

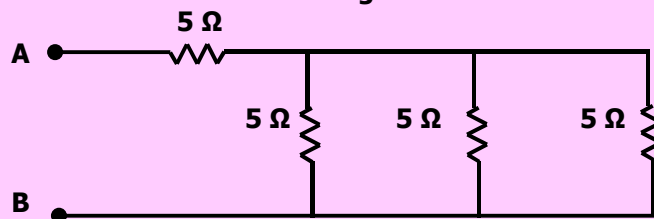
- Q.4 Thorium is transformed after the transmission of β -particle into:**
 A) Bismuth
 B) Protactinium
 C) Polonium
 D) Palladium
- Q.5 Emission of γ -rays from radioactive element results into:**
 A) Bismuth
 B) Protactinium
 C) Polonium
 D) Palladium
- Q.6 The relation between decay constant ' λ ' and half-life ' $T_{1/2}$ ' of radioactive substance is:**
 A) $\lambda = \frac{1}{T_{1/2}}$
 B) $\lambda = 0.693 T_{1/2}$
 C) $\lambda = T_{1/2}$
 D) $\lambda = \frac{0.693}{T_{1/2}}$
- Q.7 Radioisotope which is used to combat cancer of thyroid gland is:**
 A) Iodine-131
 B) Phosphorous-32
 C) Strontium-90
 D) Cobalt-60
- Q.8 Sodium-24 is used for:**
 A) Sterilization
 B) Study of circulation of blood
 C) Skin Cancer
 D) Thyroid Cancer
- Q.9 Energy radiation absorbed at the rate of one joule per kilogram is called:**
 A) 1 Rad
 B) 1 Sievert
 C) 1 Yellow
 D) 1 Gray
- Q.10 The time period ' T ' of a simple pendulum depends on its length ' l ' and acceleration due to gravity ' g ' using unit dimension. The correct equation for time period is:**
 A) $T = k \sqrt{\frac{g}{l}}$ where ' k ' is constant
 B) $T = \frac{1}{k} \sqrt{\frac{g}{l}}$ where ' k ' is constant
 C) $T = k \sqrt{\frac{l}{g}}$ where ' k ' is constant
 D) $T = \frac{1}{k} \sqrt{\frac{l}{g}}$ where ' k ' is constant
- Q.11 The unit for electric charge is Coulomb and one Coulomb in terms of base unit is equivalent to:**
 A) Am
 B) Js⁻¹
 C) As
 D) C
- Q.12 A man in elevator ascending with an acceleration will conclude that his weight is:**
 A) Increased
 B) Decreased
 C) Reduced to zero
 D) Remain Constant
- Q.13 If we double the moment arm the value of torque becomes:**
 A) Half
 B) Three-times
 C) Two-times
 D) Four-times
- Q.14 When fluid is incompressible, the quantity is constant is:**
 A) Mass
 B) Density
 C) Pressure
 D) Force
- Q.15 The minimum distance from the eye at which an object appears to be distant is:**
 A) 25 cm
 B) 22 cm
 C) 35 cm
 D) 20 cm
- Q.16 Using the relation for the magnifying power L_o , $M = 1 + d/f$, if $f = 5$ cm and $d = 25$ cm then M will be:**
 A) 5
 B) 7
 C) 6
 D) 8
- Q.17 Resonance occurs when the driving frequency is:**
 A) Greater than natural frequency
 B) Unequal the natural frequency
 C) Less than natural frequency
 D) Equal to the natural frequency

- Q.18 The red shift measurement of Doppler effect of galaxies indicate that the universe is:**
 A) Expanding
 B) Contracting
 C) Stationary
 D) Oscillating
- Q.19 Frequency audible range to human hearing lies in the range:**
 A) 2-2000 kHz
 B) 15-50000 kHz
 C) 20-20000 Hz
 D) 20-20000 kHz
- Q.20 Tuning a radio is a best example of:**
 A) Natural resonance
 B) Mechanical resonance
 C) Free resonance
 D) Electrical resonance
- Q.21 The ratio of applied stress to the volumetric strain is called:**
 A) Bulk Modulus
 B) Shear Modulus
 C) Tensile modulus
 D) Young's Modulus
- Q.22 The wire made of copper belong to which specific kind of material:**
 A) Ductile material
 B) Tough material
 C) Brittle material
 D) Deformed material
- Q.23 The relation $\frac{R}{N_A} = 1.38 \times 10^{-25} \text{ JK}^{-1}$ in a gas law is known as:**
 A) Avogadro's constant
 B) Charles constant
 C) Newton's constant
 D) Boltzmann's constant
- Q.24 The relation 'PV = nRT' shows which law of physics:**
 A) Charles Law
 B) Avogadro's Law
 C) Newton's Constant
 D) Ideal Gas Law
- Q.25 The rapid escape of air from a burst tyre is an example of:**
 A) Adiabatic processes
 B) Isothermal process
 C) Cooling process
 D) First law of thermodynamics
- Q.26 Which relation exactly described the isothermal process?**
 A) $Q = W$
 B) $W = -\Delta U$
 C) $Q = -\Delta U$
 D) $Q = \Delta U + W$
- Q.27 If a turbine is working as a heat engine and takes that from hot body (427 °C) and exhausts into a body at 77 °C then what is the possible efficiency?**
 A) 50%
 B) 70%
 C) 90%
 D) 95%
- Q.28 Which one of the following is the Boolean expression of NAND gate?**
 A) $X = A.B$
 B) $X = A + B$
 C) $X = \overline{A.B}$
 D) $X = \overline{A + B}$
- Q.29 Which one of the following is the truth table of NAND gate?**
- A)
- | A | B | Y |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 0 |
- C)
- | A | B | Y |
|---|---|---|
| 0 | 1 | 1 |
| 1 | 1 | 0 |
- B)
- | A | B | Y |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |
- D)
- | A | B | Y |
|---|---|---|
| 0 | 0 | 0 |
| 1 | 1 | 1 |
- Q.30 If the length, width and separation between the plates of a parallel plate capacitor is doubled then its capacitance becomes:**
 A) Double
 B) Half
 C) Four-times
 D) Eight-times

Q.31 Resistance between two opposite faces of square thin film of area 1 mm^2 having thickness of $1 \text{ }\mu\text{m}$ if resistivity of material is $10^{-6} \text{ }\Omega$ will be:

- A) $1000 \text{ }\Omega$ C) $1 \text{ }\Omega$
 B) $100 \text{ }\Omega$ D) $10 \text{ }\Omega$

Q.32 Total resistance between 'A' and 'B' in the given circuit is:



- A) $5.6 \text{ }\Omega$ C) $0.33 \text{ }\Omega$
 B) $3.33 \text{ }\Omega$ D) $6.6 \text{ }\Omega$

Q.33 'F' is maximum force acting on a conductor. Now if we change the direction of conductor by making an angle of 45° with the magnetic field then the force becomes:

- A) $\frac{F}{2}$ C) $\frac{F}{\sqrt{2}}$
 B) $2F$ D) $\sqrt{2} F$

Q.34 If we doubled all the parameters of the force acting on current carrying conductor and $\theta = 90^\circ$ then magnetic force becomes:

- A) Half C) Eight-times
 B) Double D) Four-times

Q.35 The force acting on current carrying conductor will be maximum if the angle between magnetic field and conductor is:

- A) 0° C) 90°
 B) 30° D) 60°

Q.36 The shadow of the bones in X-rays photographic film appears lighter than the surrounding flesh due to:

- A) Bones reflect greater amount of X-rays C) Bones absorb greater amount of X-rays
 B) Bones absorb less amount of X-rays D) Bones totally reflect X-rays

Q.37 The atom is excited to an energy level E_i from its ground state energy level E_o , the wavelength of the radiations emitted is:

- A) $\frac{(E_o - E_i)}{hc}$ C) $\frac{hc}{(E_i - E_o)}$
 B) $\frac{(E_i - E_o)}{hc}$ D) $\frac{E_i}{hc} - \frac{E_o}{hc}$

Q.38 Which one of the following gas is the lasing or active medium in the laser tube?

- A) Hydrogen C) Neon
 B) Helium D) Carbon dioxide

Q.39 The target of X-ray tube is made up of which metal?

- A) Iron C) Brass
 B) Nickel D) Tungsten

Q.40 The X-rays consists of:

- A) High energy proton C) High energy γ -rays
 B) High energy electrons D) High energy photons

Q.41 In Bernoulli's equation the term $\frac{1}{2} \rho v^2$ is called:

- A) K.E. per unit volume C) K.E. per unit area
 B) K.E. D) K.E. per unit length

Q.42 Potential energy per unit volume is given by:

- A) mgh C) gh
 B) $\frac{mgh}{\rho}$ D) ρgh

Q.43 If general equation for destructive interference's is given by the relation,

$$\text{Optic path difference} = \left(m + \frac{1}{2}\right) \lambda$$

where 'm' is an integer, then first dark fringe appears from 'm' will be equal to:

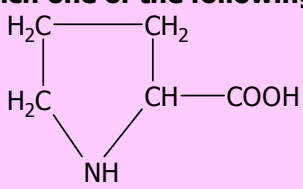
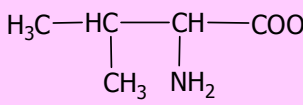
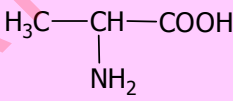
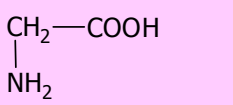
- A) $\frac{2}{3}$ C) 0
 B) $\frac{1}{2}$ D) 1

Q.44 For bright fringe formation, the path difference is:

- A) $\left(n + \frac{1}{2}\right) \lambda$ where $n = 0, 1, 2, \dots$ C) $(2n + 1) \frac{\lambda}{2}$ where $n = 0, 1, 2, \dots$
 B) $n\lambda$ where $n = 0, 1, 2, \dots$ D) $\left(\frac{n + 1}{2}\right) \lambda^2$ where $n = 0, 1, 2, \dots$

CHEMISTRY

Q.45 Which one of the following is structural formula of proline?

- A) 
 B) 
 C) 
 D) 

Q.46 In the formation of Zwitter ion which one of the following donates the proton?

- A) COOH C) CH_2COO^-
 B) NH_2 D) OH^-

Q.47 

What is the name of above given structural formula?

- A) Aspartic Acid C) Adipic Acid
 B) Asparagine D) Glutamic Acid

Q.48 Which one of the following is simplest amino acid?

- A) Lysine C) Alanine
 B) Leucine D) Glycine

Q.49 Which one of the following polymer is called as Nylon 6,6?

- A) Polyester C) Polyamide
 B) Polyvinyl chloride D) Polyvinyl acetate

Q.50 Which one of the following is an exact composition of a carbohydrates?

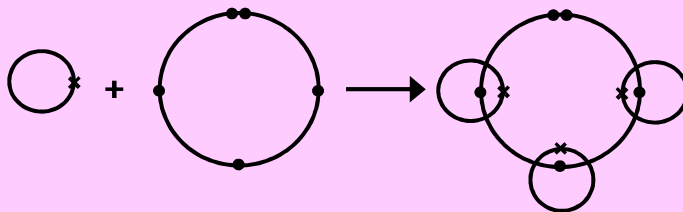
- A) Carbon and Hydrogen C) Carbon, Hydrogen and Oxygen
 B) Carbon and Oxygen D) Hydrogen and Oxygen

Q.51 Which one of the following nitrogen base is NOT present in DNA?

- A) Adenine C) Uracil
 B) Guanine D) Cytosine

- Q.52 In the woody parts of trees, the %age of cellulose is:**
 A) 50% C) 30%
 B) 10% D) 100%

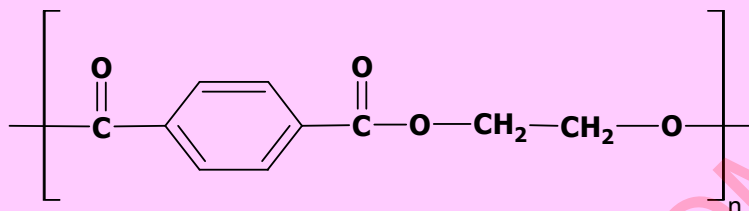
Q.53



Choose the right molecule.

- A) CH₃ C) H₂O
 B) CO D) NH₃

Q.54



Indicate the name of above given structure.

- A) Nylon 6,6 C) PVA
 B) Adipic Acid D) Polyester

- Q.55 In laboratory experiment an unknown compound was added in test tube containing iodine, the colour became intense blue. What could be the unknown compound?**

- A) Cellulose C) Ribose
 B) Raffinose D) Starch

- Q.56 Ozone concentration is measured in:**

- A) Debye units C) Debacle units
 B) Dupont units D) Dobson units

- Q.57 The gas which is mainly produced in landfills from the waste is:**

- A) CH₄ C) SO₂
 B) CO₂ D) Cl₂

- Q.58 The substance for the separation of isotopes is firstly converted into the:**

- A) Neutral state C) Vapour state
 B) Free state D) Charged state

- Q.59 The number of moles of CO₂ which contain 8.00 gm of oxygen is:**

- A) 0.75 C) 0.25
 B) 1.50 D) 1.00

- Q.60 London dispersion forces are the only forces present among the:**

- A) Molecules of H₂O in liquid state C) Atoms of helium in gaseous state at high temperature
 B) Molecules of HCl gas D) Molecules of solid chlorine

- Q.61 Electrical conductivity of graphite is greater in one direction than in other due to:**

- A) Isomorphism C) Anisotropy
 B) Cleavage plane D) Symmetry

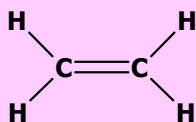
- Q.62 Number of neutrons in ⁶⁶₃₀Zn will be:**

- A) 30 C) 38
 B) 35 D) 36

- Q.63 The maximum number of electrons in electronic configuration can be calculated by using formula:**

- A) 2l + 1 C) 2n²
 B) 2n² + 2 D) 2n² + 1

Q.64



Calculate the number of σ bonds and π bonds in the molecule.

