

# University of Health Sciences, Lahore



Total MCQs: 220

Max. Marks: 1100

## ENTRANCE TEST – 2013

For F.Sc. and Non-F.Sc. Students  
Time Allowed: 150 minutes

### Instructions:

- Read the instructions on the MCQs Response Form carefully.
- Choose the **Single Best Answer** for each question.
- Candidates are strictly prohibited from giving any identification mark except Roll No. & Signature in the specified columns only.

## COMPULSORY QUESTION FOR IDENTIFICATION

**Q-ID. What is the color of your Question Paper?**

A) White.

**C) Pink.**

B) Blue.

D) Green.

**Ans: Colour of your Question Paper is Pink.**

**Fill the Circle Corresponding to Letter 'C' against 'ID' in your MCQ response form (Exactly as shown in the diagram).**

	A	B	C	D
ID	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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## PHYSICS

**Q.1 The wavelength ' $\lambda$ ' of a wave depends on the speed ' $v$ ' of the wave and its frequency ' $f$ '. Decide which of the following is correct?**

A)  $f = v \lambda$

C)  $f = \frac{v}{\lambda}$

B)  $f = \frac{\lambda}{v}$

D)  $f = v \lambda^{-2}$

**Q.2 Name the quantity which can be measured by using base unit ' $\text{kgm}^2\text{s}^{-3}$ '**

A) Weight

C) Power

B) Pressure

D) Work

**Q.3 Ratio of moment of inertia of two objects 'A' and 'B' is 2:3. Which one of the following is the ratio of torques of 'A' and 'B' respectively, if both are being rotated with constant angular acceleration?**

A) 3:4

C) 3:2

B) 2:3

D) 4:3

**Q.4 Due to some mechanical fault, a lift falls freely from the top of a multistory building. Which of the followings is the apparent weight of a man inside the lift, if mass of man is 80 kg while value of ' $g$ ' is  $10 \text{ ms}^{-2}$ ?**

