

ETE A 2019 Medical Test

1. The genome of influenza virus is made up of
 - a) **Single strand RNA**
 - b) Double strand DNA
 - c) Single strand DNA
 - d) Double stranded RNA
2. Galantamine hydrobromide is a compound derived from
 - a) Cannabis
 - b) Coca
 - c) English yew
 - d) **Daffodil**
3. Mark the correct match
 - a) Haemophilia - Blood cancer
 - b) **SA node - Pacemaker**
 - c) ECG - Brain
 - d) Alpha cell - Insulin
4. Cells which kills cells that display foreign motifs on their surface are
 - a) Platelets
 - b) **Cytotoxic T cells**
 - c) Antigens
 - d) Red blood cell
5. Chitin is a
 - a) Lipoprotein
 - b) **Polysaccharides**
 - c) Glycoprotein
 - d) Phospholipids
6. Organization of photosynthetic pigment into clusters is:
 - a) Photosynthesis
 - b) **Photosystem**
 - c) Photosynthetic cluster arrangement
 - d) Calvin system

7. Amphibians are poikilotherms, therefore they use to hibernate in

- a) **winter**
- b) summer
- c) autumn
- d) spring

8. All of the following are macronutrient except

- a) **Cu ions**
- b) Ca ions
- c) Mg ions
- d) K ions

9. Sadia wore her rain boots; _____ her feet stayed dry during the storm

- a) however
- b) **therefore**
- c) on the other hand
- d) still

10. Anum asked me, "Did you see the drama on television last night?" [Choose the correct indirect speech]

- a) Anum asked me whether I saw the drama on television the earlier night.
- b) Anum asked me whether I had seen the drama on television the earlier night.
- c) Anum asked me did I see the drama on television the last night.
- d) **Anum asked me whether I had seen the drama on television the last night.**

11. A molecule which contains two lone pairs and two bond pairs of electron in valence shell of central atom, geometrical shape of molecules will be

- a) Tetrahedral
- b) Trigonal pyramidal
- c) **Angular**
- d) Linear

12. Quantum number which describes the orientation of orbitals in three dimensional space is

- a) spin quantum number
- b) azimuthal quantum number
- c) **magnetic quantum number**
- d) principal quantum number

13. Which one of the following gas has the highest rate of diffusion at the same temperature and pressure?

- a) HCl
- b) CO₂
- c) **C₂H₂**
- d) C₂H₆

14. At higher altitude, the boiling point of water is less than 100°C. This is because of:

- a) higher atmospheric pressure
- b) weak hydrogen bonding
- c) no change in atmospheric pressure
- d) Lower atmospheric pressure**

15. Substance that has sharp melting point in the following is:

- a) Gemstone
- b) Coal tar
- c) Glass
- d) Diamond**

16. Which of the following pairs is an example of completely immiscible liquids?

- a) Alcohol and water
- b) Alcohol and ether
- c) Water and ether
- d) Carbon disulphide and water**

17. Newton-second is the unit of:

- a) Work
- b) Angular momentum
- c) Power
- d) Linear momentum**

18. The dimension of electric dipole is:

- a) M³L²T⁰A¹
- b) M⁰L¹T¹A¹**
- c) M⁰L¹T¹A⁰
- d) M²L¹T³A²

19. If the velocity of the body become half, then kinetic energy of the body becomes

- a) one fourth**
- b) double
- c) four time
- d) half ans

20. The angular acceleration of second hand of watch is

- a) π rad/sec²
- b) 2π rad/sec²
- c) $\pi/2$ rad/sec²
- d) none of the above**

21. Purkinje fibres are connected with the impulse conducting system of

- a) **heart**
- b) brain
- c) skin
- d) Nephron

22. The alveoli represent total surface area of

- a) 10-30m
- b) 30-60m
- c) **70-90m**
- d) 90-110m

23. Some marine fishes possess salt excreting organs known as

- a) Thyroid gland
- b) Pituitary gland
- c) Adrenal gland
- d) **Rectal gland**

24. Tetanus is the infection of

- a) Respiratory system
- b) **Nervous system**
- c) circulatory system
- d) Bones and muscles

25. _____ regulate the body temperature

- a) **hypothalamus**
- b) thalamus
- c) hippocampus
- d) amygdala

26. A man has to face interview, but during his first five minutes before the interview he experiences sweating, increased heart rate and respiration. Which hormone is responsible for his restlessness