- A) 1π and 5σ bonds
 B) 2π and 4σ bonds
 C) 3π and 3σ bonds
 D) 6π and 6σ bonds

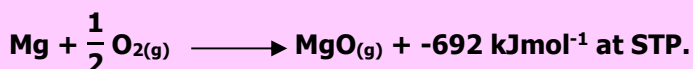
Q.65



In this reaction, ΔH will be called:

- A) Enthalpy of atomization
 B) Enthalpy of decomposition
 C) Enthalpy of formation
 D) Enthalpy of the dissociation

Q.66



Enthalpy of the above reaction will be called:

- A) $\Delta H^\circ_{\text{at}}$
 B) $\Delta H^\circ_{\text{s}}$
 C) $\Delta H^\circ_{\text{sol}}$
 D) $\Delta H^\circ_{\text{f}}$

Q.67

Freezing point will also be defined as that temperature at which its solid and liquid phases have the same:

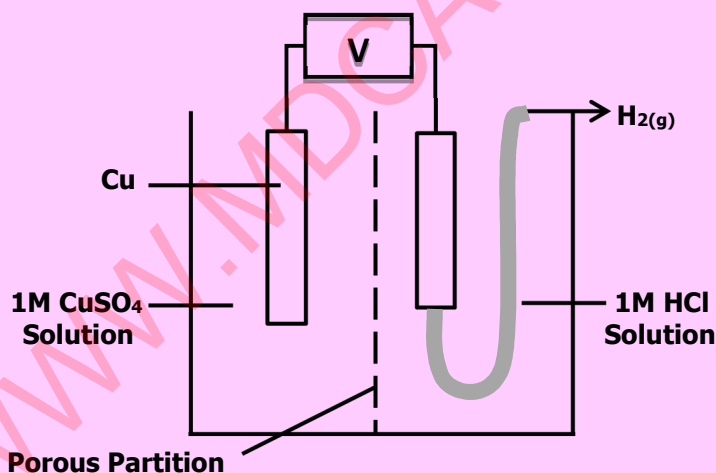
- A) Concentration
 B) Ratio between the particles
 C) Vapour pressure
 D) Attraction between the phases

Q.68

What mass of NaOH is present in 0.5 mol of sodium hydroxide?

- A) 40 gm
 B) 2.5 gm
 C) 15 gm
 D) 20 gm

Q.69



The diagram shows a galvanic cell. The current will flow from:

- A) Hydrogen electrode to copper electrode
 B) Copper electrode to hydrogen electrode
 C) Hydrogen electrode to HCl solution
 D) CuSO_4 solution to hydrogen electrode

Q.70

Study the following redox reaction:



- A) Manganese is oxidized from +7 to +2
 B) Chlorine ions are reduced from -1 to zero
 C) Chlorine is reduced from zero to -1
 D) Manganese is reduced from +7 to +2

Q.71

Human blood maintains its pH between:

- A) 6.50 - 7.00
 B) 7.20 - 7.25
 C) 7.50 - 7.55
 D) 7.35 - 7.40

Q.72

Value of K_{sp} for PbSO_4 system at 25°C is equal to:

- A) $1.6 \times 10^{-5} \text{ mol}^2\text{dm}^{-6}$
 B) $1.6 \times 10^{-6} \text{ mol}^2\text{dm}^{-6}$
 C) $1.6 \times 10^{-8} \text{ mol}^2\text{dm}^{-6}$
 D) $1.6 \times 10^{-7} \text{ mol}^2\text{dm}^{-6}$

- Q.73** $2A + B \longrightarrow \text{Product}$
 If the reactant 'B' is in excess, the order of reaction with respect to 'A' in given rate law, $\text{Rate} = k[A]^2[B]$ is:
 A) 2nd order reaction
 B) 1st order reaction
 C) Pseudo 1st order reaction
 D) 3rd order reaction
- Q.74** The rate constant 'k' is 0.693 min^{-1} . The half-life for the 1st order reaction will be:
 A) 1 min
 B) 2 min
 C) 0.693 min
 D) 4 min
- Q.75** Melting points of group II-A elements are higher than those of group I-A because:
 A) Atoms of II-A elements have smaller size
 B) II-A elements are more reactive
 C) Atoms of II-A elements provide two binding electrons
 D) I-A elements have smaller atomic radius
- Q.76** The ionic radius of fluoride ion is:
 A) 72 pm
 B) 95 pm
 C) 136 pm
 D) 157 pm
- Q.77** $2\text{NaOH}_{(\text{aq})} + \text{Cl}_{2(\text{g})} \longrightarrow \text{NaCl} + \text{NaClO} + \text{H}_2\text{O}$ proceed at:
 A) 500 °C
 B) 200 °C
 C) -10 °C
 D) 15 °C
- Q.78** Which halogen molecule 'X₂' has lowest dissociation energy?
 A) Cl₂
 B) Br₂
 C) I₂
 D) F₂
- Q.79** The anomalous electronic configuration shown by chromium and copper among 3-d series of elements is due to:
 A) Colour of ions of these metals
 B) Variable oxidation states of metals
 C) Stability associated with this configuration
 D) Complex formation tendency of metals
- Q.80** Which element of 3d series of periodic table shows the electronic configuration of 3d⁶, 4s²?
 A) Copper
 B) Cobalt
 C) Zinc
 D) Nickel
- Q.81** The %age of nitrogen in ammonium nitrate is:
 A) 46%
 B) 82%
 C) 33%
 D) 13%
- Q.82** Which one of the following is anhydride of sulphuric acid?
 A) Sulphur (II) oxide
 B) Sulphur (VI) oxide
 C) Iron pyrite
 D) Sulphur (VI) oxide
- Q.83** During contact process of H₂SO₄ synthesis, the following reaction occurs:

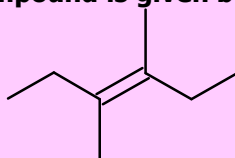
$$2\text{SO}_{2(\text{g})} + \text{O}_{2(\text{g})} \rightleftharpoons 2\text{SO}_{3(\text{g})} \quad \Delta H = -96 \text{ kJmol}^{-1}$$

 Which step is used to increase the yield of SO₃?
 A) Temperature is raised to very high degree
 B) SO₃ formed is removed very quickly
 C) Both temperature and pressure are kept very low
 D) An excess of air is used to drive the equilibrium to the right side
- Q.84** Synthesis of ammonia by Haber's process is a reversible reaction. What should be done to increase the yield of ammonia in the following reaction?

$$\text{N}_{2(\text{g})} + 3\text{H}_{2(\text{g})} \rightleftharpoons 2\text{NH}_{3(\text{g})} \quad \Delta H = -92 \text{ kJmol}^{-1}$$