A) 900 N

C) 800 N

B) Zero

D) 700 N

**Q.5 Stokes' Law is given as:**

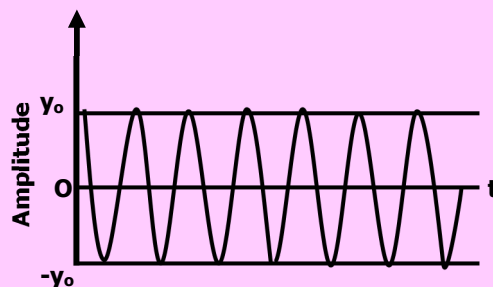
A)  $F = 6\pi\eta r^2v$

C)  $F = 6\pi\eta r v^{-1}$

B)  $F = 6\pi\eta r v$

D)  $F = 6\pi^2\eta r^3v$

- Q.6 The product of cross-sectional area of the pipe and the fluid speed at any point along the pipe:**  
 A) Remains constant C) Exponentially increases  
 B) Is zero D) Exponentially decreases
- Q.7 A small leak is developed in a large water storage tank. If the height of water above leakage is 10 m, then find the speed of efflux through the leak:**  
 A) 14 m/sec C) 9.8 m/sec  
 B) 10 m/sec D) 20 m/sec
- Q.8 The minimum distance from the eye at which an object can be seen clearly without strain is called:**  
 A) Focal point C) Yield point  
 B) Near point D) Far point
- Q.9 In the diffraction of light around an obstacle, the angle of diffraction is increased then:**  
 A) The wavelength of incident light wave is increased C) The amplitude of the incident light wave is increased  
 B) The wavelength of incident light wave is decreased D) The amplitude of the incident light wave is decreased
- Q.10 An object 15 cm from a lens produces a real image 30 cm from the lens. What is the focal length of the lens?**  
 A) +15 cm C) +10 cm  
 B) +20 cm D) +25 cm
- Q.11 What is the formula for critical angle in case of light through two mediums having refractive indexes  $n_1$  and  $n_2$  such that  $n_1 > n_2$ ?**  
 A)  $\sin^{-1} \left( \frac{n_1}{n_2} \right)$  C)  $\cos^{-1} \left( \frac{n_2}{n_1} \right)$   
 B)  $\cos^{-1} \left( \frac{n_1}{n_2} \right)$  D)  $\sin^{-1} \left( \frac{n_2}{n_1} \right)$
- Q.12 For vibrating mass-spring system, the expression of kinetic energy at any displacement 'x' is given by:**  
 A)  $\frac{1}{2} kx_0^2 \left( 1 - \frac{x^2}{x_0^2} \right)$  C)  $\frac{1}{2} m\omega \left( 1 - \frac{x^2}{x_0^2} \right)$   
 B)  $\frac{1}{2} kx_0^2$  D)  $\frac{1}{2} m\omega^2 x_0$
- Q.13 Speed of sound through a gas is measured as 340 m/s at pressure  $P_1$  and temperature  $T_1$ . What will be the speed of sound if pressure of gas is doubled but temperature is kept constant?**  
 A) 342 m/s C) 170 m/s  
 B) 340 m/s D) 680 m/s
- Q.14 The stress-strain graph, deduced the following limits successively:**  
 A) Proportional limit, yield limit, elastic limit C) Proportional limit, elastic limit, yield limit  
 B) Yield limit, elastic limit, proportional limit D) Elastic limit, proportional limit, yield limit
- Q.15 Variation of amplitude with respect to time for an oscillation object is shown in figure.**



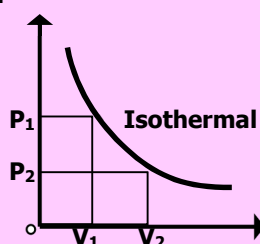
**Identify the oscillation:**

- A) Damped C) Undamped  
 B) Critical D) Heavily damped

- Q.16** A 4.0 m long wire is subjected to stretching force and its length increases by 40 cm. The percent elongation which the wire undergoes is:  
 A) 0.10 %  
 B) 40 %  
 C) 10 %  
 D) 20 %
- Q.17** What is the value of universal gas constant?  
 A)  $8314 \text{ Jmol}^{-1}\text{K}^{-1}$   
 B)  $83.14 \text{ Jmol}^{-1}\text{K}^{-2}$   
 C)  $831.4 \text{ Jmol}^{-1}\text{K}^{-1}$   
 D)  $8.314 \text{ Jmol}^{-1}\text{K}^{-2}$

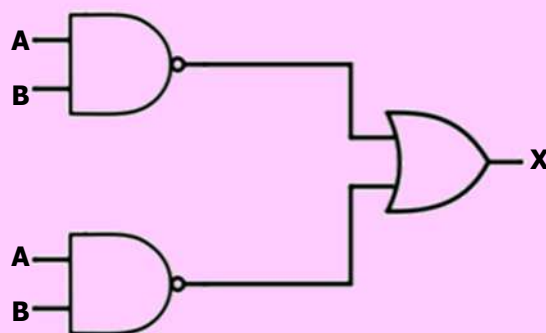
- Q.18** A gas sample contains three molecules each having speed  $1 \text{ ms}^{-1}$ ,  $2 \text{ ms}^{-1}$ ,  $3 \text{ ms}^{-1}$ . What is the mean square speed?  
 A)  $14/3 \text{ m/s}$   
 B)  $6 \text{ m/s}$   
 C)  $2 \text{ m/s}$   
 D)  $\sqrt{14/3} \text{ m/s}$
- Q.19** What is the factor upon which change in internal energy of an ideal gas depends?  
 A) Change in volume  
 B) Change in temperature and volume  
 C) Change in temperature  
 D) Path followed to change internal energy

- Q.20** What will be the mathematical form of first law of thermodynamics for a system whose variation of volume by pressure is shown?



