

## UHS MDCAT Past Paper 2015

1. Age of the Earth:
  - a.  $14 \times 10^{17}$  sec
  - b.  $1.4 \times 10^{19}$  sec
  - c.  $1.4 \times 10^{17}$  sec
  - d.  $1.4 \times 10^{15}$  sec
  
2. SI unit power is:
  - a. joule
  - b. pound
  - c. watt
  - d. Dyne
  
3. The SI units of torque is:
  - a.  $\text{Nm}^2$
  - b. Nm
  - c.  $\text{Nm}^{-1}$
  - d.  $\text{Nm}^{-2}$
  
4. When the lift is falling freely under gravity ,then:
  - a.  $T=W-mg$
  - b.  $T-W=ma$
  - c.  $T=0$
  - d. None of these
  
5. Substances that don not flow easily are:
  - a. Honey
  - b. Thick tar
  - c. Mobile Oil
  - d. All of these
  
6. As the droplet accelerates, the upward drag force on it:
  - a. Increase
  - b. Decrease
  - c. Suspend
  - d. None of these

7. At diastolic pressure:
- Flow become laminar
  - Gurgle disappears
  - External pressure becomes equal
  - All of these
8. Michelson's interferometer is an instrument used to measure the distance with:
- Precision
  - High precision
  - Extremely high precision
  - None of these
9. The polarized can be achieved by using process like:
- Coherent sources
  - Diffraction
  - Selective absorption
  - None of these
10. Magnification of a convex lens is:
- $M=p/d$
  - $M=p/q$
  - $M=q/p$
  - None of these
11. The lower refractive index the fiber core has:
- 1.48
  - 1.40
  - 1.54
  - 1.42
12. If the time period of the simple pendulum 4 sec its frequency would be:
- 1.0 sec
  - 0.75 sec
  - 0.25 sec
  - 0.1 sec

13. Due to resonance, the amplitude of the body vibrating with natural frequency will:
- a. Small
  - b. Large
  - c. Extremely Large
  - d. None of these
14. Sonar is the name of technique or detecting the presence of objects under water by:
- a. Eco-ranging
  - b. Eco-sounding
  - c. Eco-acoustical
  - d. All of these
15. Bats navigate and find food by:
- a. Eco-sounding
  - b. Eco-location
  - c. Acoustical echo
  - d. None of these
16. The S.I unit of stress is also:
- a. Force
  - b. Pascal
  - c. Momentum
  - d. None of these
17. Bulk modulus for mercury is:
- a. 27
  - b. 29
  - c. 29.4
  - d. 30

18. By Pascal's law the pressure on the outer sides and everywhere inside the vessel will be the same with same density:

- a.  $P = \frac{2}{3}\rho \langle V^2 \rangle$
- b.  $P = \frac{1}{3}\rho \langle V^2 \rangle$
- c.  $P = \frac{1}{3}\rho \langle V \rangle^2$
- d.  $P = \frac{3}{2}\rho \langle V \rangle^2$

19. The value of Boltzmann constant is:

- a.  $1.28 \times 10^{-22} \text{JK}^{-1}$
- b.  $1.38 \times 10^{-23} \text{JK}^{-1}$
- c.  $1.38 \times 10^{-28} \text{JK}^{-1}$
- d.  $1.38 \times 10^{-29} \text{JK}^{-1}$

20. In an isothermal process:

- a. Volume remain constant
- b. Pressure remain constant
- c. Temperature remain constant
- d. None of these

21. The source in the heat engine is at:

- a. Low temperature
- b. High temperature
- c. Zero temperature
- d. None of these

22. The approximate efficiency of Nuclear reactor:

- a. 33%
- b. 32%
- c. 39%
- d. 42%

23. C.R.O is a device which consist of:

- a. A grid
- b. Indirectly heated cathode
- c. Three anode
- d. All of these

24. In a bridge rectifier when  $V_i$  is positive at node B with respect to A, which diodes are ON:

- a.  $D_2$  and  $D_4$
- b.  $D_1$  and  $D_3$
- c.  $D_2$  and  $D_3$
- d.  $D_1$  and  $D_4$

25. The passage of an electric current produces, the effects:

- a. Heating effect
- b. Magnetic effect
- c. Chemical effect
- d. All of them

26. The process of electrolysis is used for:

- a. Separating ions in a liquid
- b. Chemical changing
- c. Electroplating
- d. None of these

