# MEDICAL PAPER 2015

1. All of the following are co-enzymes except:
   A) NAD B) FAD C) NADP D) ADP
2. Carotenoids pigments are:
   A)Yellow, Red, Green, Blue
   B) Orange, Yellow, Red, Brown
   C) Green, Yellow, Blue, Brown
   D) Blue, Red, Green, Yellow
3. Polio immunization vaccine is effective:
   A)50% B) 60% C) 80% D) 90%
4. $NH_4OH_{(aq)} \leftrightharpoons NH_4^+(aq) + OH^-_{(aq)}$
   Consider the above ionization, Ammonium chloride is added to the system.
   Select the correct statement.
   A) The equilibrium will shift to the right
   B) The equilibrium will shift to the left
   C) The equilibrium will remain undisturbed
   D) The equilibrium will be attained quickly
5. Select molecule that has unpaired electrons in anti-bonding molecular orbitals:
   A)$N_2$ B) $Cl_2$ C) $H_2$ D) $O_2$
6. Waxes are the esters of fatty acids with high molecular weight.
   A) Monohydroxy alcohols B) Dihydroxy alcohol
   C)Trihydroxy alcohol D) All of the above
7. The percentage error in the measurement of mass and speed are 5% or 6% respectively the maximum error in the measurement of K.E is:
   A) 17% B) 30% C) 15% D) 90%
8. Weight rather than mass be used in calculating
   A)moment of inertia of a body
   B) the stress in a wire due to load hanging from it
   C) the binding energy of the nucleus
   D) the gravitational force between the two bodies
9. Two vectors $\vec{A}$ and $\vec{B}$ are such that $\vec{A} + \vec{B} = \vec{A} - \vec{B}$ then select the correct statement:
   A) $\vec{A} = 0$ B) $\vec{B} = 0$
   C)neither $\vec{A}$ nor $\vec{B}$ is zero D) None of the above
10. He extolled the virtues of the Russian people. [The underlined word means:]
    A) Admired B) Praised
    C) Censured D) Adopted
11. Balantidium coli lives in the intestinal tract of:
    A) Pigs and rats B) Pigs and monkeys
    C) Rats and dogs D) Cats and sheep
12. Excited electrons from photo system-II are captured by:
    A) PC B) PQ
    C) Cytochromb-b D) Pentamerous
13. Dicotyledonous flowers are usually:
    A) Clmerous B) Trimerous
    C) Tetramerous D) Pentamerous
14. Select mineral that is considered asmacronutrient.
    A) Phosphorus B) Zinc
    C) Iron D) Iodine
15. Two atoms A and B have the electronic configuration given below:
    (x) $IS^2 2S^1 2P^6 3S^1$
    (y) $IS^2\ 2S^2 2P^5$
    Which of the following compounds are they likely to form?
    A) Xy B) $Xy^2$ C) $X_1y$ D) $Xy_3$
16. Which of the following ions can act both as bronsted acid and base in solvent water?
    A) $CN^-$ B) $SO_4^{-2}$ C) $CHO_3^-$ D) $PO_4^{-3}$
17. Which of the following is the best evidence for the wave nature of matter?
    A) The photoelectric effect B) The Compton effect
    C) The spectral radiation form cavity radiation
    D) The reflection of electrons by crystal
18. If P is the momentum of an object of mass m, then expression $P^2/m$ has the same unit as:
    A) Acceleration B) Energy
    C) Force D) Impulse
19. Conservation of linear momentum is equivalent to:
    A) Newton's 1st law of motion
    B)Newton's 2nd law of motion
    C) Newton's 3rd law of motion
    D) None of the above
20. He was _____ in bed all day yesterday.
    A) Laying B) Lying C) LieingD) Lied
21. All of the following are triploblastic animals except:
    A) Annelida B) Mollusca
    C) Coelenterata D) Echinodermata
22. Hermaphrodite phylum is:
    A) Annelida B) Arthropoda
    C) Echinodermata D) Mollusca
23. A hormone that helps in growing seedless grapes,
    A) Auxins B) Cytokinins
    C) Ethylene D) Gibberellins
24. Oligosaccharides class of carbohydrates contain monosaccharides of about:
    A)2 to 8 units B) 2 to 9 units
    C) 2 to 10 units D) 2 to 11 units
25. Molar extinction coefficient (ε) a constant in Beer-Lambert law is the characteristics of the:
    A) Solute B) Solvent
    C) concentration D) Al of the above
26. The energy difference between adjacent energy levels of the hydrogen atom:
    A) Increases with increasing energy
    B) Decreases with increasing energy
    C) First increases and then decreases with increasing energy
    D) First decreases and then increases with increasing energy