 A) Pressure should be decreased
 B) Ammonia should remain in reaction mixture
 C) Pressure should be increased
 D) Concentration of nitrogen should be decreased
- Q.85** Which one of the following reactions shows combustion of a saturated hydrocarbon?
 A) $\text{C}_2\text{H}_4 + 3\text{O}_2 \longrightarrow 2\text{CO}_2 + 2\text{H}_2\text{O}$
 B) $\text{CH}_4 + 2\text{O}_2 \longrightarrow \text{CO}_2 + 2\text{H}_2\text{O}$
 C) $\text{CH}_4 + \frac{1}{2} \text{O}_2 \xrightarrow[400^\circ\text{C}, 200 \text{ atm}]{\text{Cu}} \text{CH}_3\text{OH}$
 D) $\text{C}_2\text{H}_2 + \frac{5}{2} \text{O}_2 \longrightarrow 2\text{CO}_2 + \text{H}_2\text{O}$

Q.86 Skeletal formula of an organic compound is given below:



It is a hydrocarbon. IUPAC name of the compound is:

- A) 3, 3-dimethyl-3-hexene
 B) 3, 4-dimethyl-3-hexene
 C) 3-hexene
 D) 2,3-dimethyl-1-hexene

Q.87 Which one of the following pairs can be cis-trans isomer to each other?

- A) $\text{CHCl}=\text{CCl}_2$ and $\text{CH}_2=\text{CH}_2$
 B) $\text{CHCl}=\text{CH}_2$ and $\text{CH}_2=\text{CHCl}$
 C) $\text{CH}_3-\text{CH}=\text{CH}-\text{CH}_3$ and $\text{H}_3\text{C}-\text{CH}=\text{CH}-\text{CH}_3$
 D) CH_3-CH_3 and $\text{CH}_2=\text{CH}_2$

Q.88 Consider the reaction given below:



Mechanism followed by the reaction is:

- A) E2
 B) E1
 C) $\text{S}_{\text{N}}1$
 D) $\text{S}_{\text{N}}2$

Q.89 The average bond energy of C-Br is:

- A) 228 kJmol^{-1}
 B) 200 kJmol^{-1}
 C) 250 kJmol^{-1}
 D) 290 kJmol^{-1}

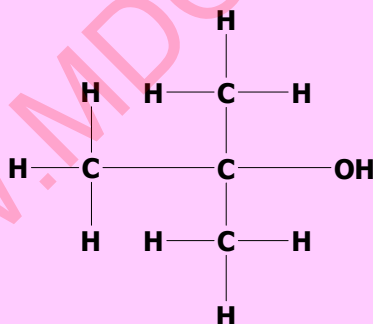
Q.90 Which one of the following is NOT a nucleophile:

- A) NH_2^-
 B) H_2O
 C) BF_3
 D) CH_3^-

Q.91 Which one of the following is an appropriate indication of positive iodoform test?

- A) Formation of H_2O
 B) Release of H_2 gas
 C) Brick red precipitate
 D) Yellow crystal

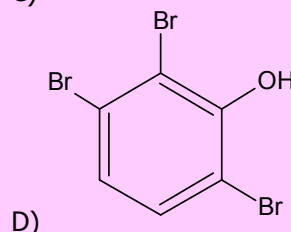
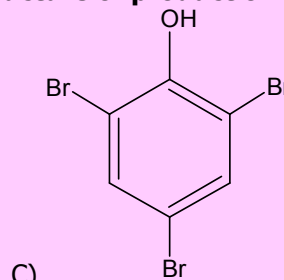
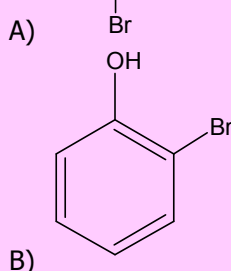
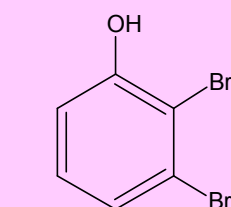
Q.92



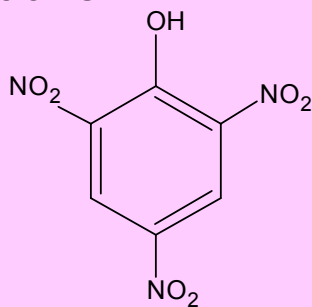
Which one of the following is the proper classification of above formula:

- A) Primary
 B) Secondary
 C) Tertiary
 D) Polyhydride

Q.93 Which one of the following is an appropriate structure of product of bromination?



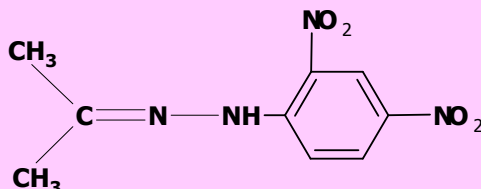
Q.94



Which one of the following is an appropriate name of above compound?

- A) 1,3,6-Trinitrophenol
 B) m-Nitrophenol
 C) Tartaric acid
 D) Picric acid

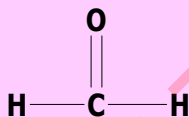
Q.95



It is the general formula of:

- A) 2, 4-Dinitrophenyl hydrazine
 B) 1, 3-Dinitrophenyl hydrazone
 C) Phenyl hydrazone
 D) 2, 4-Dinitrophenyl hydrazone

Q.96



Which one of the following is the IUPAC name of above given structure:

- A) Propionaldehyde
 B) Methanone
 C) Acetaldehyde
 D) Methanal

Q.97

Which one of the following test is given by both aldehyde and ketone?

- A) Silver mirror test
 B) Fehling's solution test
 C) 2, 4 DNPH test
 D) Benedict's solution test

Q.98



Which one of the following will act as a catalyst in above reaction?

- A) HNO_3
 B) H_2SO_4
 C) Acidified potassium dichromate
 D) SOCl_2

Q.99



Which one of the following options shows the products of above reaction?

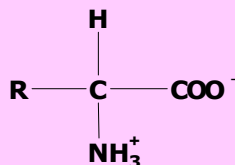
- A) $\text{POCl}_2 + \text{CH}_3\text{COCl}_2 + \text{HCl}$
 B) $\text{POCl}_3 + \text{CH}_3\text{COCl}_2 + \text{H}_2$
 C) $\text{CH}_3\text{COCl} + \text{POCl}_2 + \text{HCl}$
 D) $\text{POCl}_3 + \text{CH}_3\text{COCl} + \text{HCl}$

Q.100

Which one of the following reaction of carboxylic acid is reversible?

- A) Esterification
 B) Salt formation
 C) Reaction with PCl_5
 D) Reaction with SOCl_2

Q.101



Select the best option indicating the name of the above structure:

- A) Cation
 B) Neutral amino acid
 C) Internal salt
 D) Anion

Q.102

When acid is added to an amino acid, which one of the following will act as a base?

