



## **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
  - 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

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- 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 methodc) 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

#### ZOOLOGY

(21) The specific hormone maintained at high level during hormonal method of birth control is:

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

22. The hormone Calcitonin is secreted by:

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

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

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





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

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

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

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

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

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

27. 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

28. 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

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

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

30. Monocytes come under the group of:

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

- d) Lymphocytes
- 31. The main component of blood plasma is:
  - a) Platelets
  - b) Erythrocytes
  - c) Thrombocytes
  - d) Water

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

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

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

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

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

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

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

- a) Erythrocytes
- b) Leukocytes
- c) Lymphocytes
- d) Eosinophils
- 36. Renewable source of energy is:
  - a) Kerosene
  - b) Petroleum
  - c) Coal
  - d) Biomass
- 37. Eco-friendly method involves:
  - a) Plantation of C3 plants
  - b) Plantation of Sugarcane
  - c) Plantation of Energy Crops





- d) Burning of Residues
- 38. Ozone hole is caused by:
  - a) Methane
  - b) Ethylene
  - c) Chlorofluorocarbon
  - d) Acetylene

39. The Great Indian Bustard is a :

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

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

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

(41) Cellular respiration is carried out in:

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

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

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

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

- a) Gluconeogenesis
- b) Krebs cycle
- c) Glycogenesis
- d) Glycolysis
- 44. Respiration is a /an:
  - a) Anaerobic process
  - b) Catabolic process
  - c) Metabolic process
  - d) Numeric process

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

- a) 2 ·
- b) 3
- c) 4
- d) 6

46. Four chambered heart is not seen with:

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

47) The function of the lateral line system in fish

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

48. 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

49. Prokaryotic and Eukaryotic cells have the same: a) Genetic code

- b) Histone
- c) Non-histone
- d) Mitochondria
- 50. Mitochondrial DNA has higher :
  - a) AU content
  - b) AT content
  - c) GC content
  - d) GA content
- 51. Animal cells are interconnected by:
  - a) Cell wall
  - b) Plasma membrane
  - c) Desmosomes
  - d) Plasmodesmata
- 52. The Nitrogenous base not found in RNA is:
  - a) Uracil
  - b) Thymine
  - c) Cytosine
  - d) Guanine



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

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

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

- a) Leptotene
- b) Diakinesis
- c) Pachytene
- d) Zygotene
- 55. The classic example of point mutation is:
  - a) Haemophilia
  - b) Color blindness
  - c) Sickle cell anemia
  - d) Thalassemia

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

- a) Cockroach
- b) Human being
- c) Peacock
- d) Leech
- 57.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
- 58. Bowman's Capsule is located in:
  - a) Renal cortex
  - b) Henle's loop
  - c) Renal medulla
  - d) Urinary bladder

59. 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

60. 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

61.) The chemical name of Vitamin B1 is:

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

62. 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

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

- a) Cryptorchidism
- b) Castration
- c) Anorchidism
- d) Impotency
- 64. The terminal end of spinal cord is called :
  - a) Filum terminale
  - b) Ependyma
  - c) Coccyx
  - d) Conus medullaris

65 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





## **CHEMISTRY**

66. 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) Ζ²/μ
- c)  $1/\mu Z^2$
- d) μΖ²
- 67. 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
- 68. The correct valence shell electronic configuration of the element with atomic number 22 is:
  - a)  $[Ar]3d^{2}4s^{2}$
  - b) [Ar]4s<sup>2</sup>3d<sup>2</sup>
  - c) [Ar]3d<sup>4</sup>
  - d)  $[Ar]4s^24p^2$

69. 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
- 70. The V-shape of SO<sub>2</sub> 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

71. The number of P=O bonds present in the tetra basic acid  $H_4P_2O_7$  is:

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

- 72. 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
- 73.The metal that is extracted by the reduction method is:
  - a) Al
  - b) Hg
  - c) Au
  - d) Mg

