

1. DIAMETER OF A NUCLEUS IS:
  - a.  $10^{-12}$
  - b.  $10^{-15}$
  - c.  $10^{-16}$
  - d. none of these
2. Radian is an angle:
  - a. Solid angle
  - b. Plane angle
  - c. Angle
3. None of these  
Torque is physical quantity which is:
  - a. Scalar quantity
  - b. Vector quantity
  - c. constant quantity
  - d. None of these
4. In an acceleration system, the apparent weight of the object is:
  - a. Equal to its true weight
  - b. Not equal to its true weight
  - c. less than its true weight
  - d. None of these
5. The Bernoulli's equation is based on the:
  - a. Law of conservation of energy
  - b. Law of conservation of mass
  - c. Law of conservation of momentum
  - d. None of these
6. Substances which flow easily have coefficient of viscosity as:
  - a. Small
  - b. Very small
  - c. Large
  - d. Very large
7. Viscosity of water at  $30^{\circ}\text{C}$  in  $\text{Nsm}^{-2}$ 
  - a.  $0.521 * 10^{-3}$
  - b.  $0.564 * 10^{-3}$
  - c.  $0.594 * 10^{-3}$
  - d.  $0.599 * 10^{-3}$
8. Who gave the idea of light as wave?
  - a. Newton
  - b. Huygens
  - c. Thom's Young
  - d. Bragg

9. A typical diffraction grating has lines per centimetre is about:
  - a. 500 to 6000
  - b. 400 to 5000
  - c. 450 to 5500
  - d. 450 to 5670
10. The reflected light is:
  - a. unpolarised
  - b. Polarized
  - c. partially polarize
  - d. None of these
11. Telescope is an optical device used for viewing:
  - a. near object
  - b. Not far distance
  - c. Distance object
  - d. B and C
12. The velocity of the body is zero at:
  - a. Mean position
  - b. Extreme Position
  - c. between mean and extreme position
  - d. None of these
13. When half of the cycle of a body executing SHM is completed, then the phase will be:
  - a.  $90^\circ$
  - b.  $180^\circ$
  - c.  $135^\circ$
  - d.  $270^\circ$
14. Turning a radio is the best example of:
  - a. Resonance
  - b. Electrical resonance
  - c. Mechanical
  - d. None of these
15. Doppler's effected is applicable to:
  - a. Sound
  - b. Light
  - c. Electromagnetic waves
  - d. All of these
16. With the rise of temperature the amplitude of atoms:
  - a. Slow down
  - b. Fixed
  - c. Increase
  - d. none of these
17. Young's modulus for ice is:
  - a. 3
  - b. 14
  - c. 20
  - d. 32

18. Collision between gas molecules are perfectly elastic when collide with them:
- Walls of container
  - themselves
  - Both
  - none of these
19. Find the average speed of Oxygen molecules in the air at S.T.P.
- $591 \text{ ms}^{-1}$
  - $461 \text{ ms}^{-1}$
  - $396 \text{ ms}^{-1}$
  - $372 \text{ ms}^{-1}$
20. Example of first law of thermodynamics:
- working of bicycle pump
  - Human metabolism
  - Brakes applied by an auto mobile
  - All of these
21. The thermodynamic scale of temperature starts from:
- 273 K
  - Zero
  - 273.16 K
  - None of these
22. The approximate efficiency of dry cell battery is:
- 80%
  - 90%
  - 70%
  - 50%
23. The brightness of the spot formed on the screen is controlled by the:
- Electron
  - Proton
  - Potential
  - None of these
24. A Two inputs NAND gate with input A and B has an output O if:
- A is O
  - B is O
  - Both A and B are zero
  - Both A and B is 1
25. The drift velocity of free electron is a metallic conductor is:
- $10^{-3} \text{ ms}^{-1}$
  - $10^{-4} \text{ ms}^{-1}$
  - $10^{-5} \text{ ms}^{-1}$
  - $10^{-6} \text{ ms}^{-1}$
26. The strength of an magnetic field depends upon the:
- Distance from the source
  - Value of current
  - a and b
  - none of these