- A) NH_3^+
 B) COO^-
 C) H^+
 D) R group

ENGLISH

- Q.103** His theories have been _____ by recent research.
 A) Pronounced C) Dammed
 B) Rearmed D) Debunked
- Q.104** International rules _____ the number of foreign entrants.
 A) Hoodwink C) Fabricate
 B) Stipulate D) Traverse
- Q.105** The assassination of the president _____ the country into war.
 A) Articulated C) Hobbled
 B) Boomed D) Precipitated
- Q.106** She might be forgiven for _____ beneath the pressure.
 A) Undertaking C) Buckling
 B) Extricating D) Resounding

⇒ **SPOT THE ERROR: In the following sentences, some segments of each sentence are underlined. Your task is to identify that underlined segment of the sentence, which contains the mistake that needs to be corrected. Fill the Circle corresponding to that letter under the segment in the MCQ Response Form.**

- Q.107** It showed that he was a man capable of looking beneath the surface of things, a man not dependent in paper manifestations.
 A) B) C) D)
- Q.108** When he was a child, every time he were naughty, his foster-mother used to threaten to send him to Timbuktu.
 A) B) C) D)
- Q.109** I was faced with alternatively of either evicting the books or else leaving them in sole, undisturbed tenancy and taking rooms elsewhere for myself.
 A) B) C) D)
- Q.110** I remember going to the British museum one day to read for the treatment for some slight ailment of which I had a touch-hay fever, I fancy it was.
 A) B) C) D)
- Q.111** The number of people in the world are rapidly increasing rather like a gigantic snowball which not only gets bigger as it rolls but goes faster as well.
 A) B) C) D)
- Q.112** It has been calculated that unless the growth is checked, there will only be enough room on the earth for people to stand by.
 A) B) C) D)

⇒ **In each of the following question, four alternative sentences are given. Choose the CORRECT one and fill the Circle corresponding to that letter in the MCQ Response Form.**

- Q.113**
 A) Inside a carton was a push-button unit fastened with a small wooden box.
 B) Inside a carton was a push-button unit fastened by a small wooden box.
 C) Inside a carton was a push-button unit fastened to a small wooden box.
 D) Inside a carton was a push-button unit fastened along a small wooden box.

Q.114

- A) They both looked to one another, startled by all they had just finished saying.
- B) They both looked to each another, startled by all they had just finish saying.
- C) They both looked to each another, startle by all they had just finish saying.
- D) They both looked to each another, startled by all they had just finished saying.

Q.115

- A) The lovely sentiments we go through repeating!
- B) The lovely sentiments we go about repeating!
- C) The lovely sentiments we go in repeating!
- D) The lovely sentiments we go for repeating!

Q.116

- A) With the bright light, still in her eyes, she moved quick out of the door.
- B) With the bright light, still in her eyes, she moved quick out to the door.
- C) With the bright light, still in her eyes, she moved quickly out to the door.
- D) With the bright light, still in her eyes, she moved quickly out of the door.

Q.117

- A) In a short while quiet a large crowd had been collected.
- B) In a short while quite a large crowd had collected.
- C) In a short while quite large crowd had collected.
- D) In a short while quite the large crowd had been collecting.

Q.118

- A) She watched all the important matches in the Brookfield ground.
- B) She watched all the important matches on the Brookfield ground.
- C) She watched all the important matches from the Brookfield ground.
- D) She watched all the important matches within the Brookfield ground.

Q.119

- A) Something had happened, something whose ultimate significance had yet to be reckon.
- B) Something had happened, something whose ultimate significance had yet was reckon.
- C) Something had happened, something whose ultimate significance had yet to be reckoned.
- D) Something had happened, something whose ultimate significance had yet reckoned.

Q.120

- A) His faculties were all unimpairment, and he had no personal worries of any kind.
- B) His faculties were all unimparing, and he had no personal worries of any kind.
- C) His faculties were all unimpaired, and he had no personal worry of any kind.
- D) His faculties were all unimpaired, and he had no personal worries of any kind.

Q.121

- A) It was hard to him to speak out loud, but he managed to murmur something.
- B) It was hard on him to speak out loud, but he managed to murmur something.
- C) It was hard for him to speak out loud, but he managed to murmur something.
- D) It was hard upon him to speak out loud, but he managed to murmur something.

Q.122

- A) There was a little money saved up beside.
- B) There was little money saved in besides.
- C) There was little money saved up beside.
- D) There was a little money saved up besides.



In each of the following question, four alternative meanings of a word are given. You have to select the NEAREST CORRECT MEANING of the given word and fill the appropriate Circle on the MCQ Response Form.

Q.123 **STALWART**

- A) Loyal
- B) Lazy
- C) Lacking strength
- D) High

Q.124 **CHIVALRY**

- A) Coward
- B) Non-cooperative
- C) Imitating
- D) Gallant

- Q.125 RAKISH**
 A) Curved
 B) Traditional
 C) Formal
 D) Dashing
- Q.126 PRODIGIOUS**
 A) Huge
 B) Trivial
 C) Little
 D) Square
- Q.127 IMPROVISE**
 A) Colophon
 B) Concoct
 C) Divert
 D) Respite
- Q.128 PARADOX**
 A) Anomaly
 B) Prototype
 C) Steward
 D) Fashion
- Q.129 MANIFESTATION**
 A) Mode
 B) Token
 C) Quirk
 D) Bulwark
- Q.130 RECONNOITRE**
 A) Patrol
 B) Arcane
 C) Exhort
 D) Falter
- Q.131 SOJOURN**
 A) Visit
 B) Belch
 C) Furry
 D) Inking
- Q.132 MUSE**
 A) Immaculate
 B) Chew over
 C) Sigh over
 D) Vagary

BIOLOGY

- Q.133 Random, uncontrolled activity of some cells in the brain leading to chaotic activity in both sensory and motor nerves causes patients of to see and hear different strange things.**
 A) Epilepsy
 B) Parkinson's Disease
 C) Alzheimer's Disease
 D) Huntington's Disease
- Q.134 Part of hind brain responsible for the balance and equilibrium of body is called:**
 A) Medulla
 B) Cerebellum
 C) Pons
 D) Thalamus
- Q.135 Events of menstrual cycle are regulated by the:**
 A) Ethylene
 B) Gonadotrophins
 C) Auxins
 D) Gibberellins
- Q.136 Decrease of FSH and increase of estrogen cause pituitary gland to secrete:**
 A) Somatotropin
 B) Luteinizing Hormone
 C) Testosterone
 D) Spermatogonium
- Q.137 Transmission of Neisseria gonorrhoea is best described by which one of the following?**
 A) Oro-fecal Route
 B) Unsafe Sex
 C) Vector Borne
 D) Droplet Infection
- Q.138 Syphilis is caused by:**
 A) Spirochete
 B) Nostoc
 C) Water blooms
 D) Cyanobacteria
- Q.139 AIDS is caused by:**
 A) Bacteria
 B) Virus
 C) Fungi
 D) Alga

Q.140 Brain is protected and enclosed in:

- A) Lumbar vertebrae
- B) Coccyx
- C) Vertebral column
- D) Cranium

Q.141 Longest bone in the human skeleton is:

- A) Ulna
- B) Fibula
- C) Tibia
- D) Femur

Q.142 Hips and shoulder joints are examples of:

- A) Hinge Joints
- B) Ball and Socket Joints
- C) Synovial Joints
- D) Cartilaginous Joints

Q.143 In pelvic region of human body, sacrum is formed by the fusion of:

- A) 4 Vertebrae
- B) 5 Vertebrae
- C) 6 Vertebrae
- D) 3 Vertebrae

Q.144 Each muscle fibre is surrounded by a modified cell membrane called:

- A) Sarcolemma
- B) Sarcomere
- C) Myosin Filament
- D) Myofilament

Q.145 _____ hormone is antagonistic to insulin and causes increase in blood glucose level.