- a) adrenocorticotrophic hormone
- b) insulin and glucagon
- c) **epinephrine and norepinephrine**
- d) aldosterone

27. Hypothalamus connected to pituitary gland via:

- a) nerves
- b) **infundibulum**
- c) blood
- d) no connection

28. Second meiotic division in oocyte is completed:

- a) **When oocyte is fertilized by sperm**
- b) When ovum is discharged from the ovary
- c) Just before fertilization
- d) before the onset of menstruation

29. Do not make so much noise, Farrah _____ to study for her ESL test!

- a) Try
- b) tries
- c) tried
- d) **is trying**

30. Zara changed the flat tire. [Choose the correct voice]

- a) **The flat tire was changed by Zara**
- b) The flat tire is changed by Zara
- c) The flat tire has been changed by Zara
- d) The flat tire had changed by Zara

31. Which one of the following is not a state function?

- a) **Work**
- b) Enthalpy
- c) Internal energy
- d) Pressure

32. How many elements are there in the third period of the periodic table?

- a) 18
- b) **8**
- c) 32
- d) 10

33. The number of isomers of pentane is

- a) 2
- b) 4
- c) 5
- d) **3**

34. When ammonium cyanide (NH_4CN) salt is dissolved in water the solution will be

- a) Neutral
- b) acidic
- c) **basic**
- d) both acidic and basic

35. The enzyme which is found in saliva, accelerates the conversion of starch into sugar is

- a) pepsin
- b) thrombin
- c) ptyalin**
- d) fumarase

36. Consider the reversible reaction, $N_2 + 3H_2 = 2NH_3 + \text{Heat}$. The yield of NH_3 will be maximum at:

- a) High temperature and low pressure
- b) High temperature and high pressure
- c) Low temperature and low pressure
- d) Low temperature and high pressure**

37. The viscous drag on small spherical body (moving with slow speed v) is proportional to

- a) v**
- b) square root of v
- c) 1/square root of v
- d) v^2

38. The transverse nature of light is shown by

- a) Interference of light
- b) Refraction of light
- c) Polarization of light**
- d) Dispersion of light

39. An electron is moving along the axis of a solenoid carrying a current. Which of the following is a correct statement about the magnetic force acting on the electron?

- a) The force acts radially inwards
- b) The force acts radially downwards
- c) The force acts in the direction of motion**
- d) No force acts

40. The motional EMF depends upon

- a) Strength of magnetic field
- b) Speed of the conductor
- c) Length of conductor
- d) All answers are correct**

41. A pure breeding tall plant was crossed to dwarf plant. What would be the probability of "Tt" genotype in F_2 ?

- a) 0
- b) 0.25
- c) 0.5**
- d) 0.75

42. The number of human spinal nerves is

- a) 60
- b) 62**
- c) 64
- d) 66

43. Diphtheria vaccines is an example of:

- a) Inactivated vaccine
- b) toxoid vaccine**
- c) subunit vaccine
- d) live, attenuated vaccine

44. Which one of the following items gives its correct total number?

- a) Cervical vertebrae - 7**
- b) floating ribs in human - 3
- c) auditory ossicles - 8
- d) cranium bones - 4

45. Find mismatch

- a) Thyroid gland-T3 and T4
- b) Parathyroid gland-Calcitonin**
- c) Pancreas-Insulin
- d) Gonads-Testes and ovaries

46. The simplest form of learning is

- a) Imprinting
- b) Insight learning
- c) Latent learning
- d) Habituation**

47. To the end of the first trimesters the embryo can now technically describe as a

- a) Zygote
- b) Infant
- c) Toddler
- d) Fetus**

48. How many pairs of homologous chromosomes are present in *Pisum sativum*

- a) Seven pairs**
- b) Eight pairs
- c) Nine paris
- d) Ten pairs

49. Sorry she can't come to the phone. She _____ a bath!

- a) **Is having**
- b) having
- c) have
- d) has

50. Choose the word nearest in meaning to "ENIGMA"

- a) Evaluation
- b) **puzzle**
- c) answer
- d) account

51. When zinc electrode is coupled with copper electrode in a galvanic cell

- a) Reduction takes place at zinc electrode
- b) Oxidation takes place at copper electrode
- c) **Reduction takes place at copper electrode**
- d) Both Reduction takes place at zinc electrode and Oxidation takes place at copper electrode