27. The chemical changes produce in a liquid depends upon:

- a. Nature of liquid
- b. Quantity of electricity passed
- c. Time for which the current passing
- d. All of them

28. One Tesla is equal to:

- a.  $1 \text{ Nm A}^{-1}$
- b.  $1 \text{ N A}^{-1} \text{ m}^{-1}$
- c.  $1 \text{ Nm}^{-1} \text{ A}$
- d. None of these

29. A solenoid is a cylindrical long and tightly wound coil of a wire, when a current passing through it behaves like a:

- a. Source of emf
- b. Magnet
- c. Electromagnet
- d. None of these

30. The S.I unit of magnetic induction is:

- a. Weber
- b. Weber<sup>2</sup>
- c. Tesla
- d. Gauss

31. Darkening of X-ray film is proportional to the:

- a. Current
- b. Voltage
- c. Radiation Exposure
- d. None of these

32. The meta stable state for laser is about:

- a.  $10^{-8}$  sec
- b.  $10^{-5}$  sec
- c.  $10^{-3}$  sec
- d.  $10^{-2}$  sec

33. Characteristic X-rays are the X-rays which have:

- a. High energy photon
- b. Specific wavelength
- c. Specific frequency
- d. All of these

34. X-rays can penetrate into a solid matter upto:

- a. Few millimetre
- b. Several millimeter
- c. Few centimetre
- d. Several centimeter

35. The metastable state of He and Ne are nearly equal as:

- a. He 20.61 eV; Ne 18.70 eV
- b. He 20.61 eV; 20.66 eV
- c. He 20.61 eV; 21.66 eV
- d. None of these

36. Laser beam can be used for:

- a. Welding of detached retinas
- b. Destroy tissues in a localized area
- c. Sealed off capillaries for prevention of disease
- d. All of them

37. Laser beam can be used to generate:

- a. One dimensional images
- b. Two dimensional images
- c. Three dimensional
- d. None of these

38. The total change of any nucleus is:

- a. Z
- b. Ze
- c. A
- d. None of these

39. The half life iodine -131 is:

- a. 2 days
- b. 4 days
- c. 8 days
- d. 10 days

40. The  $\alpha$ -particle is more massive than an electron is about times:

- a. 500
- b. 7000
- c. 900
- d. 1000

41. Neutron interact with materials containing hydrogen atoms and knock-out:
- Electron
  - Proton
  - Photon
  - None of these
42. Radio Isotopes can be made easily by bombardment with:
- Electrons
  - Protons
  - Neutrons
  - None of these
43. The study of circulation of blood can be made using:
- Iodine-125
  - Sodium-24
  - Phosphorous
  - None of these
44. Meson is made from:
- A pair of quarks
  - A pair of anti-quarks
  - A pair of quarks and anti quarks
  - None of these
45. Mass spectrometer is used to measure the:
- Fractional mass of element
  - Exact mass of the element
  - The number of elements presents in a molecule
  - Average mass of an element
46. What is correct relationship btw empirical and molecular formula?
- empirical formula  $\times \sqrt[n]{\quad}$  =molecular formula
  - empirical formula  $/n$  = molecular formula
  - empirical formula  $\times n^2$  = molecular formula
  - molecular formula  $/n$ = empirical formula



47. If absolute temperature of gas is doubled and the pressure is reduce to one half, the volume of gas will:
- reduce to  $\frac{1}{4}$
  - be doubled
  - increase four time
  - remains unchanged
48. Which one of the following statement about negative ions is incorrect?
- they are also known as ions
  - they forms when atoms gains electron
  - they are smaller then the atom from which they were found
  - they are larger than the from which they were found
49. The principle quantum number describes the:
- shape of the orbital
  - distance from the nucleus
  - spin of the electron
  - orientation from the orbital
50. The atomic radii of the element lie in the order of:
- 10 power 8 cm
  - 10 power -12 cm
  - 10 power -8 cm
  - 10 power12 cm
51. Which of the following has the greatest covalent character?
- LiCl
  - NaCl
  - KCL
  - RbCl