27. A conductor which obeys Ohm's law is called:
- Ohmic device
  - Non-ohmic device
  - Neither ohmic nor non-ohmic
  - None of these
28. The S.I unit of magnetic permeable is:
- $\text{Tm A}^{-2}$
  - $\text{Tm A}^{-1}$
  - $\text{Fm}^{-1}$
  - None of these
29. The field inside the solenoid is:
- Weak
  - Strong
  - Very strong
  - None of these
30. The magnetic field due to a current carrying solenoid is:
- $B = \mu_r NI$
  - $B = \mu_r n/l$
  - $B = \mu_0 nl$
  - $B = \mu_0 n/l$
31. Inner shell transition in X-Rays takes place in:
- Lighter
  - Medium
  - Heavy elements
  - None of these
32. The radius of a typical nucleus is less than:
- $10^{-10}$  m
  - $10^{-11}$  m
  - $10^{-12}$  m
  - $10^{-14}$  m
33. The meta stable state of helium is:
- 20.66 eV
  - 20.62 eV
  - 20.61 eV
  - 20.60 eV
34. Laser can be used in the field of:
- Polarization
  - Telecommunication
  - Radioactivity
  - None of these
35. What types of spectrum of characteristic X-rays is:
- Line spectrum
  - Continuous spectrum
  - Band spectrum
  - None of these

36. The inner shell transition is the phenomenon in which the electrons are emitted from:
- Light metals
  - Metals of intermediate atomic number
  - Heavy metals
  - None of these
37. The metastable state of Helium and Neon is:
- Different
  - identical
  - nearly identical
  - None of these
38. Neutron was discovered in 1932 by:
- Bohr
  - Chadwick
  - Dirac
  - Fermi
39. The most abundant isotope of neon is:
- Neon-20
  - Neon -21
  - Neon -22
  - Neon – 23
40. Radioactivity was discovered by Henri Becquerel in:
- 1880
  - 1891
  - 1893
  - 1896
41. The half-life of Uranium -238 is:
- $1.67 * 10^8$  years
  - $3.3 * 10^9$  years
  - $4.5 * 10^8$  years
  - $4.5 * 10^9$  years
42. The intensity of Y-rays as penetrated in air is with:
- directly proportional
  - Inversely Proportional
  - Inverse square law
  - None of them
43. RBE of Neutrons and protons below 10 MeV is:
- 0.5 RBE
  - 10.0 RBE
  - 0.05 RBE
  - 1.7 RBE
44. One rad (radiation absorbed dose) is:
- 0.01 Gray
  - 0.03 Gray
  - 0.05 Gray
  - None of these

45. The number of moles of  $\text{CO}_2$  which contain 8 g of oxygen:
- 0.25
  - 0.50
  - 1.0
  - 1.50
46. The largest number of molecules are present in:
- 3.6 g of  $\text{H}_2\text{O}$
  - 4.4 g  $\text{C}_2\text{H}_5\text{OH}$
  - 2.8 g of  $\text{CO}$
  - 5.4 g of  $\text{N}_2\text{O}_5$
47. Which of the following will have the same number of molecules at S.T.P?
- 280  $\text{cm}^3$  of  $\text{CO}_2$  and 280  $\text{cm}^3$  of  $\text{N}_2\text{O}$
  - 44 g  $\text{CO}_2$  and 11.2  $\text{dm}^3$  of  $\text{CO}$
  - 11.2  $\text{dm}^3$  of  $\text{O}_2$  and 32 g of  $\text{O}_2$
  - 28 g of  $\text{N}_2$  and 5.6  $\text{dm}^3$  of oxygen
48. The only intermolecular forces present in nonpolar molecules like  $\text{C}_{12}$ ,  $\text{H}_2$  etc and noble gases (He, Ne etc.) are called:
- London forces
  - H-bonding
  - Covalent bond
  - Dipole-dipole forces
49. A proton is quite identical to:
- $\alpha$ -particle
  - ionized hydrogen atom
  - hydroxonium ion
  - ionized hydrogen molecule
50. Point out the orbitals which are degenerated in a multi electron atom:
- 1s, 2s, orbitals
  - 2d orbitals
  - 3s, 3p, 3d orbitals
  - 3d orbitals
51. Molecular orbital picture of  $\text{O}_2$  indicates:
- No unpaired electron
  - One unpaired electron
  - Two unpaired electron
  - None of these
52. The atomic radius of hydrogen is 37.7 \_\_\_\_\_.
- Angstrom
  - nanometre
  - Pico meter
  - Micro meter
53. According to SI. System, heat contents are measured in unit of:
- Joules
  - Calories
  - Watts
  - Ergs