52. Ozone layer in upper atmosphere is being destroyed by

- a) Chlorofluorocarbon
- b) freon
- c) Smog
- d) **Both a and b**

53. In the complex, potassium hexacyanoferrate (III). $K_3Fe(CN)_6$ the coordination of the Fe is

- a) 9
- b) 3
- c) **6**
- d) 5

54. The compound which has the higher boiling point in the following is

- a) Methyl chloride
- b) **Methyl iodide**
- c) Methyl bromide
- d) Both a and b

55. Which one of the following is addition polymer

- a) Nylon
- b) PVC
- c) Polythene
- d) **Both PVC and Polythene**

56. Photochemical smog is primarily caused by

- a) **O₃**
- b) NO₂
- c) SO₃
- d) CO₂

57. Which one of the following physical quantity does not the dimension of force per unit area

- a) Stress
- b) **Strain**
- c) Young modulus
- d) Pressure

58. In the case of germanium, the value of potential barrier develops across the depletion region is

- a) 0V
- b) **0.3V**
- c) 0.7V
- d) 0.9V

59. Electron microscope makes practical use of

- a) Particle nature of electron
- b) **Wave nature of electron**
- c) Dual nature of electron
- d) None of the above

60. Projectile is thrown in such a way that its maximum height equals to its range, the angle of projection is

- a) Tan⁻¹ (45)
- b) Tan⁻¹ (60)
- c) Tan⁻¹ (30)
- d) **None**

61. The percentage of fresh water on earth is

- a) 1%
- b) **3%**
- c) 5%
- d) 7%

62. Recombinants contains DNA from

- a) **2 different sources**
- b) Single source
- c) 2 same sources
- d) 3 same sources

63. The inner surface of a kidney has a deep notch called

- a) Renal pelvis
- b) Hilus**
- c) Medulla
- d) Pyramid

64. _____ is considered as chief structural and functional unit of nervous system

- a) Cell
- b) Neuron**
- c) Nephron
- d) Brain

65. The bacteriophage replicates only inside the

- a) animal cell
- b) bacterial cell**
- c) fungal cell
- d) animal and bacterial cell

66. _____ is stored in animal cells

- a) starch
- b) cellulose
- c) sucrose
- d) glycogen**

67. A bacterium which has a group of two or more flagella inserted at one pole of the cell

- a) monotrichous
- b) peritrichous
- c) lophotrichous**
- d) amphitrichous

68. The gametophyte of lycopsida is mainly

- a) aerial
- b) partly aerial and partly underground
- c) underground**
- d) photosynthetic

69. When I went back to my hometown three years ago, I found that a lot of changes _____

- a) Had taken place**
- b) have taken place
- c) are taken place
- d) were taken place

70. Choose the correct sentence

- a) **He is clever but he lacks experiences**
- b) He is clever but he is lacking experience
- c) He is clever but he is lacked experience
- d) He is clever but he is lack experience

71. Which of the following is not the major source of organic compound

- a) Natural gas
- b) Petroleum
- c) Coal
- d) **Ammoniacal Liquor**

72. Which of the following concentration unit is temperature dependent

- a) Molality
- b) Mole Fraction
- c) **Molarity**
- d) Both Molality and Molarity

73. Tertiary alcohols are not oxidized into carbon compounds because

- a) They contain more alkyl group
- b) **They have no alpha-hydrogen**
- c) Suitable oxidizing agent is not available
- d) None of the above

74. Which one is more reactive

- a) **HCHO**
- b) CH₃CHO
- c) (CH₃)₂CO
- d) Have equal reactivity

75. Which compound shows the highest boiling point

- a) CH₃COOH
- b) C₂H₅OH
- c) C₂H₅-O-C₂H₅
- d) **(CH₃CH₂)₃N**

76. Which of the following pollutant decolorize the skin?

- a) Mercury
- b) **Arsenic**
- c) Lead
- d) Cadmium

77. Car "X" is travelling at half the speed of car "Y" and mass of car "c" is twice as compared to the mass of car "Y". Which of the following statement is correct

a) Car "X" has half of the kinetic energy of car "Y"

b) Car "X" has one quarter of the K.E of car "Y"

c) Car "X" has twice the K.E of car "Y"