52. Nobel gases are?
- heavy substances
  - light substances
  - stable substances
  - reactive substances
53. Calorie is equivalent to:
- 0.4184 j
  - 41.84 j
  - 4.184 j
  - 418.4 j
54. The changes in heat energy of chemical reaction at constant temperature and pressure is called:
- enthalpy change
  - bond energy
  - heat of sublimation
  - internal energy change
55. The ratio of the number of moles of a particular component of the solution to the total number of moles of all the components of the solution is called:
- molarity
  - % age
  - mole fraction
  - formality
56. The %age weight of NaCl , if 2.0g of NaCl is dissolved in 20g of  $\text{H}_2\text{O}$ :
- 5%
  - 11.5%
  - 10.50%
  - 9.09%

57. Which is the correct statement about the following reaction?
- a.  $2\text{Fe} + 3\text{Cl}_2 \rightarrow 2\text{FeCl}_3$
  - b. Fe is oxidized
  - c.  $\text{Cl}_2$  is oxidized
  - d. none of all above
58. Which is the oxidation state of oxygen atom in sodium superoxide?
- a.  $-1/2$
  - b.  $+1/2$
  - c.  $-1$
  - d.  $-2$
59. Chemical equilibrium involving reactants and products in more than one phase is known:
- a. dynamic
  - b. heterogeneous
  - c. static
  - d. homogeneous
60. Le-Chatelier's principle is applied on the reversible reaction in order to:
- a. determine the rate of reaction
  - b. determine the extent of reaction
  - c. predict the direction of reaction
  - d. find the best condition of favourable shifting the position of equilibrium
61. An increase in concentration of reactants:
- a. decrease the number of collisions
  - b. increase the number of collisions directly
  - c. has no effect on number of collisions
  - d. has inverse effect on number of collisions

62. Rancidity produced in butter can be decreased by adding quinolone to the butter. This statement shows that:

- a. quinolone is an inhibitor
- b. quinolone is a catalyst
- c. quinolone is an activator
- d. nothing is impossible

63. The defects in the Mendeleev's periodic table is:

- a. K (At.Wt.39.1) has been placed after argon (At.Wt.9.9)
- b. in spite of their different properties, alkali metals and coinage metals have been grouped together
- c. similar element like Cu and Zn have been placed in different groups
- d. all above statements are correct

64. In the periodic table elements are arranged in a period strictly in sequence of:

- a. equal charges in the nucleus
- b. decreasing charges in the nucleus
- c. constant charge in the nucleus
- d. increasing charges in the nucleus

65. Which gas among the following burns with blue flame?

- a. CO
- b. CO<sub>2</sub>
- c. NO
- d. N<sub>2</sub>

66. The order of Van der Waals forces in halogens is in the order of:

- a. Cl<sub>2</sub>>Br<sub>2</sub>>I<sub>2</sub>>F<sub>2</sub>
- b. Br<sub>2</sub>>Cl<sub>2</sub>>F<sub>2</sub>>I<sub>2</sub>
- c. F<sub>2</sub>>Cl<sub>2</sub>>Br<sub>2</sub>>I<sub>2</sub>
- d. I<sub>2</sub>>Br<sub>2</sub>>Cl<sub>2</sub>>F<sub>2</sub>

67. Coordination number of silver is:

- a. 1
- b. 2
- c. 3
- d. 4

68. Which element among the following does not belong to d-block?

- a. Ti
- b. Na
- c. Mn
- d. Te

69. Ozone is an allotropic form of:

- a. carbon
- b. phosphorus
- c. oxygen
- d. sulphur

70. Sulphur acid is manufactured commonly these days by:

- a. lead chamber process
- b. habers process
- c. contact process
- d. castner process

71. Air is polluted due to:

- a. oxides of sulphur
- b.  $\text{CO}_2$
- c.  $\text{SiO}_2$
- d. none of these

72. Which of the symbol of element whose atoms have the outermost configuration  $2s^2 2p^3$  among the following:
- c
  - Li
  - N
  - O
73. In methane all the bonds are:
- sigma
  - Pi
  - sigma and Pi
  - both a and c
74. Which is not the characteristics property of organic compound:
- they form long chain compounds
  - they exist in homologous series
  - organic compound are generally covalent compound
  - organic compound are generally water soluble
75. Alkenes combine readily with electrophile such as halogens giving:
- haloalkanes
  - vicinal dihalides
  - alkyl halides
  - vinyl halides
76. Which of the following is not an electrophilic substitution reaction of benzene?
- Nitration
  - Friedel-Craft alkylation
  - Sulphonation
  - Free radical chlorination of benzene
77.  $S_N2$  reaction can be best carried out with:
- Primary alkyl halides
  - Secondary alkyl halides
  - Tertiary alkyl halides
  - All of these
78. Alkanes may be prepared by the reduction of alkylhalides with:
- Oxygen
  - nascent hydrogen
  - Ketones
  - Ethers