27. A parachute of mass 80 kg descends verticallyat a constant velocity of 3.0 m-s1 takingacceleration of free fall as 10 m-s1, what is thenet force acting on him?
A)800 N upwards? B) Zero
C) 240 N downwards D) 360 N downwards

28. Two projectiles are in flight at the,same time. The acceleration of one relative to other:
A) always 9.8 $m\text{-}s^{-2}$ B) can be horizontal
C) can be as large as 19.8 $m\text{-}s^{-2}$D) is zero

29. A body Is moving in a circle of radius (r) with a variable speed, the acceleration of the body is:
A) centripetal acceleration B) tangential acceleration
C)angular acceleration D) All of the above

30. He said to me, "Why have you come late?"[Indirect form of the sentence is:]
A) He asked me why I had come late
B) He asked me why I came late.
C) He asked me why I have come late.
D) He told me as to why I had come late.

31. The product of light reaction travel from:
A) Cristae to stroma B) Stroma to grana
C) Grana to cristae D) Grana to stroma

32. In stomach the pepsinogen is synthesized and secreted by:
A) Mucus cells B) Parietal cells
C) Hormonal cells D) Chief cells

33. Amount of $O_2$ carried by red blood cells is:
A) 77% B) 90% C)87% D) 97%

34. Choose the correct relationship, when E=energy, h=plank's constant, c=velocity of light, ν =frequency, λ =wave length:
A) E = hvc B)$E = \frac{c}{\lambda}$
C)E = hv D) $E = \frac{n\lambda}{c}$

35. Choose reactants whose reaction product is ester:
A) $CH_3COOH$ and $CH_3OCH_3$
B) $CH_3COOH$ and $C_2H_5OH$
C) $CH_3COOH$ and $CH_3CHO$
D) $CH_3COOH$ and $CH_3COCH_3$

36. Choose the IUPAC name of the following compound:

$$CH_3 - \underset{|}{\overset{CH_3}{CH}} - CH_2 - CH = CH_2$$

A)4- Methyl-1-Pentene B) 2- Methyl-3- Pentene
C) 2- Methyl-2- Pentene D)4,4-Dirnethyl-2-Pentene

37. A particle of mass m has momentum P, its K.E will be:
A) mP B) $P^2m$ C) $P^2/m$ D) $P^2/2m$

38. The rotational analogue of mass in linear motion is:
A) Torque B) Weight
C) Moment of inertia D) Angular momentum

39. The ratio of inertial mass to the gravitational mass is equal to:
A) 1/2 B) 1 C) 2 D) No fixed number

40. Choose the Correct sentence:
A) He throwed it out the window.
B) He threw it out the window.
C)He thrown out it the window.
D) He thrown it out the window.

41. 6-NADH can yield:
A) 12-ATP B) 38-ATP
C) 18-ATP D) 36-ATP

42. Rhizobium belong to sub group of bacteriacalled:
A) Alpha-Protobacteria B) Beta-Protobacteria
C)Gamma-Protobacteria D) Delta-Protobacterla

43. Bacteria living in the gut, forms the associationof:
A) Mutualism B) Predation
C) Parasitism D) Commensalism

44. Which is the strongest acid?
A) $CH_3COOH$ B) $CH_2CICOOH$
C)$CHCl_2COOH$ D) $CCl_3COOH$

45. Choose the type of hybridization of carbon atoms in cyclopropane and the bond angleC– C–C.
A) $Sp^3$, 109.5° B) $Sp^3$, 60°
C) $Sp^2$, 120° D) $Sp^2$, 107°

46. Hemiacetal containing both
A) Alcohol and aldehyde functional groups
B)Alcohol and ether functional groups
C)Aldehyde and ether functional groups
D) Alcohol and carboxylic acid functional groups

47. A satellite is orbiting close to the surface of the earth, its speed is:
A) $\sqrt{2gR}$ B) $\sqrt{Rg}$ C)Rg/2 D) Rg

48. In an adiabatic process there is no:
A)Work done B) Exchange of heat
C)Change in temperature
D) Change in internal energy

49. The ratio between the velocity of sound in air at 4 atm and that at 3. atm pressure would be:
A)1 : 1 B) 4 : 1 C) 1 : 4 D) 3 : 1

50. His bad friends will ruin him.
[Passive form of the sentence Is.1
A)He will be ruin by his bad friends.
B) He is ruined by his bad friends.
C) He will be ruined by his bad friends.
D) He is being ruined by his bad friends.