d) The two cars have the same KE

78. If the wavelength of a transverse wave is 2cm and the period is 2 seconds then the wave speed in CGS is

a) 0.1cms⁻¹

b) 0.2cms⁻¹

c) 11 cms⁻¹

d) 1 cms⁻¹

79. A car battery has EMF of 12 volts and internal resistance 5×10^{-2} ohm. If it draws 60 ampere current, then terminal voltage of the battery will be

a) 5 volts

b) 3 volts

c) 15 volts

d) 9 volts

80. The cyclotron frequency of an electron projected with velocity V perpendicular to a magnetic field B is given by

a) $f = \frac{mB}{\pi c}$

b) $f = 2\pi eB/m$

c) $f = \frac{eB}{2\pi m}$

d) $f = 2\pi c/mB$

81. Opossum and koala bear belongs to sub-class

a) Prototheria

b) Eutheria

c) Metatheria

d) Monotremata

82. The form of immunity which inherit from mother is

a) active immunity

b) passive immunity

c) acquired immunity

d) innate immunity

83. The least toxic excretory product is

- a) ammonia
- b) urea
- c) uric acid**
- d) fatty acid

84. Chemically hormones are

- a) Carbohydrates
- b) proteins
- c) Steroids
- d) Both Proteins and Steroids**

85. DNA polymerase III works always in

- a) 5' - 2' direction
- b) 5' - 3' direction**
- c) 3' - 5' direction
- d) 2' - 5' direction

86. The biogas plant is tank which is

- a) 5-10 ft deep
- b) 10-15 ft deep
- c) 15-20 ft deep**
- d) 20-25 ft deep

87. Which wave lengths are mainly absorbed by chlorophyll?

- a) Violet blue and red**
- b) green and blue
- c) violet and orange
- d) red and indigo

88. For hepatitis B the incubation period is between

- a) 4 and 20 weeks**
- b) 6 and 20 weeks
- c) 2-26 weeks
- d) 2-6 weeks

89. Look! A hamster _____ by cat

- a) has been chased
- b) was being chased
- c) is being chased**
- d) is chased

90. Choose the word opposite in meaning to "VOCIFEROUS"

- a) **Silent**
- b) Boisterous
- c) Blatant
- d) Noisy

91. Which contains more atoms?

- a) **7 gram Mg**
- b) 8 gram Na
- c) 9 gram Al
- d) All same

92. Which contains the highest percentage of nitrogen?

- a) NO
- b) NO₂
- c) **N₂O**
- d) N₂O₅

93. Fe⁺² will form the most ionic bond with

- a) N-3
- b) **S-2**
- c) P-3
- d) F-1

94. For exothermic reversible reaction activation energy for forward direction depends upon

- a) Temperature
- b) Nature of reactant
- c) **Nature of product**
- d) Both Temperature and Nature of reactant

95. As the polarizing power of cation increases thermal stability of carbonates

- a) Increases
- b) **Decreases**
- c) Not dependent
- d) Depends upon pressure

96. Which one is more reactive?

- a) Ester
- b) **Acid halide**
- c) Amide
- d) Acid anhydride

97. If $A, B = \frac{1}{2} AB$ then angle between A and B is

- a) zero
- b) 30
- c) 60**
- d) 90

98. A train is 200m long and is moving with uniform velocity of 36 km/h the time it will take to cross a bridge of 1 km is

- a) 100 sec
- b) 120 sec**
- c) 60 sec
- d) 50 sec

99. Choose the wrong statement, the escape velocity of a body from a planet depend upon

- a) The mass of a body**
- b) The mass of the planet
- c) The average radius of the planet
- d) The density of the planet

100. In order to increase the stopping potential, there should be increase in

- a) Intensity of radiation
- b) Wavelength
- c) Frequency of radiation**
- d) Both wavelength and intensity

101. Sulphur bacteria belongs to sun group of bacteria called

- a) Beta-proteo bacteria
- b) Alpha proteobacteria
- c) Gamma proteo bacteria**
- d) Delta proteo bacteria

102. Nuclear motosis occurs in

- a) Plants
- b) Animals
- c) Fungi**
- d) Monrea

103. Excess glucose is converted in the lover to glycogen in response to the hormone

- a) Glucagon
- b) Insulin**
- c) Bile
- d) Both Glucagon and Insulin

104. During muscles relaxation the calcium ions are

- a) Released from sarcoplasmic reticulum into Sarcoplasm
- b) Forced back from the sarcoplasm to sarcoplasmic reticulum**
- c) Further Forced from sarcoplasmic reticulum into sarcoplasm
- d) Neither released more nor forced back but remain constant