54. The energy required to break 1 mole of bonds to form neutral atoms is:
- Bond energy
  - Bond strength
  - Bond length
  - None of all
55. One of the following ways of expressing the concentration of a solution does not depend on temperature. It is;
- Molarity
  - Normality
  - Molality
  - Formality
56. A 2% solution of NaCl by weight means that:
- 20g NaCl/100g
  - 5.58g NaCl/100g
  - 58.5g NaCl/100g
  - 10.0g NaCl/100g
57. A dry alkaline cell has porous Zn anode & MnO<sub>2</sub> :
- KOH
  - NaOH
  - NH<sub>4</sub>OH
  - Ca(OH)<sub>2</sub>
58. Alkaline battery has voltage of:
- 1.5 V
  - 2.5 V
  - 3.5 V
  - 4.5 V
59. Which substance, in 1 mol dm<sup>-3</sup> of hydrochloric acid?
- Ethanoic acid
  - Sodium hydroxide
  - Nitric acid
  - Sulphuric acid
60. Which statement concerning the equilibrium reaction below is true?
- $$2\text{CrO}_4^{2-}(\text{aq}) + 2\text{H}^+(\text{aq}) \rightleftharpoons \text{Cr}_2\text{O}_7^{2-}(\text{aq}) + \text{H}_2\text{O}(\text{l})$$
- The addition of a catalyst will result in an increases in the concentration of Cr<sub>2</sub>O<sub>7</sub><sup>2-</sup>(aq)
  - A redox reaction is taking place.
  - An increases in acid concentration will result in an increase in the concentration of Cr<sub>2</sub>O<sub>7</sub><sup>2-</sup>(aq)
  - The equilibrium constant, K<sub>e</sub> has no units
61. The enzyme which can catalyze the conversion of glucose to ethanol is:
- Diastase
  - Invertase
  - Maltase
  - Zymase

62. A student started to work on 100g of a compound whose half-life is 5 hours, how much compound is left after 25 hours:
- 3.125g
  - 6.25g
  - 12.5g
  - 25g
63. The element with atomic number 14 belongs to:
- 2<sup>nd</sup> period
  - 3<sup>rd</sup> period
  - 4<sup>th</sup> period
  - 5<sup>th</sup> period
64. The zero group of period table was introduced by:
- Dobereiner
  - New land
  - Mosley
  - Mendeleev
65. The oxides of beryllium are:
- Acidic
  - Basic
  - Amphoteric
  - None of these
66. Which one is the weakest oxyacid of chlorine?
- HClO
  - HClO<sup>2</sup>
  - HClO<sub>2</sub>
  - HClO<sub>3</sub>
67. All 3d series elements show variable oxidation states. The one shown by all 3d elements is:
- 2
  - 3
  - 4
  - 5
68. The most stable oxidation state of Mn is:
- 4
  - 5
  - 7
  - 2
69. Electropositive character increases down the group due to:
- Decrease in ionization potential
  - Increase in atomic size of the elements
  - Decrease in electronegativity of the elements
  - All the above
70. An element that has high ionization energy and tends to be chemically inactive would most likely to be:
- An alkali metal
  - A transition element
  - A halogen
  - A noble gas



71. The major constituent of air after nitrogen is:
- Oxygen
  - Sulphur
  - Hydrogen
  - Water
72. Choose the non-metallic element whose molecules contain maximum number of its atom:
- N
  - P
  - Halogen
  - H
73. The destructive distillation of coal gives three products. Which is not the product of destructive distillation of coal?
- Coal gas
  - Coke
  - Coal tar
  - Carbon dioxide
74. In an historically famous experiment Wohler heated "inorganic" ammonium cyanate in the absence of air. The only product of the reaction was "organic" urea,  $\text{CO}(\text{NH}_2)_2$ . No other product were formed in the reaction.  
What is the formula of the cyanate ion present in ammonium cyanate?
- $\text{CNO}^-$
  - $\text{CNO}^{2-}$
  - $\text{CO}^-$
  - $\text{NO}^-$
75. When ethane is passed through a dilute solution of  $\text{KMnO}_4$ , the pink colour changes to:
- Red
  - Blue
  - Green
  - Colourless
76. Which is the C-C bond length in benzene among the following:
- $1.54 \text{ \AA}$
  - $1.20 \text{ \AA}$
  - $1.34 \text{ \AA}$
  - $1.39 \text{ \AA}$
77. Alkyl halide can be prepared by treating halogen acids with:
- Ethane
  - Methane
  - Ethanol
  - All of the above
78. Which of the following is the best nucleophile?
- $\text{Cl}^-$
  - $\text{Br}^-$
  - $\text{I}^-$
  - $\text{F}^-$