51. "Foraminifers" helps to determine the,
A) Generation time B) Geological age
C) Ecological time D) Physiological age

52. Phytochrome"Pr" absorbs red light of wavelength.
A) 600 nm B) 660 nm
C) 560nm D) 730 nm

53. Basidiomycota is also called as:
A) Club-mosses B) Club-fungi
C) Sac-fungi D) Bread mold

54. Choose group that cause solubility of the dyein acids.
A) –OH B) $–NH_2$ C) $–SO_2H$D) –COOH

55. What is the number of hydrogen atoms in 5moles of water?
A) $3.0115 \times 10^{24}$ B) $6.023 \times 10^{24}$
C) $6.023 \times 10^{23}$ D) $5.0 \times 10^{23}$

56. In themain postulates of Bohr atomic theory the angular momentum of electron in hydrogen atom is given by the relationship.
A) $mv = \frac{\lambda}{2\pi}$ B) $r = \frac{Ze^2}{4\pi E_0 mv}$
C) $mvr = \frac{nh}{2\pi}$ D) hvc

57. Colors of thin film result from
A) Dispersion B) Interference of light
C) Absorption of light D) Scattering of light

58. During a reversible adiabatic expansion of an Ideal gas, which of the following is not true?
A) $PV^v$= constant B) PV = constant
C) PV = nRT D) $TV^v$ .= constant

59. The energy absorbed as heat by an ideal gas for an isothermal process is equal to:
A)The work done by the gas
B) The work done on the gas.
C)Change in the internal energy of the gas
D) Zero, since the process is isothermal

60. It has been raining continuously _____ last night.
A) since B)for C)from D) with

61. Termites cut wood with the help of enzyme produced by:
A) Trichonella B) Tripanosoma
C) Trichonympha D) Trichina

62. CSF Is found in between:
A) Pia mater and dura mater
B) Pia mater and arachnoid mater
C) Grey mater and pia mater
D)Dura mater and grey mater

63. Vernalization is the conversion of:
A) Spring variety to the winter variety
B) Winter variety to the spring variety
C)Winter variety to the summer variety
D) Summer variety to the winter variety

64. Which region of electromagnetic spectrum is involved in nuclear magnetic resonance (NMR spectroscopy)?
A) Micro wave B) Radio wave
C) Infrared region D) X-rays

65. The reduction of aldehydes and ketones in the presence of zinc amalgam and HCl is termed as:
A) Grignard reduction
B) Clemmenson reduction
C) Wolf-kishner reduction
D) Friedel-craft reduction

66. Aiman in laboratory dissolve 4g of NaOH in 250mi of water. The molarity of this solution is:
A) 0.4M B) 4M C)0.2M D) 0.1M

67. For all adiabatic processes
A) the entropy of the system does not change
B) the entropy of the system increases
C)the entropy of the system decreases
D) the entropy of the system does not decreases

68. A battery is permanently connected to a parallel plate capacitor and the energy stored is x joules. When one plate is moved so that separation of the plate is doubled, the energy now stored in joule is:
A) 4x B) 2x C) x/2 D) x/4

69. If $\frac{\Delta v}{\Delta r}$is potential gradient, then the intensity of electric field at a point is
A) $\frac{\Delta v}{\Delta r}$ B) q $\frac{\Delta v}{\Delta r}$ C) - $\frac{\Delta v}{\Delta r}$ D) $\frac{\Delta x}{\Delta r}$

70. 'Be poles apart' means:
A) Either of the two poles
B) Have nothing in common
C)Leading position in a race
D) Affects some body greatly

71. Phosphodiester linkage is formed between.
A) Two nucleotide bases B) Amino acid
C) Two sugar D) Nucleotides and phosphates

72. A condition of excessive thirst due to diabetes is called:
A) Polyuria B) Glycusuria
C) Polyphagia D) Polydipsia

73. Implantation of zygote takes place in the:
A) $2^{nd}$ week B) $3^{rd}$ week
C) $7^{th}$ week D) $5^{th}$ week

74. The shape of $SnCl_2$ is:
A)Linear B) Trigonal pyramidal
C)Trigonal planar D) Angular

75. Which is not true about Grignard reagent?
A) They are highly reactive compounds
B) They are very stable compounds and can be isolated easily
C) They have synthetic importance
D) They are represented by general formula RMgX