105. In male luteinizing hormone also known as

- a) ACTH
- b) CSH**
- c) TRF
- d) MSH

106. Particular amino acid and RNA molecule binds together by the action of an enzyme named

- a) tRNA synthetase
- b) Amino tRNA synthetase**
- c) tRNA ligase
- d) Aminoacyl tRNA synthetase

107. Lipid bilayer makes the membrane differently permeable barrier that allows the transport of

- a) Ionic materials
- b) Polar materials
- c) Non-polar materials**
- d) Glycoproteins

108. The following are sexual reproduction methods in bacteria except

- a) Transformation
- b) Transduction
- c) Binary fission**
- d) Conjugation

109. I'm sorry the house is not available any longer, it _____ to a timber tycoon

- a) Was being sold
- b) Will be sold
- c) Is sold
- d) Has been sold**

110. I always liked to lean _____ the side of mercy

- a) Over
- b) On**
- c) Towards
- d) About

111. Which of the following elements has lower first ionization energy

- a) N
- b) O**
- c) C
- d) B

112. The anhydride of HClO_4 is

- a) ClO_3
- b) ClO_2
- c) Cl_2O_5
- d) Cl_2O_7**

113. A gas diffuses 12 times as fast as hydrogen, its molecular mass is

- a) 50 amu
- b) 25 amu
- c) 16 amu
- d) 8 amu**

114. Which one of the following ions has more electrons than protons and more protons than neutrons?

- a) D
- b) d^-
- c) H^-**
- d) He

115. Ice and Water is in equilibrium with each other. By increasing the pressure of equilibrium will shift in

- a) Forward
- b) Reverse**
- c) to all system at equilibrium
- None of the above

116. Steam causes severe burns than boiling water. It is due to

- a) Absence of hydrogen bonding
- b) High latent heat of vaporization**
- c) Freely moving molecules
- d) Statement is incorrect

117. Two meter high tank is full of water. A hole is made in the middle of the tank. The speed of efflux is

- a) 4.9 m/s
- b) 9.8 m/s
- c) 4.42 m/s
- d) 3.75 m/s**

118. A hail and a rain drop of the same radius are released from the same height, the rain drop will reach

- a) Before hail
- b) After hail**
- c) At the same time
- d) None of the above

119. Two springs A and B ($K_A = 2 K_B$) are stretched by applying forces of equal magnitudes at the four ends. If the energy stored in A is E then the energy stored in B is

- a) $E/2$
- b) $2E$**
- c) E
- d) $E/4$

120. The general form of path difference in young's double slit experiment is " $m\lambda$ ". Its corresponding phase shift (in radians) is

- a) $m\pi$
- b) $2m\pi$**
- c) $m\pi/2$
- d) None

121. Lichen is the symbiotic association of a fungus with

- a) Bacteria
- b) algae**
- c) other fungus
- d) animals

122. The possible reason(s) for cyanosis, one of congenital heart disease is

- a) formation of carboxy-hemoglobin**
- b) the high concentration of oxyhemoglobin
- c) low level of CO
- d) low level of hemoglobin

123. The deficiency of which micronutrient causes goiter formation?

- a) Iron
- b) Zinc
- c) Iodine**
- d) Sodium

124. Phosphatases belong to which group of the following

- a) Lyases
- b) Ligases
- c) Hydrolases**
- d) None

125. The ribosomes responsible for protein synthesis are present in the cell

- a) floating in the cytosol
- b) localized in the nucleus
- c) bound to rough endoplasmic reticulum
- d) Both floating in the cytosol and bound to rough endoplasmic reticulum**

126. _____ enzyme needs a primer for the initiation of its function

- a) RNA polymerase
- b) DNA polymerase**
- c) Primase
- d) Ligase

127. The following histone proteins form a nucleosome complex except

- a) H1**
- b) H2A
- c) H2B
- d) H3

128. The bond that is formed b/w two monosaccharide units is called

- a) Ionic bond
- b) Hydrogen bond
- c) Peptide bond
- d) Glycosidic bond**

129. They already _____ some of the old ones and _____ them more comfortable

- a) Repair, make
- b) Repaired, made
- c) Repaired, make**
- d) Repair, made

130. I was born in Peshawar but most of my childhood _____ in the Mardan

- a) Spends
- b) Have spents**
- c) Was spending
- d) is spending

131. Which oxides of "K" contain more oxygen than its normal oxide?

- a) Peroxide
- b) Super oxide**
- c) Both contain equal quantity
- d) None of the above