74 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
- 75. The average speed of  $H_2$ ,  $N_2$  and  $O_2$  gas molecules is in the order of:
  - a)  $H_2 > N_2 > O_2$ b)  $O_2 > N_2 > H_2$ c)  $H_2 > O_2 > N_2$
  - d)  $N_2 > O_2 > H_2$
- 76. On hydrolysis, Aluminium carbide
  - produces:
    - a) CH₄
    - b) C₂H<sub>6</sub>
    - c) C₂H₄
    - d) C<sub>2</sub>H<sub>2</sub>

77) The relationship between the equilibrium constant  $K_1$  for the reaction

$$CO(g) + \frac{1}{2}O_2(g) \longrightarrow CO_2(g)$$

and the equilibrium constant  $K_2$  for the reaction

 $2CO(g) + O_2(g) - 2CO_2(g)$ is : GMGZ-ENG-B-7





a)  $2K_1 = K_2$ 

b) 
$$K_1 = K_2^2$$

c) 
$$K_1 = K_2$$

- d)  $K^{2}_{1} = K_{2}$
- 78. 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)  $V_{mp} > V_{av} > V_{rms}$
- 79. 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
- 80. Species acting as both Bronsted acid and base is:
  - a) HSO<sub>4</sub>
  - b) Na<sub>2</sub>CO<sub>3</sub>
  - c) NH₃
  - d) 0H-

81.An organic compound contains 4%

Sulphur. Its minimum molecular weight is:

- a) 200
- b) 400
- c) 800
- d) 1600
- 82. Number of moles of K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> reduced by 1 mole of Sn<sup>2+</sup> is:
  - a) 1/3
  - b) 1/6
  - c) 2/3
  - d) 1
- 83.Reimer-Tiemann reaction involves an intermediate:

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

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

- a) p-Nitrophenol
- b) p- Hydroxybenzoic acid
- c) o- Hydroxybenzoic acid
- d) p-Toluic acid
- 85.In a reaction,  $Na_2S_2O_3$  is converted to  $Na_2S_4O_6$ . The equivalent weight of  $Na_2S_2O_3$ for this reaction is (mol. wt. of  $Na_2S_2O_3 =$ 
  - M):
  - a) M
  - b) M/4
  - c) M/2
  - d) M/3
- 66. 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
- 87. Benzene cannot be iodinated with I<sub>2</sub> directly. However, in presence of oxidants such as HNO<sub>3</sub>, iodination is possible. The electrophiles formed in the case is:
  - a) [I+]
  - b) [l-]
  - c)  $[I^{+\delta}...O^{+\delta}H_2]^+$
  - d)  $[I^{-\delta}...O^{-\delta}H_2]^+$
- 88. The decreasing order of the reactivity of the following compounds towards electrophile is:



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- a) II > I > III
- p) II > III > I
- c) III > I > II
- I > II > III
- 89. The most abundant element in earth's crust is :
  - a) Aluminium
  - b) Iron
  - c) Silicon
  - d) Oxygen
- 90. 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
- 91. Which method is commonly used for the extraction of a metal from its sulphide ore?
  - a) Electrolysis of molten ore
  - b) Reduction with aluminium
  - c) Roasting followed by reduction
  - d) Magnetic separation
- 92. o-bromophenol is readily prepared from phenol using following conditions:
  - a) (i) (CH<sub>3</sub>CO)<sub>2</sub>O (ii)  $Br_2$  (iii) HCl-H<sub>2</sub>O,  $\Delta$
  - b) (i) H<sub>2</sub>SO<sub>4</sub>, 100 °C (ii) Br<sub>2</sub> (iii) H<sub>3</sub>O<sup>+</sup>, 100 °C
  - c) N-Bromosuccinimide, dibenzoyl peroxide
    - CCl₄, ∆
  - d) Br<sub>2</sub>/FeBr<sub>3</sub>
  - 93. The correct order of stability for the following carbocation is:



- c) || < |V < ||| < |
- d) IV < III < I < II



94. 2 mol of Al reacts with 3 mol of  $O_2$ . How many moles of  $Al_2O_3$  are thus formed?