76. Conc. HCI is added to a metal salt and then subjected to flame test on platinum wire. It Imparts crimson color to the flame. Which metal salt it is?
A) Sodium B) Potassium
C) Strontium D) Calcium

77. The unit of the electric field is:
A) N/C B) V/m
C) J/C.m D) All of the above

78. The electric field due to uniform distribution of charge on a spherical shell is zero.
A) Every where B) Only at the center of shell
C) Only inside the shell
D) Only one side of the shell

79. The quantity ½ $E_0E^2$ has the significant of
A) energy/farad B) Energy/ coulomb
C) Energy/ volume D) energy/volt

80. The rising price of electricity has _____ affected the less fortunate.
A) positively B) not
C) adversely D) slowly

81. Smallest gametophyte is present in:
A)Adlantum B) Funarla
C)Marchantca D) Anglosperms

82. Incubation period of "HCV" is:
A) 2-6 weeks B) 4-10 weeks
C) 4-20 weeks D) 4-26 weeks

83. Osteopenia starts at the age of:
A) 30-40 B) 30-35 C) 40-45 D) 50-60

84. The order of reducing power of halide ion is:
A) $I^{-1} > Br^- > Cl^- > F^-$ B) $F^- > Cl^- > Br^- > I^-$
C) $I^{-1} > Cl^- > F^- > Br^-$ D) $Br^- > Cl^- > I^- > F^-$

85. Stable electronic configuration of Cu(29) is:
A) [Ar] $4S^2\ 3d^4$ B)[Ar] $4S^0\ 3d^{10}$
C)[Ar] $4S^1\ 3d^{10}$ D) [Ar] $4S^2\ 3d^7\ 4p^2$

86. The presence of microorganisms in drinking water is determined by:
A) COD B) TOC C) BOD D) TDS

87. For ohmic substance, the electron drift velocity is proportional to:
A) Cross sectional of the sample
B) The length of sample
C) The mass of an electron
D) The electric field in the sample

88. The sum of the e.m.f and potential differences around a closed circuit is zero is a consequence of:
A) Ohm's law B) Newton's 2nd law
C) Conservation of energy D)Conservation of charge

89. Four wires meet at a junction. The first carries 4A in to the junction, the second carries 5A out of the junction, and third carries 2A out of the junction. The fourth carries:
A) 7A out of the junction B) 7A into the junction
C) 3A out of the junction D) 3A in to the junction

90. He said, "May this child live long!"
[Indirect form of the sentence is:]
A) He prayed that that child may live long.
B) He prayed that that child will live long.
C) He prayed that that child might live long.
D) He said that that child might live long.

91. Blood pressure towards the brain during rest hours is:
A) 850mm/minute B) 900mm/minute
C) 750mm/minute D) 730mm/minute

92. Photo-respiration can generate:
A) 4-ATP B) 36-ATP
C) 32-ATP D) NO-ATP

93. Dark reaction gets completed by the regeneration of:
A) PGA B) PGAL C) RUBP D) RUBISCO

94. Sucrose on hydrolysis yield:
A) Glucose B) Glucose and fructose
C) Glucose and maltose D) Maltose and fructose

95. $N_2 + 3H_2 \rightleftharpoons 2NH_3$
In the above reaction the limiting reagent is:
A) $N_2$ B) $H_2$
C)Ammonia D) None of the above

96. If absolute temperature of the gas is doubled and pressure is increased 4 times, then the volume becomes:
A) Half B) Double
C) 4 times D) Unchanged

97. Four 20 Ω resistors are connected in parallel and combination is connected to a 20 V emf device. The current in the device is:
A) 0.25 A B) 1.0 A C) 4.0 A D) 5.0 A

98. An electron is moving north in a region when the magnetic field is south. The magnetic force exerted on the electron is:
A) Zero B) Up C)Down D) East

99. A 0.01A moving coil Galvanometer of 5 Ω resistance can be converted into a 0.2A ammeter by a resistance R with the Galvanometer when R is:
A)0.25 Ω in parallelB) 0.25 Ω in series
C)0.50 Ω in parallelD) 0.50 Ω in series

100. Your friend proved more sympathetic than I expected he _____ do.
A) will B) shall C) would D) should

101. Human body thermostat is:
A) Medulla B) Medulla oblongata
C) Body fluid D) Hypothalamus

102. How many pairs of cranial nerves are mixed in nature?
A)02 pairs B) 04 pairs
C) 06 pairs D) 08 pairs

103. "80–S" ribosome is formed by the combination of:
A) 30S and 40S B) 70S and 10S
C) 50S and 30S D) 60S and 40S