79. Oxidation of methyl alcohol gives:
- Acids
  - Formaldehyde
  - Acetone
  - Ester
80. Which compound is called a universal solvent?
- H<sub>2</sub>O
  - CH<sub>2</sub>OH
  - CH<sub>3</sub>-O-CH<sub>3</sub>
  - C<sub>2</sub>H<sub>5</sub>OH
81. Methyl alcohol is not used:
- As a solvent
  - As an unit freezing agent
  - As a Substitute for petrol
  - For denaturing of ethyl alcohol
82. According to Lewis concept ethers behave as:
- Acid
  - Base
  - Acid as well as a base
  - None of these
83. Which of the following compounds will not give iodoform test treatment with I<sub>2</sub> and NaOH?
- Acetaldehyde
  - 3-Pentanone
  - Butanone
  - Acetone
84. Propanal reacts with Tollen's reagent to form:
- Ag<sub>2</sub> + C<sub>2</sub>H<sub>5</sub>OH
  - Ag + C<sub>3</sub>H<sub>7</sub>OH
  - Ag + C<sub>2</sub>H<sub>5</sub>COOH
  - Ag + CH<sub>3</sub>CHO
85. Formula is \_\_\_\_\_ solution of formaldehyde in water:
- 20%
  - 60%
  - 10%
  - 40%
86. Acetic acid dehydrates on heating strongly in presence of P<sub>2</sub>O<sub>5</sub> to give:
- Acetamide
  - Acetyl chloride
  - acetic anhydride
  - Ethyl acetate
87. An aqueous solution of an organic compound react with sodium carbonate to produce carbon-dioxide gas. Which one of the following could be the organic compound?
- CH<sub>2</sub>=CH - CH<sub>3</sub>
  - CH<sub>3</sub>COOC<sub>2</sub>H<sub>5</sub>
  - CH<sub>3</sub>- CHO
  - CH<sub>3</sub> - CH<sub>2</sub> - COOH

88. When carboxylic acid is reacted with soda lime and alkali, it products carbon dioxide and simple hydrocarbon. Which of the following is that:
- Alkanes
  - Alkenes
  - Alkynes
  - None of all
89. Ninhydrin is used to visualize amino acids in paper chromatography because of it gives the color which is:
- Bluish violet
  - Yellow
  - Pale yellow
  - Brown
90. Zwitter ion is due to:
- Amino acid
  - Amines
  - Carboxylic acid
  - Aldehydes
91. Lysine is:
- Basic
  - Acidic
  - Neutral
  - Amphoteric
92. Abbreviated name of an amino acid consist of first-letters of its name:
- One
  - Two
  - Three
  - Four
93. Glycine is an amino acid which is:
- Neutral
  - Acidic
  - Basic
  - Amphoteric



94. Glutamic acid contains two COOH and number of NH<sub>2</sub> groups in it has:
- 1
  - 2
  - 3
  - 4
95. Which of these polymers is an addition polymer?
- Nylon6, 6
  - Terylene
  - Polystyrene
  - Epoxy resin
96. The fibre which is made from acrylonitrile as monomers is:
- Rayon Fibre
  - PVC
  - Acrylic fibre
  - Polyester Fibre
97. The structure of a polymer depends upon how the monomer repeating unit joins to make a polymer. Which is not the type of structure of a polymer among the following?
- Synthetic polymer
  - Branched linear polymer
  - Linear polymer
  - Cross linked or inter connected polymer
98. Which one of the following enzymes brings about the hydrolysis of fats?
- Urease
  - Maltase
  - Zymase
  - Lipase

99. The reaction between fats and NOAH is called:

- a. Esterification
- b. Fermentation
- c. Hydrogenolysis
- d. Saponification

100. A fat or oil is characterized for extent of unsaturation by one of the following number. Which one is?

- a. Saponification number
- b. Acid number
- c. Rancidity number
- d. Iodine number