132. A gas decolorized alkaline KMnO_4 solution but does not give any PPT with ammoniacal AgNO_3

- a) Methane
- b) Ethylene**
- c) Ethane
- d) None of the above

133. Why ethanoic acid is a stronger acid in the liquid ammonia than in water?

- a) Ammonia is strong base than water**
- b) Ethanoic acid molecules form H-bonding with water
- c) Ethanoic acid is more soluble in liquid ammonia than in water
- d) None of the above

134. Which ions are used as catalyst in the reaction between persulfate ions and iodide ions?

- a) Lead
- b) Iron**
- c) Copper
- d) Chromium

135. Which one is stronger nucleophile?

- a) $\text{C}_2\text{H}_5\text{O}^-$
- b) $\text{C}_2\text{H}_5\text{S}^-$**
- c) both are equally strong
- d) none of the above

136. Which one of the following elements has the largest second ionization energy

- a) O
- b) F
- c) Na**
- d) N

137. An α -particle is accelerated through a potential difference of 10 volts. Its K.E is

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

138. If there are "n" capacitors each of capacity "c" connected in parallel to "V" volts source then energy stored is equal to

- a) CV
- b) $\frac{1}{2} nCV^2$**
- c) CV²
- d) CV²/2n

139. The electric field strength between a pair of plates is "E". If the separation of the plates is doubled and potential difference between the plates is increased by factor of four, the new field strength is

- a) E
- b) 2E**
- c) 4E
- d) 8E

140. Two satellites of masses "3M" and "M" orbit the earth in a circular orbit of radius Y and "3r" respectively, the ratio of their speed is:

- a) 1 : 1
- b) Square root of 3 : 1**
- c) 3 : 1
- d) 9 : 1

141. The optimum pH of enzyme urease is

- a) 7.8-8.7
- b) 7.0**
- c) 4.5
- d) 8.0

142. Which statement about chlorophyll is not true?

- a) It contains terminal carbonyl group**
- b) It contains phyto tail
- c) It contains porphyrin ring
- d) It contains magnesium

143. In humans the disease symptoms develop during the

- a) log phase
- b) lag phase**
- c) growth phase
- d) decline phase

144. Independent gametophyte and sporophyte are found in

- a) selaginella
- b) polytrichum
- c) ectocarpus**
- d) Liverworts

145. Tmesipteris is an example of

- a) horsetail
- b) club mosses
- c) psilopsida
- d) pteropsida**

146. The larva formed during the life cycle of annelida is

- a) Glochidium larva
- b) bipinnaria larva
- c) trochophore larva**
- d) tomaria larva

147. Ebner's gland on the dorsal surface of the tongue secrete an enzyme

- a) Amylase
- b) Ptyalin
- c) Lingual lipase**
- d) Both Amylase and Ptyalin

148. Antibodies consists of _____ polypeptide chains

- a) 2
- b) 4**
- c) 6
- d) 8

149. _____ you win first place, you will receive a prize

- a) Whenever
- b) If**
- c) Unless
- d) So forth

150. The train was _____

- a) halt
- b) halted**
- c) had halted
- d) has halted

151. Which of the following species has the maximum number of unpaired electrons?

- a) **O₂**
- b) O⁺²
- c) O⁻²
- d) O₂⁻²

152. A mixture of 10cm³ of oxygen and 50cm³ of hydrogen is sparked continuously. What is the maximum theoretical decrease in volume?

- a) **10cm³**
- b) 15cm³
- c) 20cm³
- d) 30cm³

153. The oxidation states of Nitrogen in NH₅NO₃ are

- a) **-3 and +5**
- b) +5 and -3
- c) -3 & -3
- d) zero

154. Which equation relates to the first ionization energy of bromine?

- a) **Br(g) → Br⁻(g) + e⁻**
- b) Br(g) → Br⁺ + e⁻
- c) $\frac{1}{2}$ Br₂(g) → Br⁻(g) + e⁻
- d) $\frac{1}{2}$ Br₂(g) → Br⁺(g) + e⁻

155. Co-ordination number of [Co(en)₂Cl₂] is

- a) -2
- b) **6**
- c) 4
- d) None

156. An olefin "X" on ozonolysis gives CH₃CH₂COCH₃ and CH₃COCH₃. The IUPAC name of X is:

- a) 2 - Butene
- b) **2,3 - di Methyl - 2 Pentene**
- c) 2 - Pentene
- d) 1 - Hexene