104. The electronic transition that is involved in the visible region is:
A) σ – σ B) d - d
C) π – π D) π – σ

105. Hydrolysis of ester in the presence of KOH is called:
A) Estrification B) Decarboxylation
C) Saponification D) Neutralization

106. Salts which dissolve in water with evolution of heat. The effect of temperature on their solubility will be:
A) Increases with increase in temperature
B Decreases with increase in temperature
C) Solubility does not change
D) In some cases it increases while in others it decreases

107. Two long parallel wires x and y carrying a current of 3A and 5A respectively. The force per unit length experienced by x is $5 \times 10^{-5}$N to the right, the force per unit length experienced by wire y is:
A) $2\times 10^{-5}$N to the leftB) $3 \times 10^{-5}$N to the right
C) $5 \times 10^{-5}$N to the right D) $5 \times 10^{-5}$N to the left

108. The charged particle is situated in a region of space and it experiences a force only when it is in motion. It can be deduce that the region encloses
A) Both electric and magnetic field
B) Both magnetic and gravitational field
C) A magnetic field only
D) An electric field only

109. If the direction of initial velocity of the charged particle is neither along nor perpendicular to that of magnetic field then the orbit will be:
A) Circle B) Helix
C) Ellipse D) Straight line

110. Choose the correct sentence:
A) If I knew him better, I would have insisted that he change the hour of the lecture.
B) If I knew him better, I would have insisted that he changed the hour of the lecture.
C)If I knew him better, I would insist that he have change the hour of the lecture.
D) If I knew him better, I would insist for him to change the hour of the lecture.

111. The interval between two successive division of bacteria is called:
A)Ecological time B) Population time
C) Growth time D) Generation time

112. Most disease symptoms appear during.
A) Lag phase B) Log phase
C) Die D) Generation time

113. Endotoxins are released only when bacteria
A) Excrete B) Reproduce
C) Decline phase D) Stop phase

114. The osmotic pressure of dilute solution is given by the formula:
A) $\pi = \frac{RTC}{m}$ B) $\pi = \frac{M}{RTC}$
C) $\pi = \frac{RTC}{M}$ D) None of the above

115. Select the test used for the estimation of glucose in blood and urine?
A) Tollen's reagent test B) Fehling's solution test
C) Benedict solution test) D) All of the above

116. Excess of ethanol is heated with conc: sulphuric acid keeping the temperature 140°C. The product formed is:
A) $C_2H_5OC_2H_5 + H_2O$ B) $C_2H_4$
C) $C_2H_5OH$ D) $C_2H_6$

117. The mechanical energy spent by the, external agency is converted into electrical energy stored in the coil. This relates to:
A) Ohm's law B) Coulomb's law
C) Lenz's law D) Newton's law of motion

118. The efficiency of a transformer which draws a power of 20 watt is 60%, the power supplied by it is:
A) 5 W B) 1.2 W C) 6 W D) 12 W

119. A long solenoid has length Land totalnumber of N turns, each of which has a crosssectional area A, it4 Inductance:
A) $\mu_0 N^2$ Al B)$\mu_0 N^2$ A/l
C)$\mu_0 N^2$ l/A D) $\mu_0$Nl/A

120. I insist _____ the withdrawal of your statement.
A) for B) on C) at D) in

121. A protest that forms sea-weeds is:
A) Red algae B) Brown algae
C) Green algae D) Diatoms

122. Basidiocarp is formed in the:
A) Secondary mycelium B) Primary mycellum
C) Tertiary mycelium D) Pathogenic parasites

123. Best known "Apicomplex" is the:
A) Obligate parasites B) Facultative parasites
C) Malarial parasites D) Pathogenic parasites

124. First law of thermodynamics is expressed as:
A) $q = \Delta E + W$ B) $\Delta E = q - W$
C) $q = \Delta E - P\Delta V$ D) All of the above

125. The rate law equation for reaction is given as $\frac{dx}{dt} = K$ $[FeCl_3]^3$ $[KI]^2$ the reaction is:
A) First order B) Second order
C) Third order D) Pseudo first order

126. Choose the correct order of reactivity of alkyl halides?
A) R – 1 > R – Br > R – C! > R – F
B) R – Br > R – I > R – F > R – Cl
C) R – F > R – Cl> R – Br > R – 1
D) R – Cl> R – 1 > R – Br > R – 1