- A)  $Q = U$   
 B)  $U = W$   
 C)  $Q = U/W$   
 D)  $Q = W$
- Q.21** For a heat engine 'A' ratio of  $Q_1$  to  $Q_2$  is  $2/3$  while that of heat engine 'B', ratio of  $Q_2$  to  $Q_1$  is  $1/3$ . What is the value  $\eta_A : \eta_B$ ?  
 A) 1:3  
 B) 1:2  
 C) 2:3  
 D) 2:1
- Q.22** What is the charge stored on a  $5 \mu\text{F}$  capacitor charged to potential difference of 12 V?  
 A)  $60 \mu\text{C}$   
 B)  $2.4 \text{ C}$   
 C)  $2.4 \mu\text{C}$   
 D)  $60 \text{ C}$
- Q.23** Which of the following is the proper way to study the sinusoidal wave form of voltage?  
 A) Voltage is connected to 'Y' input and time base is switched on.  
 B) Voltage is connected to 'X' input and time base is switched off.  
 C) Voltage is connected to 'Y' input and time base is switched off.  
 D) Voltage is connected to 'X' input and time base is switched on.
- Q.24** 12-volt battery is applied across 6-ohm resistance to have a steady flow of current. What must be the required potential difference across the same resistance to have a steady current of one ampere?  
 A) 12 V  
 B) 6 V  
 C) 1 V  
 D) 3 V
- Q.25** A solenoid is cut into two halves. Magnetic induction due to same current in each half will be:  
 A) Half of the original  
 B) Double of the original  
 C) Same as original  
 D) Four times of the original
- Q.26** A long straight current carrying conductor has current directed from bottom to top when held vertically. What will be the direction of magnetic field lines when observed from below the conductor?  
 A) Clockwise  
 B) Anti clockwise  
 C) Vertically upward  
 D) Vertically downward

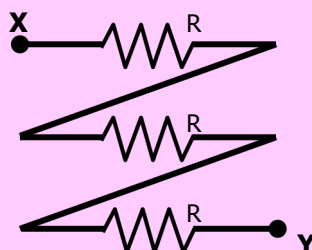
Q.27 What is the output Boolean expression of logic diagram shown in figure below:



- A)  $(\overline{A + B}).(\overline{A + B})$   
 B)  $(\overline{A + B})(\overline{A + B})$

- C)  $\overline{A}.B + \overline{A}.B$   
 D)  $\overline{AB} + \overline{AB}$

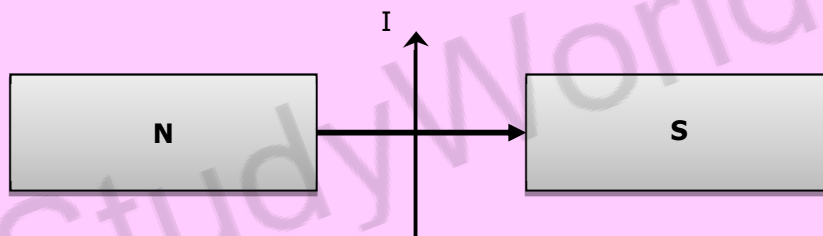
Q.28 Three resistors each having value 'R' are connected as shown in figure. What is the equivalence resistance between 'X' and 'Y'?



- A) R  
 B)  $R/3$

- C)  $3R$   
 D)  $R^3$

Q.29 The diagram shows a wire, carrying a current 'I', placed between the poles of magnet: In which direction does the force on the wire act?