101. The PH range of an acid rain is:

- a. 6.5-7.5
- b. Less than 5
- c. 8-7.5
- d. 7-6.5

102. The reaction of an acid rain is:

- a. Release of CO in excess by in complete combustion
- b. Formation of excess CO<sub>2</sub> due to combustion and respiration
- c. Excess release of NO<sub>2</sub> and SO<sub>2</sub> from burning of fossil fuel
- d. Formation of NH<sub>3</sub> in excess form industry and coal gas

103. Ali is always \_\_\_\_\_ about showing up for work because he feels that tardiness is a sign of irresponsibility:

- a. legible
- b. tolerable
- c. punctual
- d. literal

104. Saad argued, "if you about a crime but don't report it, you are \_\_\_\_\_ in that crime because you allowed it to happen."

- a. Nullified
- b. Stead fast
- c. tenuous
- d. complicit

105. Choosing a small fuel-efficient car is a \_\_\_\_\_ purchase for a recent college picture.

- a. Corrupt
- b. Tedious
- c. Unhallowed
- d. Judicious

106. I have always admired Umar's \_\_\_\_\_ I've never seen him rattled by anything:

- a. Confidence
- b. Union
- c. Propriety

107. Each of the employees have had a half hour

- a
  - b
  - c
  - d
- evaluation meeting with his or her  
supervisor.

108. Here are one of the three keys you will need to

- A
  - b
  - c
  - d
- Unlock the office door tomorrow.

109. The staff at the university library deserve

- a
  - b
  - C
  - d
- Recognition for helping to locate the many sources

Needed for the successful completion of my doctoral dissertation.

110. When the professor called out Ali's name, he walked

A

b

Rather hesitant to the front of the room and stood there shaking

D

111. Besides a swollen glands, Zara also had a sore

A

b

Throat and a high fever

C

d

112. I thought Mission Impossible was best of the two films we watched on Saturday.

a

b

c

d

113. a. Ali is exhausted. He have running:

b. . Ali is exhausted. He has been running.

c. . Ali is exhausted. He had been running

d. . Ali is exhausted. He has running.

114. a. The wicked sultan Loves getting people into trouble

b. The wicked sultan Loves getting people in trouble

c. The wicked sultan Loves getting people over trouble

d. The wicked sultan Loves getting people by trouble

115. a. If the books had been cataloged last week; why haven't they been placed on the shelf'?

b. If the books would have been cataloged last week; why haven't they been placed on the shelf'?

c. If the books had been catalogued last week; why haven't they been placed on the shelf'?

d. If the books had been catalogued last week; why haven't they been placed on the shelf'?

116. a. Mr. Rafiq stressed the importance in individuality

b. Mr. Rafiq stressed the importance to individuality

c. Mr. Rafiq stressed the importance of individuality

d. Mr. Rafiq stressed the importance with individuality

117. a. Last Summer, the heat will have brought hundreds of the people to the ocean  
b. Last Summer, the heat have brought hundreds of the people to the ocean  
c. Last Summer, the heat will have brought hundreds of the people to the ocean  
d. Last Summer, the heat brought hundreds of the people to the ocean
118. a. By virtue of your letter of date, we regret we cannot any further rebate.  
b. On behalf of your letter of date, we cannot allow any further rebate.  
c. With reference to your letter of date, regret we cannot allow any further regret  
d. In respect of your letter of date, we regret we cannot allow any further rebate
119. a. In the entire history of solar system, thirty billion planets may has been lost.  
b. In the entire history of solar system, thirty billion planets may have been lost.  
c. In the entire history of solar system, thirty billion planets may had been lost.  
d. In the entire history of solar system, thirty billion planets may would have been lost.
120. a. She accepted the car in lieu, of her claim for Rs,2,25000.  
b. She accepted the carwith a view, to her claim for Rs,2,25000  
c. She accepted the car areegably, of her claim for Rs,2,2500  
d. She accepted the car on her account of her claim for Rs,2,25000
121. a. They rise with the sun shine and labour till evening  
b. They rise with the sun shine and labour to evening  
c. They rise with the sun shine and labour across evening  
d. They rise with the sun shine and labour around evening
122. a. Rubber is a good insulator of electricity and so do glass.  
b. Rubber is a good insulator of electricity and so do glass  
c. Rubber is a good insulator of electricity and so do glass  
d. Rubber is a good insulator of electricity and so do glass
123. COMBAT:
- a. Submit  
b. Fight  
c. Conflict  
d. Fued