127. Instantaneous emf at instant t is
$\in$ 20 sin (100πt). The frequency of alternative current is
A) 100 Hz B) 200Hz
C) 50 Hz D) 150Hz

128. A flat coil of wire having 5 turns, has an inductance L. The inductance of similar coil having 20 turns is:
A) 4L B) L/4 C) μL D) L

129. Semi-conductor material have
A) Ionic bond B) Covalent bond
C)Mutual bond D) Metallic bond

130. She does not wash clothes on Fridays.
[Passive form of the sentence is:]
A) Clothes are not being washed by her on Fridays.
B) Clothes were not washed by her on Fridays.
C) Clothes were not being washed by her on Fridays.
D) Clothes are not washed by her on Fridays.

131. Misuse of cannabis results.
A) Psychosis B) Euphoria
C) Paranoio D) Photophobia

132. Outer wall of Guard cells is:
A) Thin & elastic B) Thick & elastic
C) Thin & non elastic D) Thick & non elastic

133. The critical day length of a short-day plant is:
A) 11:00 hours B) 15:00 hours
C)11 ½ Hours D) 15 ½ hours

134. Select ligand which is bidentate and can form chelates.
A) $CH_3 NH_2$ B)$PH_3$
C)$H_2 O$ D) $CH_2 NH_2$ / $CH_2 NH_2$

135. The proton acceptor is:
A) $NH_3$ B) $BF_3$ C) HCI D) $H^*$

136. Which one of the following acids has a strong conjugate base?
A) $CH_3 COOH$ B) HCI
C) $HNO_3$ D) $H_2 SO_4$

137. The behavior of ferromagnetic domains in an applied magnetic field gives rise to
A) Hysteresis B) Ferromagnetism
C) The Curie law D) Gauss's law for magnetism

138. The shear modulus of elasticity G is:
A) $\frac{Al}{F\theta}$ B) $\frac{Fl}{A\theta}$ C) $\frac{F}{A\theta}$ D) $\frac{A\theta}{F}$

139. In P type substances, the charge carriers in minorities are:
A) Holes B) ElectronsC) Protons D) Positive ions

140. The local inns are bursting at the seams and may not be able to accommodate anymore.
[The underlined phrase means]:
A) Unhygienic B) Overcrowded
C)Empty D) Shutting Down

141. The larva of balanoglossus (Hemichordate) is called:
A) Bipinnaria B) Radiolaria
C) Tornaria D) Trochophore

142. The organs of excretion in crustacean are :
A) Coxal glands B)Flame cells
C) Malpighian tubules D) Nephridia

143. All of the following are micronutrients except:
A) Iron B) Copper C) Zinc D) Magnesium

144. What is true about modern methods used in the determination of the structure of compounds?
A) Accurate but more time consuming
B) Accurate, rapid but chemicals are used in large amounts
C)Accurate, rapid but sophisticated and complicated
D) Accurate, simple and less time consuming

145. 100% transmission in IR spectroscopy means:
A) No absorption B) 50% absorption
C) 75% absorption D) 100% absorption

146. The pH of 0.001M aqueous solution of NaOH is:
A) 6 B) 13 C) 11 D) 12

147. In an unbiased P-N junction
A) The electric potential vanishes every where
B) The electric field vanishes every where
C)The diffusion current vanishes every where
D) The diffusion and drift currents cancel each other

148. The isotope which decay by $\beta^{-1}$emission to produce $_{48}Cd^{111}$ is
A)$_{47}Ag^{111}$ B) $_{47}Ag^{110}$
C)$_{47}Ag^{112}$ D) $_{49}In^{111}$

149. An election is projected with a velocity V into a region where there exists a uniform electric field of strength E perpendicular to a uniform magnetic field of directly B. if the electron velocity to remain constant,V must be
A) of magnitude B/E and parallel to B
B) of magnitude E/B and parallel to B
C) of magnitude B/E and perpendicular to both $\vec{E}$ and $\vec{B}$
D) of magnitude E/B and perpendicular to both $\vec{E}$ and $\vec{B}$

150. The lady sitting _____ me has an elegant style.
A) at B) beside C) about D) around

151. Sunken-stomata are found in the leaves of:
A) Hydrophytes B) Xerophytes
C) Mesophytes D) Glbberellins

152. Which of the following animals is not endothermic?
A) Salamander B) Great white shark
C) Polar bear D) Butterfly

153. Embryonic mass can generate all of the following except:
A) Amnion B) Chorion
C) Yolk sac D) Allantois

154. The aqueous solution of which one of the following compounds maintain its pH constant?
A) $CH_3 COOH$ and $(NH_4)_2 SO_4$
B) $NH_4 NO_3$ and $KNO_3$
C) $NH_4 OH$ and $NH_4 CI$
D) $NH_4 OH$ and NaCI