- A) Towards the 'N' pole of the magnet  
 B) Downwards

- C) Upwards  
 D) Towards the 'S' pole of the magnet

Q.30 X-rays from a given X-ray tube operating under specified conditions have a minimum wavelength. The value of this minimum wavelength could be reduced by:

- A) Cooling the target  
 B) Reducing the temperature of the filament

- C) Increasing the potential difference between the cathode and the target  
 D) Reducing the pressure in the tube

Q.31 Helium-neon lasers are used for the:

- A) Precise measurement of range finding  
 B) Optical fiber communication systems

- C) Surveying for construction of tunnels  
 D) Welding detached bone of body

Q.32 What is the type of characteristic X-ray photon whose energy is given by relation ' $hf = E_M - E_K$ '?

- A) K - alpha  
 B) M - alpha

- C) K - beta  
 D) M - beta

Q.33 Kinetic energy of electrons by applying potential difference  $V_1$  across the x-ray tube is  $KE_1$  while  $V_2$  potential difference produce kinetic energy equal to  $KE_2$ . What will be the value of  $KE_1:KE_2$  if ratio of potential difference  $V_1:V_2 = 2:3$ ?

- A) 3:2  
 B) 4:9

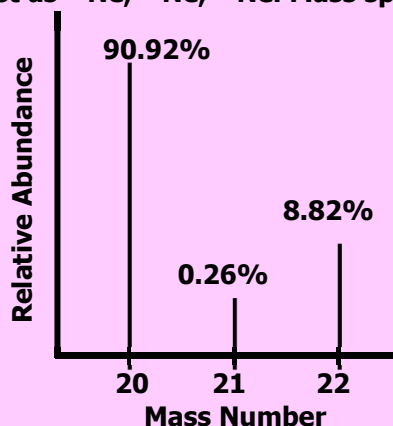
- C) 9:4  
 D) 2:3

- Q.34** What will be the relation for the speed of electron accelerated towards the target in X-ray tube by applying potential difference 'V', take mass of electron 'm' and charge on electron 'e'?
- A)  $v = \sqrt{\frac{2Ve}{m}}$  C)  $v = \sqrt{\frac{2V}{me}}$   
 B)  $v = \sqrt{\frac{2me}{V}}$  D)  $v = \sqrt{2meV}$
- Q.35** For what CAT stands in X-ray technology?
- A) Capacitor Amplifier Transistor C) Cathode Anode Technique  
 B) Computerized Axial Tomography D) Current Amplification Technology
- Q.36** During the production of LASER, when the excited state  $E_2$  contains more number of atoms than the ground state  $E_1$ , the state is known as:
- A) Population inversion C) Excited state  
 B) Ground State D) Metastable state
- Q.37** In cloud chamber the path of  $\beta$ -particles is:
- A) Straight, thick, short C) Thin, wavy, longer  
 B) Thin, wavy, shorter D) Thin, straight, short
- Q.38** Among the three types of radioactive radiation, which have strongest penetration power?
- A) Alpha C) Beta  
 B) Gamma D) All have same penetration power
- Q.39** Emission of alpha decay from a radioactive substance causes:
- A) Decreases in 'Z' by 4 and decreases in 'A' by 2 C) Decreases in 'Z' by 1 and 'A' remains same  
 B) Decreases in 'A' by 1 and 'Z' remains same D) Decreases in 'A' by 4 and decreases in 'Z' by 2
- Q.40** 10 Joule of energy is absorbed by 10-gram mass from a radioactive source. What is the absorbed dose?
- A) 1 gray C) 10 gray  
 B) 1000 gray D) 100 gray
- Q.41** Isotopes are those nuclei of an element that have:
- A) Same mass number but different atomic number C) Different mass number as well as atomic number  
 B) Same mass number as well as atomic number D) same atomic number but different mass number
- Q.42** Which one of the following emission takes place in a nuclear reaction?
- ${}_{90}\text{Th}^{234} \longrightarrow {}_{91}\text{Pa}^{232} + \underline{\hspace{1cm}}$
- A) Alpha C) Beta  
 B) Gamma D) Photons
- Q.43** Emission of radiation from radioactive substance is:
- A) Dependent on both temperature and pressure C) Independent of both temperature and Pressure  
 B) Independent of temperature but dependent on pressure D) Independent of pressure but dependent on temperature
- Q.44** In a simple harmonic motion with a radius ' $x_0$ ', the velocity of the particle at any point is:
- A)  $v = \omega\sqrt{x_0^2 - x^2}$  C)  $v = \omega\sqrt{(x_0 - x)}$   
 B)  $v = \omega(x^2 - x_0^2)$  D)  $v = \omega\sqrt{(x - x_0)}$