124. SUBSIDE:

- A. Submit
- B. Oppress
- C. Diminish
- D. Surrender

125. ABSCOND:

- a. Turn
- b. flee
- c. Manage
- d. Avoid

126. GAINSAY:

- a. Advantage
- b. Proposal
- c. Contradict
- d. Suggestion

127. PROFOUND:

- a. Profuse
- b. Boundless
- c. Deep
- d. Fathomless

128. SOPORIFIC:

- a. Lethargic
- b. Merry
- c. Soothing
- d. Impressive

129. ANNEAL:

- a. Commence
- b. Forget
- c. Patch
- d. Temper

130. ABOMINATION:

- a. Revulsion
- b. disgust
- c. Criticism
- d. Attack

131. BERLESQUE:

- a. Insult
- b. Irritate
- c. Mock
- d. Annoy

132. FOSTER:

- a. Encourage
- b. Fabricate
- c. Foment
- d. Nurture

133. The reasoning from the specific to general is called:

- a. inductive
- b. deductive
- c. hypothetical
- d. suggestive

134. Pasteurization developed by Louis pasture is being widely used for preservation of:

- a. Milk
- b. Milk products
- c. meat
- d. both a & b

135. A connecting and supporting tissue in animal is being widely used for prevention of:

- a. Connective
- b. Muscle
- c. Nerve
- d. Bone

136. The study of fossil and their relationships to the evolution of life on earth is:
- a. Fossilization
  - b. Paleontology
  - c. Palaeobotany
  - d. Palaezoology
137. The interphase of Meiosis lack:
- a. G<sub>1</sub> Stage
  - b. G<sub>2</sub> Stage
  - c. G<sub>3</sub> stage
  - d. G<sub>4</sub> stage
138. The microtubules are composed of a protein tubulin and traces of:
- a. DNA
  - b. RNA
  - c. NAD
  - d. FAD
139. The separation of homologous chromosomes occur of:
- a. Prophase
  - b. Metaphase
  - c. Anaphase
  - d. Telophase
140. An unwanted clone of cells formed by uncontrolled growth of cells is:
- a. Tumour
  - b. growth
  - c. Lump
  - d. swelling
141. The presence of invading cells in otherwise normal tissue is an indication of:
- a. malignancy
  - b. melanoma
  - c. sarcoma
  - d. growth
142. Stroma is fluid in the chloroplast which surrounds:
- a. Granum
  - b. Intergranum
  - c. Thylakoids
  - d. both a & b
143. In prokaryotes mitosis is missing and cell divides by:
- a. Fission
  - b. budding
  - c. fragmentation
  - d. conjugation



144. There are 14 chromosomes in:
- onion
  - garden pea
  - maize
  - oat
145. Accumulation of lipids in brain cells lead to mental retardation and even:
- bereavement
  - demise
  - physical disability
  - death
146. Fungal cell wall contains:
- pectin
  - silica
  - chitin
  - lignin
147. The types of amino acids which have been found to occur in cells and tissues are about:
- 17
  - 107
  - 170
  - 71
148. On hydrolysis, oligosaccharides yield monosaccharides from:
- one to ten
  - two to ten
  - two to twenty
  - ten to twenty
149. Glucose will form a ring known as:
- ribofuranose
  - glucopyranose
  - Furoribranose
  - pyroglucanose
150. Waxes are widespread as protective coatings on:
- fruits
  - leaves
  - stems
  - both a & b
151. DNA is generally located inside the nucleus while rna is concentrated in:
- mitochondria
  - chloroplasts
  - Peroxisomes
  - cytoplasm
152. If non-protein part is loosely attached to the protein part it is known as:
- cofactor
  - coenzyme
  - holoenzyme
  - prosthetic group
153. If the amount of enzyme is increased by two fold the reaction rate is:
- same
  - double
  - four fold
  - three fold