- A) Glucagon
- B) Nor-epinephrine
- C) Calcitonin
- D) Thyroxine

Q.146 Beta cells of islets of Langerhans produce _____ hormone.

- A) Glucagon
- B) Insulin
- C) Pancreatic Juice
- D) Parathormone

Q.147 The central portion of adrenal gland (Adrenal Medulla) produces _____ hormone.

- A) Aldosterone
- B) Epinephrine
- C) Androgen
- D) Corticosterone

Q.148 _____ hormones are called fight and flight hormones as they prepare an organism to face stressful situation.

- A) Adrenaline, Aldosterone
- B) Epinephrine, Nor-epinephrine
- C) Cortisone, Oxytocin
- D) Thyroxine, Nor-epinephrine

Q.149 B-cells release antibodies in blood plasma, tissue fluid and lymph. This kind of immune response is called:

- A) Cell Mediated Response
- B) Humoral Response
- C) Active Response
- D) Compound Response

Q.150 The type of immunity in which antibodies are passed from one individual to another is called:

- A) Passive Immunity
- B) Artificial Active Immunity
- C) Natural Active Immunity
- D) Humoral Immunity

Q.151 To combat the active infections of tetanus, rabies and snakes the _____ method of immunization is used:

- A) Active
- B) Humoral
- C) Active Artificial
- D) Passive

Q.152 In antibody molecule, two heavy and two light chains are bonded by:

- A) Disulphide Bond
- B) Monosulphide Bond
- C) Hydrogen Bond
- D) Ionic Bond

Q.153 Variable amino acid sequences in antibody molecule are found in _____.

- A) Both light chains only
- B) Both heavy chains only
- C) One heavy and one light chain
- D) Both heavy and light chains

Q.154 Each _____ consists of a light gathering antenna complex and reaction center.

- A) Chlorophyll
- B) Photosystem
- C) Photon
- D) Electron

Q.155 Photosystem I has chlorophyll a molecules which absorb maximum light of:

- A) 680 nm
 B) 780 nm
 C) 700 nm
 D) 580 nm

Q.156 Cyclic flow or C4 photosynthesis produces:

- A) ATP and CO₂
 B) ATP
 C) Only CO₂
 D) Only Oxygen

Q.157 Immediate product formed after CO₂ fixation in Calvin Cycle is:

- A) Unstable 6-carbon compound
 B) Unstable 5-carbon compound
 C) Unstable 4-carbon compound
 D) Unstable 3-carbon compound

Q.158 Functional group of chlorophyll a is:

- A) —CH₃
 B) —CHO
 C) —COOH
 D) —OH

Q.159 The modified plasmid or phage DNA is called:

- A) Clone DNA
 B) Recombinant DNA
 C) cDNA
 D) rDNA

Q.160 The rapid exchange of materials through carrier proteins across the plasma membrane is called:

- A) Passive Diffusion
 B) Active Transport
 C) Endocytosis
 D) Facilitated Diffusion

Q.161 The inner membrane of mitochondria form extensive infoldings called:

- A) Cristae
 B) Cisternae
 C) Lamella
 D) Bifidae

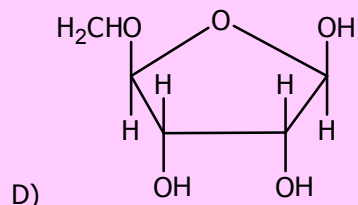
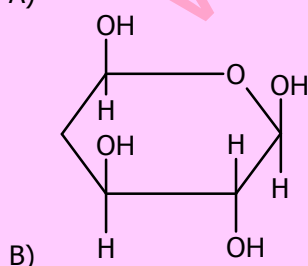
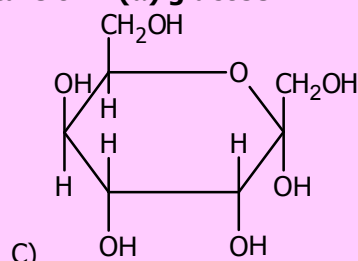
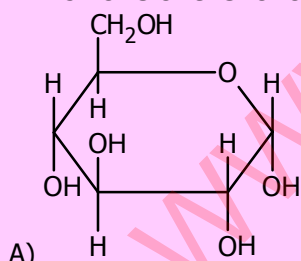
Q.162 Which one of the following organelle is found in both prokaryotic and eukaryotic cells?

- A) Centriole
 B) Endoplasmic Reticulum
 C) Nucleus
 D) Ribosome

Q.163 The compounds which on hydrolysis yield polyhydroxy aldehyde or ketone subunits are:

- A) Lipids
 B) Proteins
 C) Polynucleotides
 D) Carbohydrates

Q.164 Which one of the following is the formula structure of D (α) glucose?



Q.165 Secondary structure of protein is found in:

- A) Trypsin
 B) Keratin
 C) Insulin
 D) Glucagon

Q.166 Waxes are formed by combination of fatty acids with:

- A) Alcohol
 B) Glycerol
 C) Serine
 D) Cysteine

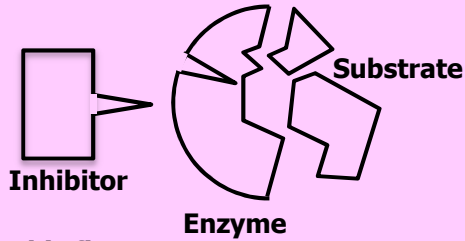
Q.167 Phosphodiester bond is:

- A) P—O—C—P—O—C
 B) C—O—P
 C) C—O—P—O—C
 D) C—C—O—P

Q.168 An enzyme required Mg^{++} to catalyze the substrate. The Mg^{++} is best identified as:

- A) Prosthetic group
 B) Activator
 C) Co-enzyme
 D) Inhibitor

Q.169



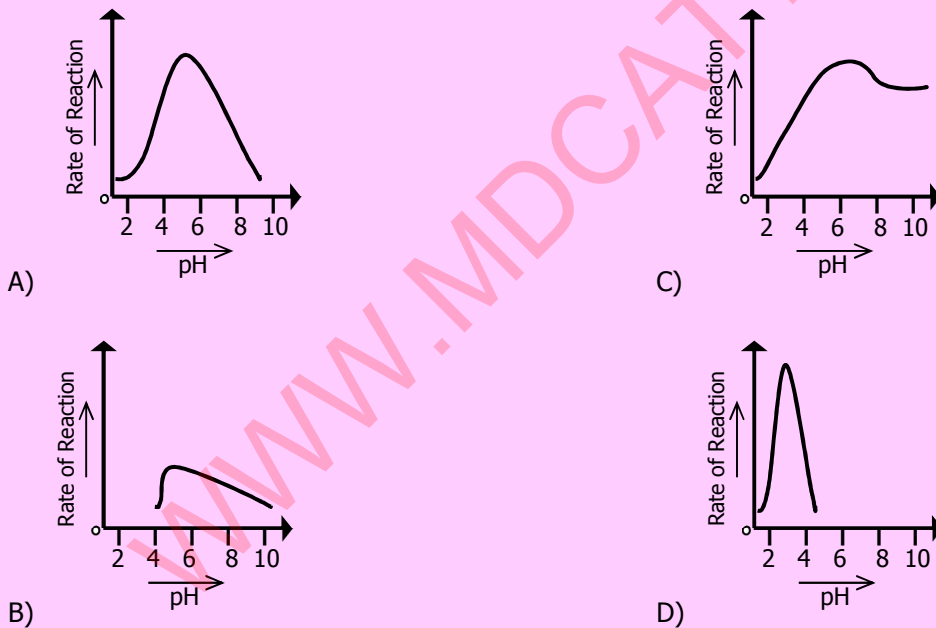
This figure represents _____ inhibitor.

- A) Non-competitive
 B) Competitive
 C) Irreversible
 D) Isosteric

Q.170 According to _____ model the active site of enzyme is modified as the substrate interacts with enzyme.

- A) Induced fit
 B) Lock and Key
 C) Emil Fischer
 D) Fluid Mosaic

Q.171 Which one of the following graphs shows how the rate of reaction of pepsin is affected by pH?



Q.172 All viruses can reproduce within living organisms only, so they are known as:

- A) Ectoparasites
 B) Endoparasites
 C) Obligative Intracellular Parasites
 D) Facultative Intracellular Parasites

Q.173 Many bacteria are motile due to presence of:

- A) Flagella
 B) Pili
 C) Cilia
 D) Microtubules

Q.174 _____ is an invagination of cell membrane which helps in cell division.

- A) Fimbriae
 B) Nucleoid
 C) Mesosome
 D) Endospore

Q.175 _____ is the yeast that grows in the mucous membrane of mouth or vagina.

- A) Candida albicans
 B) Saccharomyces cerevisiae
 C) Aspergillus fumigatus
 D) Aspergillus flavus

- Q.176 Taenia is an endoparasite of human, pig and cattle which belongs to phylum.**
 A) Cnidaria
 B) Aschelminthes
 C) Annelida
 D) Platyhelminthes
- Q.177 Body of _____ consists of segments called proglottis which contains mainly sex organs.**
 A) Planaria
 B) Ascaris
 C) Fasciola
 D) Tapeworm
- Q.178 _____ is a common parasite of the intestine of human and pig which belongs to phylum nematode.**
 A) Taenia solanum
 B) Schistosoma
 C) Ascaris lumbricoides
 D) Fasciola hepatica
- Q.179 In radial symmetry all body parts are arranged around the central axis. Radial symmetry represents _____ mode of life.**
 A) Sessile
 B) Streamlined
 C) Active
 D) Parasitic
- Q.180 Pseudo-coelomates have a body cavity but it is not true coelom. Which one of the following is included in the group.**
 A) Planaria
 B) Tapeworm
 C) Earthworm
 D) Ascaris
- Q.181 Digestion of _____ starts in oral cavity due to the action of enzyme present in saliva.**
 A) Starch
 B) Cellulose
 C) Fatty Acids
 D) Polypeptides
- Q.182 Food enters from stomach into small intestine through:**
 A) Pyloric Sphincter
 B) Cardiac Sphincter
 C) Semilunar valve
 D) Diaphragm
- Q.183 _____ are the part of a gastric gland which produce hydrochloric acid.**
 A) Parietal Cells
 B) Goblet Cells
 C) Chief Cells
 D) Zymogen Cells
- Q.184 Protein components of food are digested by the enzymatic secretion of:**
 A) Goblet Cells
 B) Parietal Cells
 C) Zymogen Cells
 D) Oxyntic Cells
- Q.185 Digestive System consists of different layers, the innermost is known as:**
 A) Submucosa
 B) Mucosa
 C) Muscularis
 D) Serosa
- Q.186 In human the closed sac which surrounds the heart is:**
 A) Endocardium
 B) Myocardium
 C) Pericardium
 D) Epicardium
- Q.187 Chordae tendinea are fibrous cords attached with:**
 A) Cardiac end of stomach valve
 B) Tricuspid valve of heart
 C) Pyloric sphincter of stomach
 D) Eyelid
- Q.188 Bicuspid valve controls the flow of blood from:**
 A) Right atrium to right ventricle
 B) Right ventricle to pulmonary artery
 C) Left ventricle to aorta
 D) Left atrium to left ventricle
- Q.189 Carboxyhaemoglobin (10-20%) is formed when CO₂ combines with:**
 A) Amino group of haemoglobin
 B) Iron part of haemoglobin
 C) Haem portion of haemoglobin
 D) Plasma proteins
- Q.190 Breathing consists of:**
 A) Four phases
 B) Three phases
 C) One phase
 D) Two phases