155. $\pi - \pi^4$ electronic transition occurs in molecules that having
A) Double bond B) Triple bond
C) Aromatic ring D) All of the above

156. Select alkene of the following hydrocarbons:
A) $C_5 H_{22}$ B) $C_5 H_{10}$
C) $C_5 H_8$ D) $C_4 H_{10}$

157. The wave nature of electrons is suggested by experiments on
A) Line spectra of action
B) the production of x-rays
C) the photoelectric erect
D) electrons diffraction by crystalline material

158. The principle of a simple form of mass spectrometer ions are passes through a narrow slits $S^1$ and $S^2$ and into a velocity selector. The ions after passing through the slit $S^3$ are deviated by uniform magnetic field the quantities that must remain constant for all ions arriving at photographic plate are.
A) Charged B) Charged/ mass(e/m)
C) Kinetic energy D) Mass

159. The proper time between two events, is measured by click at rest in a reference frame in which the two events
A) Occurs at the same time
B) Occurs at the same co-ordinates
C)Are separated by the distance a light signal can travel during the time interval
D) Satisfy none of the above

160. He said to me, "What a stupid fellow you are!" [Indirect form of the sentence is]:
A) He exclaimed that I was a very stupid fellow.
B)He told me that you were a stupid fellow.
C)He exclaimed that what a stupid fellow I was.
D) He did tell me that I had been a stupid fellow.

161. A hormone that prevents senescence In leaves is:
A)Abscisic acid B) Cytokinesis
C) Seisomonasty D) Demonasty

162. The following elements H,N,P and Mg are included in:
A) Macronutrients B) Micronutrients
C) Trace elements D)Minor elements

163. The only human disease caused by VIROID is:
A) Hepatitis A B) Hepatitis B
C)Hepatitis C D) Hepatitis D

164. The cathode in lead storage battery is made of:
A) Lead B) Lead oxide
C) Led hydroxide D) None of the above

165. The oxidation state of carbon in $Na_2C_2$ is:
A) +4 B) +2 C) –1 D) –4

166. Choose atom that having spin quantum number ½
A) $^{12}C$ B) $^{15}N$ C)$^{16}O$ D) $^{32}S$

167. Which of the following electromagnetic radiation has photons with greatest momentum?
A) Blue light B) Yellow light
C) X-rays D) Radio wave

168. A LASER beam can be sharply focused because it is:
A) Highly coherent B) Intense
C) Place polarized D) Highly directional

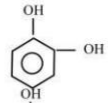
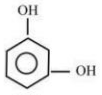
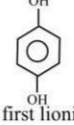
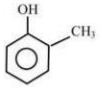
169. Binding energy of nucleus is the energy that must be supplied to:
A) Remove nucleons B) Remove an cc-particle
C)Remove a B.-particle
D) Separate the nucleus into its constituent nucleons

170. There is _____ fish in this pond.
A) many B) much C)any D) more

171. Which of the following animal is included in deuterostome?
A) Mytelus B) Chaetopterus
C) Penguin D) Jelly fish

172. The chloroplast size is about.
A) 1-2 µM B) 2-4 µM
C) 4-6 µM D) 6-8 µM

173. Heterospory occur in:
A) Selaginella B) Equisetum
C)Lycopodium D) Lepidodendron

174. Select cresol out of the following benzene derivatives?
A) 
B) 
C) 
D) 

175. The first lionization energy of an atom depends on:
A) Charge on nucleus
B) Screening effect
C) Electronic configuration
D) All of the above

176. For principle quantum number n=3 the value of magnetic quantum number will be:
A) 3 B) 6 C) 5 D) 7

177. Fission fragments usually decay by emitting:
A) α-particles B) electrons and neutrons
C) Positron and neutrinos D) only neutrons

178. Nuclear fusion at the sun is increasing its supply of:
A) Hydrogen B) Helium
C) Nucleons D) Neutron

179. Any baryon is a combination of:
A) Three quarks B) Two quarks
C) Two quarks and an anti-quark
D) One quark and one anti-quark

180. Choose the correct sentence:
A) As far as I know, he bears a good moral character.
B) So far as I know, he bears a good moral character.
C) As long as I know, he bears a good moral character.
D) Not that I know, he bears a good moral character.