154. Non-competitive Inhibitors from enzyme inhibitor complex at a point other than the:
- catalytic site
  - active site
  - binding site
  - both a & b
155. Some enzymes use metal-ions as co-factors like.
- $Mg^{2+}$
  - $Fe^{2+}$
  - $Cu^{2+}$
  - all a, b, c
156. Some species of *Aspergillus* are used for fermenting/production soy sauce and soy paste from:
- pea
  - soybean
  - tomato
  - potato
157. Some bacteria require a low concentration of oxygen for growth and are known as:
- aerobic
  - anaerobic
  - microaerophilic
  - facultative
158. Cell walls of archaebacteria are different from:
- probacteria
  - cyanobacteria
  - actinobacteria
  - eubacteria
159. Smallpox is caused by:
- poxviruses
  - parvoviruses
  - paramyxoviruses
  - adenoviruses
160. *Tamarindus indica*; *Cassia fistula*, *Bauhinia variegata* are familiar plants of family:
- Fabaceae
  - Poaceae
  - Mimosaceae
  - Caesalpiniaceae
161. *Lycopersicon esculentum* is commonly known as:
- potato
  - kachaloo
  - tomato
  - kachnar
163. *Physalis* (Ground- Cherry) produces an edible fruit enclosed in a bladder like persistent calyx the husk, the name husk:
- potatoes
  - cherries
  - peppers
  - tomatoes

164. The Honey Bee is a useful insect that provides man with:
- honey
  - wax
  - sugar
  - both a & b
165. Sublingual glands are situated below the:
- jaws
  - ears
  - tongue
  - eyes
166. At the junction between oesophagus and stomach is special ring of muscles called:
- pyloric sphincter
  - ileocolic sphincter
  - cardiac sphincter
  - gastric sphincter
167. The softened, partly digested, slimy food mass is rolled into small oral lump called:
- bolus
  - chyme
  - ball
  - pill
168. Parietal or oxyntic cells secrete:
- nitric acid
  - Sulphuric acid
  - Hydrochloric acid
  - acetic acid
169. Partial pressure of the oxygen is abbreviated as:
- OP<sub>2</sub>
  - PP<sub>2</sub>
  - PPO<sub>2</sub>
  - PO<sub>2</sub>
170. Haemoglobin in man increase the oxygen carrying capacity of the blood to about:
- 45 times
  - 55 times
  - 65 times
  - 75 times
171. The main tracheae divide and subdivide forming very fine tubules called:
- tracheids
  - bronchioles
  - arterioles
  - tracheoles
172. The opening of larynx is called:
- epiglottis
  - bronchioles
  - arterioles
  - tracheoles
173. Kidney stones are formed in metabolic disease:
- hypertension
  - hypercalcemia
  - hypertonic
  - hypomagnesaemia

174. In haemodialysis blood is circulated through a machine which contains a dialyzer, called:
- natural kidney
  - permanent kidney
  - artificial
  - temporary
175. The nephrons arranged along the cortex are called?
- cortical nephrons
  - juxlamedullary nephrons
  - medullary nephrons
  - pelvic nephrons
176. Urea is product from the metabolism of:
- amino acids
  - fatty acids
  - nucleic acids
  - nitric acids
177. The excretory product that requires maximum water for its elimination as compared to other:
- Ammonia
  - Urea
  - Uric acid
  - Creatinine
178. Lactic acid accumulation causes muscles:
- cramp
  - fatigue
  - tetany
  - all of the above
179. Bones to bones attachment is by:
- tendon
  - nerve
  - ligament
  - sinew
180. A state of physiological inability to contract is called:
- cramp
  - tetany
  - muscle stiff
  - muscles fatigue
181. Skeleton muscles are also called striped or striated muscles because they show alternate light and dark bands e.g.
- triceps
  - biceps
  - panticeps
  - both a & b
182. The cardiac muscles are:
- striated & voluntary
  - non-stripped & involuntary
  - striated & involuntary
  - non-stripped & involuntary
183. The cranium consist of eight bones, 4 unpaired and 2 paired which protect:
- Liver
  - kidney
  - brain
  - stomach