157. Two wires A and B are made of same material. The wire A has a length l , and diameter R while the wire B has a length $2L$ and diameter $R/2$. If the two wires are stretched by the same force, the elongation in A divided by the elongation in B is

- a) $\frac{1}{8}$
- b) $\frac{1}{4}$
- c) 4
- d) 8

158. A wire can sustain the weight of 20kg before breaking. If the wire is cut into two equal parts, each part can sustain a weight of

- a) 10kg
- b) **20kg**
- c) 40kg
- d) 80kg

159. Which of the following is not E.M wave?

- a) Radio waves
- b) X-rays
- c) Light waves
- d) **Sound waves**

160. A shell of mass m moving with velocity v suddenly breaks into two pieces. The part having mass $m/4$ remains stationary. The velocity of the other shell will be

- a) v
- b) **$2v$**
- c) $3v/4$
- d) $4v/3$

161. Platyhelminthes are

- a) Bilaterally symmetrical and diploblastic
- b) **Bilaterally symmetrical and triploblastic**
- c) Radially symmetrical and triploblastic
- d) Radially symmetrical and diploblastic

162. The scientific name of freshwater mussel is

- a) *Mytilus edulis*
- b) *Loligo peali*
- c) ***Anodonta grandis***
- d) *Anodonta bairdi*

163. Potamogeton is an example of _____

- a) Xerophytes
- b) Mesophytes**
- c) Hydrophytes
- d) Halophytes

164. _____ stimulates fruit ripening

- a) Cytokinins
- b) Abscisic acid
- c) Ethylene**
- d) Auxin

165. A condition in which abnormally large volume of urine is produced is

- a) Polydipsia
- b) Polyuria**
- c) Polyphagia
- d) Polyanypsida

166. The bulbourethral glands produce

- a) Acidic fluid
- b) Alkaline fluid
- c) Semen
- d) Mucus**

167. HIV destroys a type of defense cell in the body called a _____ helper lymphocyte

- a) TD4
- b) T4
- c) C4
- d) CD4**

168. Acetabularia crenulata has a _____ shaped cap

- a) Irregular**
- b) Umbrella
- c) Regular
- d) Disc

169. He confided _____ me

- a) about
- b) in**
- c) on
- d) of

170. He said, "you need not wait". Choose the correct indirect speech

- a) He said that I need not wait
- b) He said you needed no wait
- c) He said that wait was not need by you
- d) **He said that you must not wait**

171. Which one is more soluble in water?

- a) **Secondary amines**
- b) Tertiary amines
- c) Quaternary amines
- d) All are insoluble

172. The number of peaks given by ethane thiol in NMR spectrum are

- a) 2
- b) **3**
- c) 4
- d) None

173. C₄H₁₁N gives the type of isomerism

- a) **Metamerism**
- b) Optical isomerism
- c) Tautomerism
- d) None

174. The incorrect statement regarding gas having high value of coefficient of attraction

- a) **Easy to be liquified**
- b) Having higher critical temperature
- c) Less soluble in water
- d) None

175. Which one can form more acidic oxide?

- a) Sc
- b) **Mn**
- c) V
- d) Ti

176. Hydration of hydrocarbon give carbonyl compound, the general formula of that hydrocarbon is

- a) C_nH_{2n+2}
- b) C_nH_{2n}
- c) **C_nH_{2n-2}**
- d) Both C_nH_{2n} and C_nH_{2n-2}

177. Two blocks "A" and "B" having masses 3kg and 4kg are raised to the same height from earth surface. The ratio of gravitational potential of "A" to that of "B" is

- a) 3:4
- b) 4:3
- c) 1:1**
- d) None

178. Heat and work are equivalent. This means

- a) When we supply heat to a body we do work on it
- b) When we do work on a body we supply heat to it
- c) The temperature of a body can be increased by doing work on it**
- d) Heat and work are not inter convertible

179. The velocity time plot for a particular moving on a straight line is shown in the figure

- a) The particle has a constant acceleration
- b) The particle has never turned around
- c) The particle has zero displacement**
- d) The data is insufficient