79. When phenol is reduced in the presence of zinc dust we get:
- Cyclohexane
  - Benzene
  - Benzyl alcohol
  - Cyclohexene
80. Which component contains OH in their molecule:
- Ether
  - Phenol
  - Alcohol
  - Both b & c
81. Aniline is a derivation of:
- Alkene
  - Alicyclic
  - Alkane
  - Aromatic hydrocarbon
82. Which one of the following organic acid is made from methanol?
- Formic acid
  - Acetic acid
  - Butanoic acid
  - none of all
83. Aldol condensation is a reaction of cold dilute solution of alkali with:
- All ketones
  - All aldehydes
  - Aldehydes and ketones with  $\alpha$ -hydrogen
  - Aldehydes with no  $\alpha$ -hydrogen
84. Silver mirror test is used for identification of:
- Alcohols
  - Aldehyde
  - Ester
  - Amines
85. The carbon atom of a carbonyl group is:
- Sp-hybridized
  - Sp<sup>2</sup>-hybridized
  - Sp<sup>3</sup>-hybridized
  - Unhybridized
86. Which reagent is used to reduce a carboxylic group to an alcohol?
- N<sub>2</sub>/Ni
  - H<sub>2</sub>/Pt
  - NaBH<sub>4</sub>
  - LiAlH<sub>4</sub>
87. Acetyl chloride is converted into acetic anhydride when treated with:
- Acetone
  - Sulphuric acid
  - Sodium acetate
  - Phosphorus pentoxide

88. Ester has peculiar smell. Which of the following is used as an essence of orange:
- Octyl acetate
  - Methyl butyrate
  - Ethyl butyrate
  - Amyl acetate
89.  $\alpha$ -amino acids react with nitrous acid to give  $\alpha$ -hydroxy carboxylic acid and:
- Nitrogen gas
  - Hydrogen gas
  - Carbon dioxide gas
  - Oxygen
90. Dipolar structure of amino acids is called:
- External salt
  - internal salt
  - Both a & b
  - None of these
91. Glycine has taste:
- Sweet
  - Sour
  - Bitter
  - unpleasant
92. Simplest amino acid is:
- Glycine
  - Alanine
  - Acetic acid
  - none of these
93. Aspartic acid is an acidic amino acid in nature. COOH groups it contains are:
- 2
  - 3
  - 1
  - 4
94. Amino esters can be prepared by reacting  $\alpha$ -amino acids with:
- Alcohols
  - ethers
  - Ammonia
  - CO<sub>2</sub>
95. In which of these processes are small organic molecules changed into macromolecules?
- The fractional distillation of crude oil
  - The hydrolysis of proteins
  - The cracking of petroleum fractions
  - The polymerization
96. Macromolecules or polymers are large molecules built up from small molecules known as monomers. The hypothesis was put forward by:
- Newton
  - Schrodinger
  - Lewis
  - Staudinger

97. Lipids are naturally occurring compounds product in cell and are water insoluble but soluble in organic solvents. One of the following is not a lipid. Select among the following is not a lipid. Select among the following:
- Nucleic
  - A triglyceride
  - sterol
  - Vitamin D
98. Nylon 6,6 is a condensation polymer of:
- Phthalic acid and hexa methylene diamine
  - Phthalic acid and glycerol
  - Adipic acid and hexa methylene diamine
  - Adipic acid and glycerol
99. Which is the optimum pH for the activity of enzyme salivary amylase:
- 3 to 4
  - 5 to 6
  - 7.4 to 8.9
  - 6.4 to 6.9
100. Coenzymes are the species which increase the activity of enzymes. They are chemically:
- Metal ions
  - Organic acids
  - Non-metals
  - Organic bases
101. The gases in the atmosphere are essential for sustaining life on earth. Thus oxygen is required for breathing .What for is carbon dioxide required?
- To plant to undergo photosynthesis
  - To help to clean the atmosphere
  - To destroy nitrogen oxide from the atmosphere
  - To help in fixing of bacteria
102. Fungicides are the pesticides which
- kill plants
  - kill herbs
  - kill insects
  - Control the growth of fungus
103. He was \_\_\_\_\_ of all valuable possessions,
- Robbed
  - Stolen
  - Pinched
  - Established
104. The presence of armed guard \_\_\_\_\_ us from doing anything disruptive.
- Defected
  - Excited
  - Irritated
  - Prevented