181. The person is over weight of the body mass index is between:
A) 15 to 24.9 B) 17.5 to 24.9
C) 18.5 to 24.9 D) 25 to 29.9

182. The blood flow in milliliters/ minute during exercise to the skin is:
A) 1500 ml B) 1600 ml
C) 1800 ml D) 1900 ml

183. The number of Hydrogen bonds between guanine and cytosine are:
A) One B) Two C) ThreeD) Four

184. Chromium compounds in which oxidation state is 6+ behaves as:
A) Strong oxidizing agent
B) Strong reducing agent
C) Very weak oxidizing agent
D) Very weak reducing agent

185. Choose the correct reaction:
A) $PbO + 4NaOH \rightarrow Pb(OH)_4 + 2\ Na_2O$
B) $PbO + 2NaOH + H_2O \rightarrow Na2\ [Pb(OH)_4]$
C)$PbO + NaOH + H_2O \rightarrow Na\ [Pb(OH)_3]$

D) $PbO + 4NaOH + H_2O \rightarrow Na_4[Pb(OH)_6]$

186. The frequency of green light is $6 \times 10^{14}$ Hz. Its wave length is:
A) 50 nm B) 500 nm
C)5000 nm D) 100 nm

187. One end of cylindirical pipe has a radius of 1.5cm, water stream (density = $1.0 \times 10^3$ kg/m$^3$) steadily out at 7.0m/s, the volume rate is:
A) $4.9 \times 10^{-3}$ m$^3$/s B)4.9 m$^3$/s
C) 7.0 m$^3$/s D) 49 m$^3$/s

188. An Incompressible liquid flow along the pipe with area of cross section $A_1$ and $A_2$ with velocities $V_1$ and $V_2$ respectively. The ratio of the speeds $V_1 / V_2$ is:
A) $A_1 / A_2$ B) $A_2 / A_1$ C) $\sqrt{\frac{A_1}{A_2}}$ D) $\sqrt{\frac{A_2}{A_1}}$

189. Water flows through a constriction in horizontal pipe as it enters the constriction, the water's
A) Speed increases and pressure remains constant
B) Speed increases and pressure increase
C) Speed increases and pressure decreases
D) Speed decreases and pressure Increases

190. Will you give me your bicycle?
[Passive form of the sentence is:]
A) Will your bicycle be given to me by you?
B) Shall you be given to me by your bicycle?
C) I shall be given your bicycle by you?
D) Your bicycle will be given to me by you?

191. The optimum PH of enzyme maltase is:
A)4.5 B) 5.5 C) 6.1 – 6.8 D) 6.7 – 7

192. Mature ovum in human beings is surrounded by:
A) Plasma membrane B) Vitelline membrane
C)Corona radiate D) All of the above

193. In mitochondria UGA Codon act to specify
A) Arginine B) Glutamine
C) Tryptophan D) Valine

194. When an electron drop from any higher orbit i.e. $n_2 \geq 3$ to the second orbit $n_1 = 2$, the spectral lines produced fall in the region:
A) Visible B) Ultraviolet
C) Infrared D) None of the above

195. Select the correct formula of chloropenta-aqua-chromium (iii) chloride.
A) $[Cr(H_2O)_5Cl]Cl_3$ B) $[Cr(H_2O)_5Cl]Cl_2$
C) $[Cr(H_2O)_5Cl_2]Cl$ D) $[Cr(H_2O)_5Cl_3]Cl$

196. The components of bronze alloy are:
A) Copper and zinc B) Copper and tin
C)Zinc and tin D) Chromium and Tin

197. A larger water tank open at the top has small hole in the bottom when the water level is 30m above the bottom of the tank the speed of the water leaking from the hole is:
A) 2.5m/s B) 24 m/s
C) 4 44 m/s D) Cannot be calculated unless the area of the hole is given

198. A 6.0-kg block is released from rest 80m above the ground. When it has fallen 60m its kinetic energy is approximately:
A) 4800 J B) 3500 J C) 1200 J D) 120 J

199. A science museum designs an experiment to show the fall of a feather in a vertical glass vacuum tube. The time of fall from test is too close to 0.5 s. What length of tube is required?
A) 1.3 m B) 2.5 mC)5.0 m D) 10.0 m

200. 'Frown on somebody' means to:
A)Fall flat upon a stranger
B) Stay alive working hard
C)Unable to be successful
D) Disapprove of somebody