(Reaction:  $4AI + 3O_2 \rightarrow 2AI_2O_3$ )

- a) 1 mol
- b) 1.5 mol
- c) 2 mol
- d) 3 mol
- 95. What is the equivalent mass of phosphoric acid (H<sub>3</sub>PO<sub>4</sub>) in its reaction with NaOH when only two protons are neutralized?
  (Molar mass of H<sub>3</sub>PO<sub>4</sub> = 98 g/mol)

  - a) 98 b) 49
  - c) 32.7
  - d) 24.5

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

- a) The hydrogen spectrum in the ultraviolet region
- b) The fine structure in atomic spectra
- c) The discrete energy levels of the hydrogen atom
- d) The Balmer series in visible light
- 97. If the position of an electron is known within ±0.1 nm, what is the minimum uncertainty in its momentum?
  - a)  $h/4\pi \times 0.1$
  - b) h/2×0.1
  - c)  $h/2\pi \times 0.1$
  - d) h/0.1
- 98. Which group of elements shows both high electronegativity and high ionization energy?
  - a) Alkali metals
  - b) Alkaline earth metals
  - c) Halogens
  - d) Noble gases
- 99. Which of the following orders of atomic radius is correct?
  - a) Na > K > Rb
  - b) Li < Na < K
  - c) F > Cl > Br





- d) N > C > B
- 100. Which of the following elements has the most exothermic electron gain enthalpy?
  - a) Fluorine
  - b) Oxygen
  - c) Chlorine
  - d) Nitrogen
- 101. Redox reaction occurs in which of the following?
  - a) Acid-base neutralization
  - b) Precipitation reactions
  - c) Combustion reactions
  - d) Dissolution of sugar in water
- 102. The equivalent weight of H2SO4 in the reaction  $H_2SO_4 + 2NaOH \rightarrow Na_2SO_4 + 2H_2O$ is:
  - a) Molar mass of H<sub>2</sub>SO<sub>4</sub>
  - b)  $\frac{1}{2} \times \text{molar mass of H}_2\text{SO}_4$
  - c)  $2 \times \text{molar mass of } H_2SO_4$
  - d) Can't be defined

103. In redox titration involving KMnO4 and FeSO4, the color change at endpoint is:

- a) Colorless to pink
- b) Pink to colorless
- c) Yellow to blue
- d) Green to red
- 104. Which of the following changes will shift the equilibrium to the right for the reaction:

 $2NO_2(g) \rightarrow N_2O_4(g), \Delta H = -58 \text{ kJ/mol}$ 

- a) Increase temperature
- b) Increase pressure
- c) Add inert gas at constant pressure
- d) Remove N<sub>2</sub>O<sub>4</sub>

105. At 60°C, the ionic product of water is  $1.0 \times 10^{-13}$ . What is the pH of neutral water at this temperature?

- a) 7.00
- b) 6.50
- c) 6.00
- d) 7.36

106. The name Bentham and Hooker is associated with :

- a) Binomial System of Nomenclature
- b) Artificial System of Classification
- c) Natural System of Classification
- d) Phylogenetic System of Classification

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

- a) Water
- b) Rock
- c) Land
- d) Sand

108. Cyclic Photophosphorylation in photosynthesis leads to production of:

a) ATP and NADPH<sub>2</sub>

- b) ATP
- c) NADPH<sub>2</sub>
- d) ATP, NADPH2 and O2

109. Coralloid roots are seen with:

- a) Cycas
- b) Pinus
- c) Psilotum
- d) Gnetum

110 C4 plants are adapted to:

- a) Wet climate
- b) Temperate climate
- c) Cold and hot climate
- d) Hot and dry climate