105. Our flight was \_\_\_\_\_ from Lahore to Islamabad airport.  
 a. Diverted  
 b. Reflected  
 c. Deflected  
 d. shifted
106. I am \_\_\_\_\_ forward to our picnic scheduled in next month.  
 a. Looking  
 b. Planning  
 c. Seeing  
 d. Going
107. Every year, a few committed citizens exceeds our expectations and work tirelessly to improve our community. A B C D
108. Soon after Danish left to walk to walk,  
 A B  
 he realized that he would forget his umbrella.  
 C D
109. Watching the film, I begun to ask myself why I cared about these characters when I felt  
 A B C D  
 such an intense unease.
110. Someone from the garage phoned to say that the car had been fixed and asking if we  
 A B C D  
 Would pick it up by 5:00
111. Frightened, the little boy screamed load as his neighbours friendly 80-pound dog bounded  
 A B C D  
 up the sidewalk.
112. Because they close resemble sound arguments, fallacious arguments can sound convincing  
 A  
 so be sure to carefully organize your thoughts when you're writing an opinion paper.  
 B C
113. a) The student who used to using calculator may forget how to do mental calculations  
 b) The students who uses to using a calculator may forget how to do mental calculations  
 c) The student who use to using a calculator may forget how to do mental calculations  
 d) The student were used to using a calculator may forget how to do mental calculations
114. a) Sober personality never try to boast of their accomplishments.  
 b) Sober personality never try to boast off their accomplishments  
 c) Sober personality never try to boast to their accomplishments.  
 d) Sober personalities never try to boast on their accomplishments.
115. a) If I was to see a movie with Mom and Dad, I would risk my reputation  
 b) If I were to see a movie with Mom and Dad, I would risk my reputation  
 c) If I has to see a movie with Mom and Dad, I would risk my reputation.  
 d) If I had to see a movie with Mom and Dad, I would risk my reputation.

116. a) While in holidays, they vacationed on America.  
b) While in holidays, they vacationed in America.  
c) While in holidays, they vacationed of America.  
d) While in holidays, they vacationed to America.
117. a) If he would have revised his first draft, he would have received a better grade.  
b) If he had revised his first draft, he would have received a better grade.  
c) If he would revise his first draft, he would have received a better grade.  
d) If he could of revised his first draft, he would receive a better grade.
118. a) He joined against his allies to win the battle.  
b) He joined with his allies to win the battle.  
c) He joined to his allies to win the battle.  
d) He joined in his allies to win the battle.
119. a) Do you known that these gloves have lay on the bureau all weak?  
b) Do you known that these gloves have laid on the bureau all weak?  
c) Do you known that these gloves have lie on the bureau all weak?  
d) Do you known that these gloves have lain on the bureau all weak?
120. a) The Chinese wall can be seen through the moon.  
b) The Chinese wall can be seen along the moon  
c) The Chinese wall can be seen from the moon.  
d) The Chinese wall can be seen off the moon.
121. a) Once upon a time, a little girl name little red riding hood initiated plans for the preparation, delivery and transportation of foodstuffs to her grandmother.  
b) Once upon a time, a little girl naming little red riding hood initiated plans for the preparation, delivery and transportation of foodstuffs to her grandmother.  
c) Once upon a time, a little girl names little red riding hood initiated plans for the preparation, delivery and transportation of foodstuffs to her grandmother.  
d) Once upon a time, a little girl named little red riding hood initiated plans for the preparation, delivery and transportation of foodstuffs to her grandmother.
122. a) Gravity is the force that attract objects in space between each other.  
b) Gravity is the force that attract object in space after each other.  
c) Gravity is the force that attract object in space toward each other.  
d) Gravity is the force that attract object in space below each other.
123. VEXING  
A. Annoying  
B. Aggressive  
C. Viable  
D. Waxy
124. VAGUE  
A. Respectful  
B. Uncertain  
C. warlock  
D. Snow white
125. MANGLED  
A. Dodge  
B. Grained  
C. Indisputable  
D. Damaged