184. Cluster of neurons product sensation of pleasure, punishment or sexual arousal when stimulated, in the:
- pons
  - thalamus
  - hippocampus
  - amygdala
185. In the sensory neurons, the single, elongated dendeite is called a:
- Dendron
  - dendroot
  - dendrof
  - dendia
186. Which is not neurotransmitter:
- nor-epinephrine
  - serotonin
  - dopamine
  - L-dopa
187. The cerebellum is important in co-ordinating:
- heart beat
  - movements of the body
  - respiratory activities
  - voluntary actions
188. In infants, the deficiency of thyroxin causes a dwarfed condition called:
- gigantism
  - dwarfism
  - cretinism
  - myxedema
189. The hormone produced by mucosa of the pyloric region of the stomach is:
- secretin
  - gastrin
  - serotonin
  - epinephrine
190. Glucagon cause an increase in levels of blood:
- glucose
  - sucrose
  - lactose
  - urea
191. Interstitial cells produce gonadal hormones called:
- Testosterone
  - 17  $\beta$ -hydroxytestosterone
  - progesterone
  - both a & b
192. The end or complete stop of the menstrual cycle is called:
- femopause
  - genopasue
  - menopause
  - repopause
193. During pregnancy pituitary gland produces:
- somatotrophin
  - Gonadotrophin
  - Oxytocin
  - Luteotropic hormone

194. The haploid egg develops into haploid offspring and it is called haploid:
- budding
  - fission
  - parthenogenesis
  - regeration
195. The mechanism that produces new generations and maintains a species is:
- fertilization
  - conception
  - reproduction
  - ovulation
196. Uterus opens into the vagina through:
- neck
  - cervix
  - corvine
  - cervelat
197. The components of immune system include 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 resembles with:
- Blood
  - interstitial fluid
  - Plasma
  - Both a & b
200. The tricuspid and bicuspid valves close, and the sound made is:
- jub
  - hub
  - dup
  - lub
201. Capillaries are blood vessels with walls that are only:
- one cell thick
  - two cell thick
  - four cell thick
  - eight cell thick
202. The water splitting step of photosynthesis that release oxygen is called:
- hydrolysis
  - lysis
  - hydrolysis
  - photolysis
203. Chlorophyll a, b, c, and d are found in eukaryotic photosynthetic plants and:
- yeast
  - fungi
  - bacteria
  - algae

204. The molecular formula for chlorophyll a is:
- $C_{55}H_{72}O_2N_4Mg$
  - $C_{55}H_{71}O_7N_4Mg$
  - $C_{55}H_{72}O_4N_6Mg$
  - $C_{55}H_{70}O_6N_4Mg$
205. Only photosystem I is involved in:
- non-cyclic electron flow
  - cyclic electron flow
  - both a & b
  - none
206. The exchange of respiratory gases ( $CO_2$  and  $O_2$ ) between the organism and in environment is called:
- external respiration
  - cellular respiration
  - both a & b
  - none
207. The gene of interest is joined with the sticky ends produced after cutting the plasmid with the help of another special enzyme known as:
- DNA ligase
  - RNA ligase
  - DNA polymerase
  - DNA isomerase
208. There are three billion base pairs in the:
- horse genome
  - pig genome
  - human genome
  - monkey genome
209. PCR takes its name from:
- RNA polymerase
  - DNA polymerase
  - DNA ligase
  - endonuclease
210. DNA threads are chemically cut into pieces of different size in:
- Maxam-Gilbert method
  - Sanger's method
  - Smith's method
  - Sanford's method
211. Genetic engineering may enhance the ability of bacteria to extract?
- Copper
  - Uranium
  - gold
  - all a, b, c
212. An association between certain fungi and the roots of plant growing in acid soil is:
- Lichens
  - predation
  - Mycorrhiza
  - commensalism
213. The cause of greenhouse are:

- a. over urbanization
  - b. deforestation
  - c. industrialization
  - d. all a, b, c
214. Air is being polluted rapidly due to:
- a. industrialization
  - b. automobiles
  - c. sewage
  - b. both a & b
215. Bioconversion is the digestion of wastes by bacteria which products:
- a. methane
  - b. ethane
  - c. butane
  - d. propane
216. The destruction of forests leave the soil barren and this is called:
- a. a-forestation
  - b. forestation
  - c. deforestation
  - d. all of the above
217. A monochromat can perceive:
- a. three colours
  - b. yellow colour
  - c. only one colour
  - d. two colours
218. A sex- limitation trait is limited to only one sex due to:
- a. taxonomic difference
  - b. ecological difference
  - c. physiological
  - d. anatomical difference
219. Acquired characteristic of an individual cannot be:
- a. inherited
  - b. lost
  - c. flourished
  - d. mutated
220. Similarity in characteristics resulting from common ancestry is known as:
- a. analogy
  - b. homology
  - c. topology
  - d. apology