111. The source of Oxygen liberated in Photosynthesis is:

a) CO<sub>2</sub> b)  $H_2O$ c) Glucose d) CO

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

a) Thallophyta

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- b) Bryophyta
- c) Pteridophyta
- d) Gymnosperm

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

- a) Genus
- b) Species
- c) Family
- d) Order

114) Circinate vernation is associated with:a) Ferns

- b) Rhynia
- c) Riccia
- d) Funaria

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

- a) Green data book
- b) Grey data Book
- c) Red data Book
- d) Brown data Book

116. The first stable compound in C3 cycle of Photosynthesis is:

a) Glucose

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

117. The carotenoid pigments protect the plants from:

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

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

- a) Cytochrome
- b) Phytochrome
- c) Ferrochrome
- d) Florigen
- 119. Ethylene is a:
  - a) Solid hormone
  - b) Liquid hormone
  - c) Semisolid hormone
  - d) Gaseous hormone

- (120.Heartwood in plants is a:
  - a) Living tissue
  - b) Growing tissue
  - c) Decomposed tissue
  - d) Dead tissue
- 121. 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

122. Elaters seen in Bryophytes are responsible for:

- a) Spore development
- b) Spore multiplication
- c) Spore dispersal
- d) Spore germination
- 123.Conjoint, collateral and open vascular bundles are seen in:
  - a) Monocot stem
  - b) Dicot root
  - c) Monocot root
  - d) Dicot stem
- 124. Photorespiration takes place in:
  - a) Chloroplast
  - b) Mitochondria
  - c) Mitochondria and Chloroplast
  - d) Chloroplast, Mitochondria and Peroxisomes
- 125.) Casparian strips are seen with:
  - a) Epidermis
    - b) Endodermis
  - c) Pericycle
  - d) Periderm
- 126. Vascular Cambium is a/ an:
  - a) Apical meristem
  - b) Intercalary meristem
  - c) Lateral meristem
  - d) Secondary meristem

127 Mechanical tissue consisting of living cells is:

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

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(128) Monocot plants lack secondary growth because they have:

- a) Scattered open vascular bundle
- b) Cambium
- c) Bundle sheath
- d) Closed vascular bundles
- 129. In Dicot plants, Tyloses are seen in:
  - a) Cambium
  - b) Secondary xylem
  - c) Secondary phloem
  - d) Cork cambium
- 130. Plant cells without nuclei are seen with:
  - a) Sieve tubes
  - b) Cambium
  - c) Companion cells
  - d) Vessel element
- 131. Soyabean is a:
  - a) Short day plant
  - b) Long day plant
  - c) Day neutral plant
  - d) Day independent plant

### 132. Abscisic acid promotes:

- a) Cell elongation
- b) Leaf fall
- c) Budding
- d) Germination
- 33. 2,4-D is a/ an:
  - a) Insecticide
  - b) Pesticide
  - c) Rodenticide
  - d) Herbicide

134.) Plant Physiologist, F.W. Went is linked to:

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

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

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

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

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

137. 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
- 138. A Parthenocarpic fruit is produced:
  - a) without fertilization
  - b) without seeds
  - c) with immature seeds
  - d) without pericarp
- 139) Oogamous sexual reproduction is seen with:
  - a) Chlorella
  - b) Chara
  - c) Chlamydomonas
  - d) Bacteria

140. 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
- 141. 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
- 142. Alleles are the alternate forms of:
  - a) Gene
  - b) Genome
  - c) Character
  - d) Zygote

143. Recessive genes can be expressed in:

- a) Homozygous condition
- b) Heterozygous condition



- c) Both homozygous and heterozygous condition
- d) Heterotrophic condition

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

a) Mitosis

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

145. 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

146. 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

147. 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

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

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

149) *Erysiphe graminis* predominantly spreads powdery mildew disease by:

- a) Endospores
- b) Exospores

- c) Conidia
- d) Conidiophores

(150) *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