126. PRODIGIOUS
- A. Productive
  - B. Enormous
  - C. Prudential
  - D. Waddle
127. ASTOUNDED
- A. Shocked
  - B. Discarded
  - C. Assured
  - D. Attracted
128. SAGACITY
- A. Foolishness
  - B. Large city
  - C. Onion
  - D. Wisdom
129. GRIM
- A. Gratis
  - B. Restless
  - C. Severe
  - D. Grater
130. INDOLENTLY
- A. Lazily
  - B. indecently
  - C. Ideally
  - D. Gaily
131. PERISH
- A. Furious
  - B. Come to death
  - C. Secret
  - D. Frustrated
132. DOZE
- A. Dogged
  - B. Diet
  - C. Sleep
  - D. Medicine to be taken
133. Corn and wheat protoplast product:
- a. Fertile plants
  - b. infertile plants
  - c. both a & b
  - d. None
134. Pesticides derived from materials such as animals:
- a. Agro-pesticides
  - b. Zoo-pesticides
  - c. Micro-pesticides
  - d. Bio-pesticides

135. The use of living organisms, system of process in manufacturing and service industries is:
- Social Biology
  - Communal biology
  - Biotechnology
  - Human biology
136. The AIDS is caused by virus.
- IH
  - MIV
  - AIDs
  - HIV
137. Cyclosis and amoeboid movements are because of:
- microfilaments
  - intermediate filaments
  - microtubules
  - microtubules
138. The cell theory was finally formulated by:
- Sameer & Shamshair
  - Ali & Husain
  - Schleiden & Schwann
  - Watson & Crick
139. Golgi apparatus is concerned with cell:
- emission
  - oozing
  - Secretion
  - discharge
140. DNA plays an important role in the:
- Legacy
  - birthright
  - reproductive
  - inheritance
141. Glyoxysomes are most abundant in:
- Animal embryos
  - microorganism
  - Plant seedling
  - fungal hyphae
142. Cilia, flagella, basal bodies and centrioles are derived from special assembles of:
- microfilaments
  - Microtubules
  - intermediate filaments
  - none
143. The spent energy, which is in the form of ADP regenerated by the mitochondria into:
- AMP
  - ATP
  - AGP
  - ACP



144. The individuals have additional sex chromosome in:
- Klinefelter's Syndrome
  - turner's syndrome
  - Down's syndrome
  - Sach's syndrome
145. The chromosomes become visible, shorten and thick in:
- Leptotene
  - zygotene
  - pachytene
  - diplotene
146. Some organisms both plants and animals undergo asexual reproduction which involves:
- amitosis
  - mitosis
  - meiosis
  - none
147. Amino acid are linked to each other by a:
- ester bond
  - glycosidic
  - peptide bond
148. Most of the monosaccharaides from a ring structure when in:
- water
  - solution
  - solvent
  - stomach
149. Our blood normally contain glucose:
- 0.6%
  - 0.8%
  - 0.06%
  - 0.08%
150. Phosphatidylcholine is one of the common:
- phospholipids.
  - sphingolipids
  - glycolipids
  - terpenoids
151. RNA is present in the:
- nucleolus
  - ribosomes
  - cytosol
  - all a,b,c
152. The catalytic activity of enzymes is restricted to a small portion of the enzyme known as:
- binding site
  - active site
  - catalytic site
  - non-binding site

153. Any enzyme react only with its specific :
- surface
  - product
  - substrate
  - reactant
154. For enzymes of human body the optimum temperature is:
- 27°C
  - 17°C
  - 37°C
  - 47°C
155. Any factor that can alter the chemistry and shape of an enzyme can affected its rate of:
- reaction
  - activation
  - catalysis
  - both b &
156. The optimum pH of salivary amylase is:
- 2.80
  - 4.80
  - 6.80
  - 8.80
157. The best known phages are T phages that infect:
- Salmonella typhi
  - Mycoplasma
  - pseudomonas
  - Escherichia coli.
158. Example of Rod shaped bacteria is:
- Spirochete
  - Diplococcus
  - Rhizopus
  - Escherichia coli
159. Some spirochetes occasionally reach in length:
- 200  $\mu\text{m}$
  - 300  $\mu\text{m}$
  - 400  $\mu\text{m}$
  - 500  $\mu\text{m}$
160. Penicillium species are used for giving flavour, aroma (smell) and characteristics colour to some:
- Cheese
  - Bread
  - Liquor
  - Jams
161. A free swimming trochophore larva is produced during life cycle of:
- Echinoderms
  - Annelids
  - Coelenterates
  - Arthropods

