeister
- b) Nawaschin
- c) Robert Hooke
- d) Strasburger

92. Most commonly a mature embryo sac is:

- a) One celled with eight nuclei
- b) Two celled with eight nuclei
- c) Two celled with seven nuclei
- d) Eight celled with eight nuclei

93. A Parthenocarpic fruit is produced:

- a) without fertilization
- b) without seeds
- c) with immature seeds
- d) without pericarp

94. Oogamous sexual reproduction is seen with:

- a) Chlorella
- b) Chara
- c) Chlamydomonas

d) Bacteria

95. After fertilization usually:

- a) Ovule forms the seed and ovary forms the fruit
- b) Ovule forms the fruit and ovary forms the seed
- c) Ovary forms the seed and thalamus forms the fruit
- d) Ovule forms the seed and thalamus forms the fruit

96. Tissue culture of apical meristems helps in the production of:

- a) Fast growing plants
- b) Haploid plants
- c) Early flowering plants
- d) Virus free plants

97. Alleles are the alternate forms of:

- a) Gene
- b) Genome
- c) Character
- d) Zygote

98. Recessive genes can be expressed in:

- a) Homozygous condition
- b) Heterozygous condition
- c) Both homozygous and heterozygous condition
- d) Heterotrophic condition

99. According to the Law of Segregation, two alleles responsible for a character unite at fertilization and separate in:

- a) Mitosis
- b) Meiosis
- c) Amitosis
- d) Crossing over

100. When two pairs of factors affect the same character, with individuals having the same visible effect and their interaction produces a different effect, the phenomenon is called:

- a) Inhibitory factor
- b) Supplementary factor
- c) Complementary factor
- d) Duplicate factor



101. When a gene pair masks the expression of another non-allelic gene, the phenomenon is termed as:

- a) Epistasis
- b) Hypostasis
- c) Suppressive
- d) Inhibitory

102. The symptoms of Blast of rice is:

- a) Dark round lesions on leaves
- b) Corky layers on glumes
- c) Bluish green necrotic lesions
- d) Black lesions on the leaves

103. In the Black stem rust of wheat, the secondary host Barberry plant produces:

- a) Aecia
- b) Conidia
- c) Telia
- d) Uredia

104. *Erysiphe graminis* predominantly spreads powdery mildew disease by:

- a) Endospores
- b) Exospores
- c) Conidia
- d) Conidiophores

105. *Phytophthora infestans*, the causal agent of Late blight of Potato is a fungus that belongs to the class :

- a) Phycomycetes
- b) Ascomycetes
- c) Basidiomycetes
- d) Deuteromycetes

### ZOOLOGY

106. The specific hormone maintained at high level during hormonal method of birth control is:

- a) Progesterone
- b) LH
- c) FSH
- d) LTH

107. The hormone Calcitonin is secreted by:

- a) Pituitary gland
- b) Thyroid gland
- c) Parathyroid gland
- d) Adrenal gland

108. The part of the brain responsible for controlling heartbeat is:

- a) Cerebellum
- b) Cerebrum
- c) Medulla oblongata
- d) Axon

109. The chemical secreted from the Synaptic vesicles at the neuromuscular junction is:

- a) Adrenaline
- b) Dopamine
- c) Acetylcholine
- d) Estradiol

110. The Non-myelinated part of the neuron is:

- a) Node of Ranvier
- b) Dendrite
- c) Axon-telodendria
- d) Dendron

111. The process of formation of three germ layers starts from the stage of :

- a) Morula
- b) Blastula
- c) Gastrula
- d) Nerula

112. After ovulation, the granulosa and interstitial cells form a mass of cells known as :

- a) Graafian follicles
- b) Corpus luteum
- c) Corpus albicans
- d) Ovarian Follicle

113. Based on the amount and pattern of distribution of yolk, the two types of cleavages seen are:

- a) Holoblastic and Triploblastic
- b) Holoblastic and Meroblastic
- c) Determinant and Indeterminant



d) Meroblastic and Triploblastic

114. The number of spermatozoa produced by a secondary spermatocyte is:

- a) 2
- b) 4
- c) 1
- d) 8

115. Monocytes come under the group of:

- a) Erythrocytes
- b) Leukocytes
- c) Granulocytes
- d) Lymphocytes

116. The main component of blood plasma is:

- a) Platelets
- b) Erythrocytes
- c) Thrombocytes
- d) Water

117. The heart chamber that receives deoxygenated blood from the body is:

- a) Right atrium
- b) Right ventricle
- c) Left atrium
- d) Left ventricle

118. The right atrio-ventricular orifice is guarded by:

- a) Tricuspid valve
- b) Mitral valve
- c) Bicuspid valve
- d) Semilunar valve

119. The region from which the hepatic portal system collects blood is:

- a) Kidney
- b) Heart
- c) Intestine
- d) Liver

120. The type of blood cell that lacks a nucleus is:

- a) Erythrocytes
- b) Leukocytes

c) Lymphocytes

d) Eosinophils

121. Renewable source of energy is:

- a) Kerosene
- b) Petroleum
- c) Coal
- d) Biomass

122. Eco-friendly method involves:

- a) Plantation of C3 plants
- b) Plantation of Sugarcane
- c) Plantation of Energy Crops
- d) Burning of Residues