180. Mark out the correct option

- a) The energy of any small part of a string remains constant in a travelling wave
- b) The energy of any small part of a string remains constant in standing wave**
- c) The energies of all small parts of equal length are equal in a travelling wave
- d) The energies of all small parts of equal length are equal in a standing wave

181. The safranin stain is usable for

- a) Fungal hyphae
- b) Cytoplasm/Cellulose
- c) Blood cells
- d) Lignin**

182. In the human skull the unpaired bones are

- a) Frontal, occipital, ethmoid and sphenoid**
- b) Frontal, ethmoid, sphenoid and zygomatic
- c) Ethmoid, sphenoid, zygomatic and frontal
- d) Temporal, sphenoid, frontal and ethmoid

183. Functionally _____ pairs of cranial nerves are sensory in nature and _____ pairs are mixed in nature and _____ are motor in nature

- a) 3,4 and 5
- b) 4,5 and 3
- c) 3,5 and 4**
- d) 4,3 and 5

184. DNA finger printing refer to

- a) Techniques used for identification of finger prints of individuals
- b) Molecular analysis of profiles of DNA samples
- c) Analysis of DNA samples using imprinting devices**
- d) Both Techniques used for identification of finger prints of individuals and Analysis of DNA samples using imprinting devices

185. Oleic acid is a fatty acid with 18 carbon atoms. It breaks down into 9 acetyl groups. It is estimated that these nine acetyl groups would generate _____ ATP molecules

- a) 81
- b) 98
- c) 101
- d) 108**

186. Horsetails are included in class

- a) Pteropsida
- b) Lycopsida
- c) Psilopsida
- d) Sphenopsida**

187. Which one of the following bone is the only movable portion of the skull?

- a) Maxilla
- b) Frontal bone
- c) Mandible**
- d) Zygomatic

188. Progesterone is secreted by

- a) Corpus Luteum**
- b) Ripening follicles
- c) Uterine epithelium
- d) Fertilized egg

189. It is natural for us to exert _____ our own success

- a) In
- b) At**
- c) Against
- d) Regarding

190. Be patient, please! Choose the passive voice

- a) You are requested to be patient**
- b) You are ordered to be patient
- c) You are advised to be patient
- d) You are embarrassed to be patient

191. Consider reversibility in free radical substitution reaction of alkane then Kc value is smallest for

- a) Initiation step
- b) propagation step
- c) Termination step**
- d) all same

192. Ethylenediamine diacetate is

- a) Didentate**
- b) tridentate
- c) Tetradentate
- d) Hexadentate

193. Epoxide obtained from isobutylene is further hydrolyzed in the presence of acid. The final product is

- a) 2,3 - Butanediol
- b) 1,2 - Butanediol
- c) 2-Methyl-1,2-Propandiol**
- d) All of them

194. In the detection of nitrogen in an organic compound. The appearance of Prussian blue colouration is due to the formation of:

- a) $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$**
- b) $\text{Na}_3[\text{Fe}(\text{CN})_6]$
- c) $\text{K}_3[\text{Fe}(\text{CN})_6]$
- d) None

195. The bond angle in H_2S is less than H_2O . it is due to

- a) Small size of oxygen atom
- b) Greater E.N of oxygen atom
- c) Oxygen contain two lone pairs of electrons
- d) All of the above**

196. The auxochrome not concern with Metanil yellow dye:

- a) $-\text{SO}_3\text{H}$**
- b) $-\text{OH}$
- c) $-\text{NH}_2$
- d) Both $-\text{SO}_3\text{H}$ and $-\text{NH}_2$

197. A system can be taken from the initial state P_1V_1 to the final state P_2V_2 by two different methods. Let Q and W represent the heat given to the system and the work done by the system. Which of the following must be the same in both the methods?

- a) Q
- b) W
- c) $Q + W$
- d) $Q - W$

198. At what angle two forces $2F$ and square root of $2F$ must act so that their resultant is $F \cdot \sqrt{10}$

- a) $\pi/4$
- b) $\pi/2$
- c) 2π
- d) None of them

199. When 20J of work was done on a gas, 40J of heat energy was released. If the initial internal energy of the gas was 70J , what is the final internal energy?

- a) 50J
- b) 60J
- c) 90J
- d) 110J

200. Time required by the projectile to reach the summit point is:

- a) $T = \text{square root of } (2H/g)$
- b) $T = \text{square root of } (3H/g)$
- c) $T = \text{square root of } (4H/g)$
- d) $T = \text{square root of } (H/g)$