162. The animals which do not have a body cavity have grouped under:
- Acoelomate
  - Coelomate
  - Pseudocoelomata
  - Procoelomata
163. In mollusc, a respiratory pigment of blue colour is present, called:
- Haemoglobin
  - Haemoerythrin
  - Haemobilin
  - Haemocyanin
164. Certain grasses yield aromatic oils, e.g :
- Saccharum munja
  - Cymbopogon citratus
  - Triticum vulgare
  - Oryza sativa
165. Poaceae is also called:
- Corn family
  - Grass family
  - Acacia family
  - Cassia family
166. Elimination of undigested matter by an animal is called:
- Ingestion
  - Excretion
  - Absorption
  - Digestion
167. The largest part of large intestine:
- Rectum
  - Colon
  - Jejunum
  - Caecum
168. The digestive system of man consist of a long coiled tube that extends from the mouth to the:
- Cloaca
  - Anus
  - Both a & b
  - None
169. Saliva is secreted by three pairs of:
- Gastric glands
  - Salivary glands
  - Thyroids glands
  - Parathyroid glands
170. Lungs are covered with double layer thin membranous sacs called:
- Pleura
  - Pericardium
  - Scrotum
  - Diaphragm

171. About 20% carbon dioxide is carried as:
- bicarbonate ions
  - carboxy – hemoglobin
  - carbonate ions
  - carbon-dioxide
172. When the smaller bronchi attain a diameter of -----mm or less than they are called bronchioles:
- three
  - one
  - two
  - four
173. Respiratory pigment present in muscles is called:
- hemoglobin
  - myoglobin
  - immunoglobulin
  - globin
174. Antidiuretic hormone (ADH) released from posterior pituitary act to actively transport water from filtrate to kidney's:
- pelvis
  - medulla
  - cortex
  - interstitium
175. Bowman's capsule is around a ball capillaries called:
- pyramid
  - pelvis
  - glomerulus
  - medulla
176. Dialysis cleans the blood either by:
- passing it through an artificial kidney
  - filtering it within abdomen
  - removing the whole blood from body
  - both a & b
177. In each nephron inner end forms a cup-shaped swelling, called:
- bowman's capsule
  - glomerulus
  - pelvis
  - urethra
178. The protection of internal environment from the harms of fluctuations in external environment is termed as:
- homeotherms
  - homeopathy
  - homeostasis
  - none

179. A glenoid fossa serves as a point of articulation of :
- girdle & fore limb
  - girdle & hind limb
  - neck
  - both a & b
180. Cramp is also known as:
- tetanic contraction
  - muscle fatigue
  - tetany
  - titanic
181. Each muscle fiber contain a large number of myofibrils having a diameter of :
- 1 – 2 mm
  - 1–5 mm
  - 2–4 mm
  - 3–7 mm
182. Hydrostatic skeleton is found in :
- cnidarians
  - annelids
  - soft- bodied invertebrates
  - all a, b, and c
183. At rest  $\frac{1}{5}$  lactic acid is broken aerobically and its energy is used to change remaining  $\frac{4}{5}$  lactic acid into:
- sucrose
  - lactose
  - glucose
  - fructose
184. A few cranial nerves including the vagus nerve together with fibers from the bottom portion of spinal cord, from the:
- parasympathetic nervous system
  - sympathetic nervous system
  - autonomous nervous system
  - limbic nervous system
185. Alzheimer's disease is characterized by the decline in the function of :
- brain
  - liver
  - kidney
  - stomach
186. How many pairs of spinal nerves arise from or lead to spinal cord:
- 31
  - 13
  - 25
  - 12
187. Gray matter consists of:
- cell bodies
  - non-myelinated nerve fibers
  - both a & b
  - none