123. Ozone hole is caused by:

- a) Methane
- b) Ethylene
- c) Chlorofluorocarbon
- d) Acetylene

124. The Great Indian Bustard is a :

- a) Rare species
- b) Vulnerable species
- c) Critically endangered species
- d) Flourishing species

125. In Biosphere reserves, human activity is not allowed in:

- a) Buffer Zone
- b) Core Zone
- c) Manipulative Zone
- d) Peripheral Zone

126. Cellular respiration is carried out in:

- a) Chloroplast
- b) Mitochondria
- c) Golgi bodies
- d) Ribosomes

127. The common pathway between aerobic and anaerobic respirations is:

- a) Glycolysis
- b) Krebs Cycle
- c) Calvin Cycle
- d) Kris cycle



128. The Embden- Meyerhof pathway is the other name of

- a) Gluconeogenesis
- b) Krebs cycle
- c) Glycogenesis
- d) Glycolysis

129. Respiration is a/an:

- a) Anaerobic process
- b) Catabolic process
- c) Metabolic process
- d) Numeric process

130. The total number of ATP molecules produced in anaerobic respiration is:

- a) 2
- b) 3
- c) 4
- d) 6

131. Four chambered heart is not seen with:

- a) Birds
- b) Crocodile
- c) Fishes
- d) Mammals

132. The function of the lateral line system in fish is:

- a) Reproduction
- b) Maintaining buoyancy
- c) Respiration
- d) Sensing vibrations

133. One key characteristic that is shared by all chordates at some point of development is :

- a) Post - anal tail
- b) Lateral line system
- c) Air bladder
- d) One celled heart

134. Prokaryotic and Eukaryotic cells have the same:

- a) Genetic code
- b) Histone
- c) Non-histone
- d) Mitochondria

135. Mitochondrial DNA has higher :

- a) AU content
- b) AT content
- c) GC content
- d) GA content

136. Animal cells are interconnected by:

- a) Cell wall
- b) Plasma membrane
- c) Desmosomes
- d) Plasmodesmata

137. The Nitrogenous base not found in RNA is:

- a) Uracil
- b) Thymine
- c) Cytosine
- d) Guanine

138. In double stranded DNA, two strands are held together by forming:

- a) Hydrogen bonds
- b) Covalent bonds
- c) Phosphodiester bond
- d) Ionic bond

139. Pairing of homologous chromosomes takes place at the substage of:

- a) Leptotene
- b) Diakinesis
- c) Pachytene
- d) Zygotene

140. The classic example of point mutation is:

- a) Haemophilia
- b) Color blindness
- c) Sickle cell anemia
- d) Thalassemia

141. Female heterogametic and male homogametic conditions are seen in:

- a) Cockroach
- b) Human being
- c) Peacock
- d) Leech

142. Recombination takes place between:



- a) Sister chromatids of homologous chromosomes
- b) Non-sister chromatids of homologous chromosomes
- c) Sister chromatids of heterologous chromosomes
- d) Non-sister chromatids of heterologous chromosomes

143. Bowman's Capsule is located in:

- a) Renal cortex
- b) Henle's loop
- c) Renal medulla
- d) Urinary bladder

144. If PCT is removed from the Nephron, the result will be :

- a) Urine becomes more concentrated
- b) Urine becomes more diluted
- c) Urine is not formed
- d) Quantity of urine is unaffected

145. The reabsorption /recovery of water and salt from the glomerular filtrate mostly occurs at:

- a) Proximal convoluted tubule
- b) Distal convoluted tubule
- c) Glomerulus
- d) Loop of Henle

146. The chemical name of Vitamin B1 is:

- a) Lipoic acid
- b) Pyridoxine
- c) Thiamine
- d) Riboflavin

147. The food components essential for growth and maintenance of our body are :

- a) Fat and Vitamins
- b) Fat and Minerals
- c) Protein and Vitamins
- d) Carbohydrate and Vitamins

148. Failure of the descent of testes into the scrotal sac is known as :

- a) Cryptorchidism

- b) Castration
- c) Anorchidism
- d) Impotency

149. The terminal end of spinal cord is called :

- a) Filum terminale
- b) Ependyma
- c) Coccyx
- d) Conus medullaris

150. Modern synthetic theory puts stress on the evolution of life in terms of:

- a) Genetic changes
- b) Geographical characters
- c) Alteration of acquired characters
- d) Inheritance of acquired characters