- Q.191 Bowman's capsule continues as extensively convoluted portion known as:**
A) Peritubular capillaries
B) Proximal convoluted tubules
C) Efferent arterioles
D) Afferent arterioles
- Q.192 Restriction endonucleases cleave the _____ of duplex DNA.**
A) Nitrogenous base
B) Base sugar
C) Phosphodiester bond
D) Hydrogen bond
- Q.193 The enzyme which is responsible for the formation of bond between two double stranded DNA fragments is:**
A) Endonuclease
B) Urease
C) Ligase
D) Helicase
- Q.194 The organisms of third trophic level are:**
A) Primary consumer
B) Primary producer
C) Tertiary consumer
D) Secondary consumer
- Q.195 The ultimate source of energy in an ecosystem is:**
A) Photosynthesis
B) Sun
C) Plants
D) Water
- Q.196 All the food chains and food webs begin with:**
A) Detritus
B) Herbivores
C) Green plants
D) Omnivores
- Q.197 The change from bare rock or open area is rapid, especially in the initial stages and follows a series of recognizable and hence predictable stages. This process is called:**
A) Pioneers
B) Xerosere
C) Succession
D) Secondary succession
- Q.198 The decline in the thickness of ozone layer is caused by:**
A) Increasing level of nitrogen oxide
B) Decreasing level of O₂
C) Decreasing level of CFCs
D) Increasing level of CFCs
- Q.199 Which one of the following is considered as strong evidence of evolution?**
A) Embryology Record
B) Molecular Record
C) Biochemical Record
D) Fossil Record
- Q.200 Structures found in different species which are believed to have a common evolutionary origin are called:**
A) Homologous
B) Analogous
C) Vestigial
D) Fossilized
- Q.201 Which one of the following is X-linked trait?**
A) Male pattern baldness
B) Diabetes mellitus
C) Haemophilia
D) Erythroblastosis fetalis
- Q.202 A character determined by three alleles is:**
A) Human skin colour
B) Human blood group
C) Human eye colour
D) Human Rh factor
- Q.203 The total number of genes in a population is called:**
A) Gene pool
B) Allele pool
C) Genome
D) Genomic library
- Q.204 _____ is the branch of Biology used for the identification and interpretation of fossils.**
A) Evolution
B) Paleontology
C) Zoogeography
D) Biodiversity
- Q.205 Out of the given options, choose the one which shows the structures found only in plants**
A) Vacuole, Chloroplast, Ribosomes
B) Chloroplast, Microtubules, Peroxisomes
C) Chloroplast, Cell Wall, Vacuole
D) Chloroplast, Cell Wall, Mitochondria

- Q.206 Presence of large central vacuole is the characteristic of:**
 A) Prokaryotes C) Fungi
 B) Protists D) Plants
- Q.207 The basic structure of plasma membrane is provided by:**
 A) Proteins C) Cytoskeleton
 B) Cholesterols D) Phospholipids
- Q.208 The organelle involved in detoxification of drugs and poisons in the liver cells is:**
 A) Smooth Endoplasmic Reticulum C) Golgi Apparatus
 B) Rough Endoplasmic Reticulum D) Lysosomes
- Q.209 Down's syndrome is characterized by _____ at chromosome 21.**
 A) Trisomy C) Polysomy
 B) Monosomy D) Disomy
- Q.210 Which of the following is an example of autosomal non-disjunction?**
 A) Turner's Syndrome C) Metastasis
 B) Jacob's Syndrome D) Down's syndrome
- Q.211 Infertility, short height, webbed neck and low hairline at lack are symptoms of _____ syndrome.**
 A) Turner's C) Edward's
 B) Down's D) Patau's
- Q.212 The concentration of sodium ions in body fluids is controlled by the hormone:**
 A) Renin C) Angiotensin
 B) Aldosterone D) CPK
- Q.213 A hormone released from posterior pituitary lobe acts to be actively transport water from filtrate is collecting tubules back to kidney is shown as:**
 A) Renin C) Angiotensin
 B) Antidiuretic hormone D) Growth Factor
- Q.214 The removal metabolic waste from the blood is called:**
 A) Thermoregulation C) Kidney Failure
 B) Osmoregulation D) Excretion
- Q.215 Highly toxic nitrogenous excretory product is:**
 A) CO₂ C) Urea
 B) Uric Acid D) Ammonia
- Q.216 Humans have homeostatic thermostat present in a specified portion of the brain that is:**
 A) Lateral ventricle C) Spinal Cord
 B) Thalamus D) Hypothalamus
- Q.217 The disease in which death of small number of cells in the basal ganglia leads to inability to select and initiate patterns of movement is known as:**
 A) Fever C) Epilepsy
 B) Alzheimer's Disease D) Parkinson's Disease
- Q.218 A neurological disorder characterized by the decline in brain function is _____. Its symptoms are similar to those diseases that cause dementia.**
 A) Parkinson's Disease C) Alzheimer's Disease
 B) Epilepsy D) Diabetes
- Q.219 A discharge by brain which causes chaotic activity in motor and sensory areas is:**
 A) Meningitis C) Epilepsy
 B) Alzheimer's Disease D) Parkinson's Disease
- Q.220 XXX
 XXXXXXXXXXXX.**
 A) XXXXXX C) XXXXXX
 B) XXXXXX D) XXXXXX (X)



UNIVERSITY OF HEALTH SCIENCES, LAHORE

Entrance Test – 2016

For admission to Medical / Dental Institutions of the Punjab

ANSWER KEY

The answer key to the questions of Entrance Test 2016 is being released.

Candidates can calculate their scores with the help of carbon copy of their response forms. **Each correct answer carries 05 marks whereas one mark will be deducted from the total score for each wrong answer. Unattempted question carries zero marks.** Complaints/ queries will be dealt only after the declaration of official result of the Entrance Test by the University. No request in this regard will be entertained before that.

Q.No.	Ans	Q.No.	Ans	Q.No.	Ans	Q.No.	Ans	Q.No.	Ans
ID	C	46	A	92	C	138	A	184	C
1	A	47	D	93	C	139	B	185	B
2	B	48	D	94	D	140	D	186	C
3	C	49	C	95	D	141	D	187	B
4	B	50	C	96	D	142	B	188	D
5	C	51	C	97	C	143	B	189	A
6	D	52	D	98	B	144	A	190	D
7	A	53	D	99	D	145	A	191	B
8	B	54	C	100	A	146	B	192	C
9	D	55	D	101	C	147	B	193	C
10	X	56	D	102	B	148	B	194	D
11	C	57	A	103	X	149	B	195	B
12	A	58	C	104	B	150	A	196	C
13	C	59	C	105	D	151	D	197	C
14	B	60	C	106	C	152	A	198	D
15	A	61	C	107	D	153	D	199	D
16	C	62	D	108	B	154	B	200	A
17	D	63	C	109	A	155	C	201	C
18	A	64	A	110	B	156	B	202	B
19	C	65	A	111	A	157	A	203	A
20	D	66	D	112	D	158	A	204	B
21	A	67	C	113	C	159	B	205	C
22	A	68	D	114	D	160	D	206	D
23	D	69	A	115	B	161	A	207	D
24	D	70	D	116	D	162	D	208	A
25	A	71	D	117	B	163	D	209	A
26	A	72	C	118	B	164	A	210	D
27	A	73	A	119	C	165	B	211	A
28	C	74	A	120	D	166	A	212	B
29	B	75	C	121	C	167	C	213	B
30	A	76	C	122	D	168	B	214	D
31	X	77	D	123	A	169	A	215	D
32	D	78	D	124	D	170	A	216	D
33	C	79	C	125	D	171	D	217	D
34	C	80	D	126	A	172	C	218	C
35	C	81	C	127	B	173	A	219	C
36	B	82	D	128	A	174	C	220	X
37	C	83	D	129	B	175	A		
38	C	84	C	130	A	176	D		
39	D	85	B	131	A	177	D		
40	D	86	B	132	B	178	C		
41	A	87	C	133	A	179	A		
42	D	88	A	134	B	180	D		
43	C	89	D	135	B	181	A		
44	B	90	C	136	B	182	A		
45	A	91	D	137	A	183	A		