188. The adrenal cortex secretes:
- aldosterones
  - androgenic hormones
  - progesterone
  - both a & b
189. Oestrogens are secreted ripening:
- ovaries
  - corpus luteum
  - follicles
  - testis
190. The islets of Langerhans contain large numbers of  $\beta$  cells associated with:
- insulin production
  - glucagon production
  - steroid production
  - epinephrine production
191. Milk ejection from mammary glands is caused by;
- vasopressin
  - Oxytocin
  - parathormone
  - insulin
192. The testes consists of many coiled :
- seminiferous tubules
  - malpighian tubules
  - renal tubules
  - all a, b, c.
193. External genitalia of human male consist of a pair of testes which lie outside the body, in the sac like:
- pouch
  - marsupium
  - scrotum
  - bag
194. Once the placenta is established, it starts secreting the progesterone hormones which maintain the:
- development
  - pregnancy
  - lactation
  - ovulation
195. Non- motile female gametes or eggs are called:
- Sperm
  - Oogonia
  - Spermatozoid
  - Ova
196. Syphilis is caused by a spirochete
- Staphylococcus aureus
  - Rhizobium
  - E. coil
  - Treponema pallidum

197. The component of immune system included the lymphocytes ( B and T) and the:
- antigens
  - monocytes
  - antisera
  - antibodies
198. Antibodies are manufactured in
- B-lymphocytes
  - T-lymphocytes
  - C-lymphocytes
  - G-lymphocytes
199. The lymph mostly closely resembling with:
- Blood
  - Interstitial fluid
  - Plasma
  - Both a & b
200. A major condition which leads to heart attack is:
- Arteriosclerosis
  - Atherosclerosis
  - Hypertension
  - Obesity
201. The left auricle passes blood to the left ventricle via:
- bicuspid valve
  - tricuspid valve
  - semilunar
  - Sino-atrial node
202. Thylakoid sacs are stacked in columns called:
- stroma
  - crista
  - grana
  - cisterna
203. In 1930's. Van Niel hypothesized that plants split water as a source of hydrogen, releasing hydrogen as a:
- by-product
  - side effect
  - offshoot
  - spin-off
204. The entry of carbon dioxide into the leaves depend upon the opening of:
- guard cells
  - hydathodes
  - stomata
  - pores
205. Glucose literally means splitting of:
- glycogen
  - carbohydrate
  - protein
  - sugar

206. The quantitative study of energy relationships and conservation in biological system is :
- Bio conservation
  - Bioenergy
  - Biosystematics
  - biosystematics
207. EcoR1 cuts double-stranded DNA when it has this sequence of bases at the:
- cleavage site
  - flanking site
  - breaking site
  - joining site
208. DNA polymerase used in PCR is extracted from the bacterium:
- milk spills
  - oil spills
  - Urine spills
  - alcohol spills
209. Naturally engineered bacteria do an even better job of cleaning up beaches after:
- Thermus terrestris*
  - Thermus indicus*
  - Thermus aquaticus*
  - Thermus botani*
210. Very useful method in DNA finger printing is:
- PCR
  - cloning
  - Genetic engineering
  - transmutation
211. Plasmid were discovered by investigators studing the sex life of the intential bacterium:
- Salmonella typhi*
  - Clostridium tetani*
  - Escherichia coli*
  - Bacillus subtilis*
212. The term ecology originally was used in 1866 by the German zoologist:
- Charles Eton
  - Ernst Haeckel
  - joseph Grinnell
  - Carolus Linnaeus
213. The fungi and bacteria, which obtain their energy from the dead and decaying plants and animals are:
- decomposers
  - consumers
  - producers
  - scavengers
214. Major regional ecological community of plants and animals forms:
- triomes
  - biosphere
  - biomes
  - biogeography



215. Plants growing in xeric (dry) condition are called:
- hydrophytes
  - xerophytes
  - mesophytes
  - derophytes
216. A short food chain of two or three links supports a community:
- efficiency
  - more efficiently
  - inefficiently
  - less efficiently
217. An important turning point for evolutionary theory was the birth of:
- population ecology
  - population genetics
  - demography
  - biometry
218. Among the birds Darwin collected 13 types of:
- finches
  - robins
  - ferrets
  - pterodactyls
219. The change in frequency of alleles at a locus that occurs by chance is :
- gene pool
  - mutation
  - Genetic waft
  - genetic drift
220. A chromosome carries its linked genes enable in the form of a:
- recombinant group
  - linkage group
  - both a & b
  - none