## CHEMISTRY

- Q.45** Hydrogen burns in chlorine to produce hydrogen chloride. The ratio of masses of reactants in chemical reaction is:
- $\text{H}_2 + \text{Cl}_2 \longrightarrow 2\text{HCl}$
- A) 1:35.5 C) 1:71  
 B) 2:35.5 D) 2:70

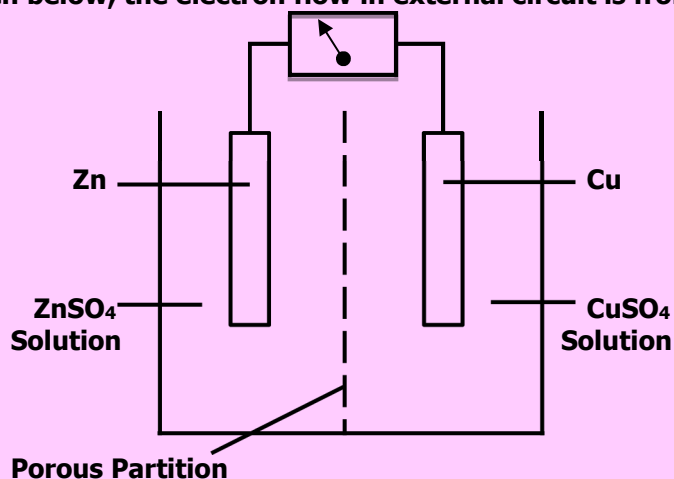
**Q.46** A sample of Neon is found to exist as  $^{20}\text{Ne}$ ,  $^{21}\text{Ne}$ ,  $^{22}\text{Ne}$ . Mass spectrum of 'Ne' is as follow:



**What is the relative atomic mass (A, value) of Neon?**

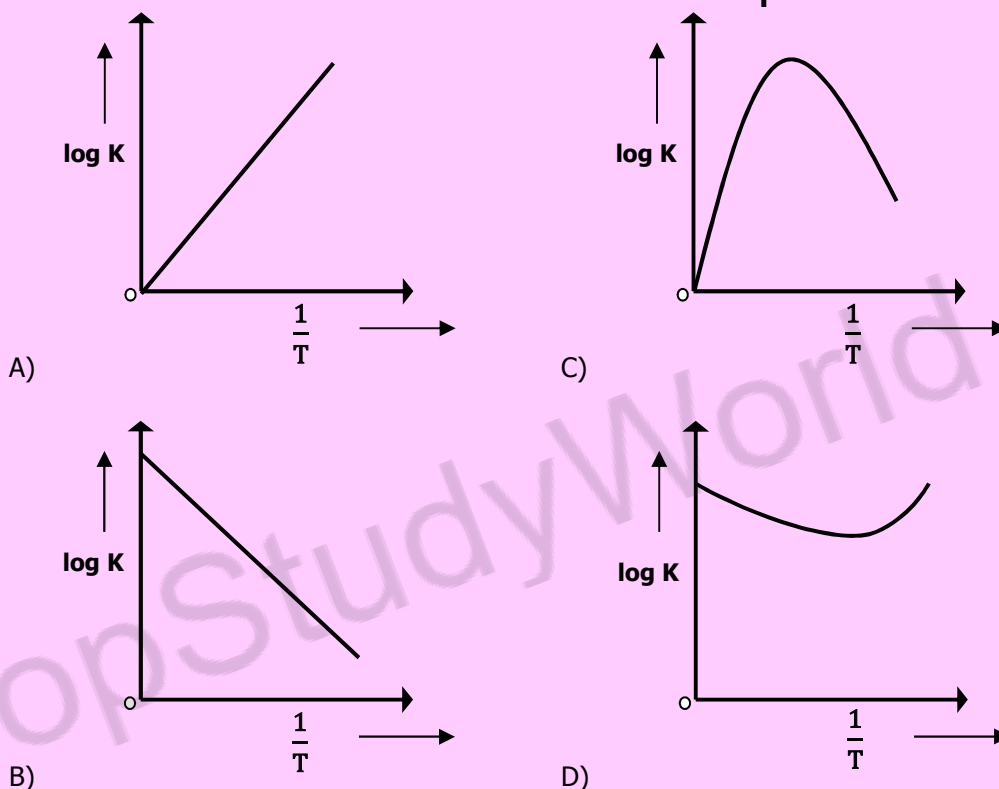
- A) 20.18  
B) 20.28  
C) 20.10  
D) 20.22
- Q.47** The coordination number of  $\text{Na}^+$  in  $\text{NaCl}$  crystal is:  
A) 6  
B) 2  
C) 4  
D) 8
- Q.48** There are four gases  $\text{H}_2$ ,  $\text{He}$ ,  $\text{N}_2$  and  $\text{CO}_2$  at  $0^\circ\text{C}$ . Which gas shows greater non-ideal behavior?  
A)  $\text{He}$   
B)  $\text{CO}_2$   
C)  $\text{H}_2$   
D)  $\text{N}_2$
- Q.49** Correct order of energy in the given subshells is:  
A)  $5s > 3d > 3p > 4s$   
B)  $5s > 3d > 4s > 3p$   
C)  $3p > 3d > 5s > 4s$   
D)  $3p > 3d > 4s > 5s$
- Q.50** Number of electrons in the outermost shell of chloride ion ( $\text{Cl}^-$ ) is:  
A) 17  
B) 3  
C) 1  
D) 8
- Q.51** According to valence shell electron pair repulsion theory, the repulsive forces between the electron pair of central atom of molecule are in the order:  
A) Lone Pair - Lone Pair > Lone Pair - Bond Pair > Bond Pair - Bond Pair  
B) Lone Pair - Bond Pair > Lone Pair - Lone Pair > Bond Pair - Bond Pair  
C) Bond Pair - Bond Pair > Lone Pair - Lone Pair > Lone Pair - Bond Pair  
D) One Pair - Bond Pair > Bond Pair - Bond Pair > Lone Pair - Lone Pair
- Q.52** In crystal lattice of ice, each O-atom of water molecule is attached to:  
A) Four H-atoms  
B) Three H-atoms  
C) One H-atom  
D) Two H-atoms
- Q.53** Heat of formation ( $\Delta H_f^\circ$ ) for  $\text{CO}_2$  is:  
A)  $-394 \text{ kJ/mole}$   
B)  $+394 \text{ kJ/mole}$   
C)  $-294 \text{ kJ/mole}$   
D)  $-390 \text{ kJ/mole}$
- Q.54** Reactants have high energy than products in:  
A) Exothermic reactions  
B) Endothermic reactions  
C) Photochemical reactions  
D) Non-spontaneous reactions
- Q.55** If  $18.0 \text{ g}$  of glucose is dissolved in  $1 \text{ kg}$  of water, boiling point of this solution should be:  
A)  $100.52^\circ\text{C}$   
B)  $100.00^\circ\text{C}$   
C)  $100.052^\circ\text{C}$   
D) Less than  $100^\circ\text{C}$
- Q.56** Molal freezing point constant of water is:  
A) 1.86  
B) 2.86  
C) 11.86  
D) 0.52

**Q.57** In the figure given below, the electron flow in external circuit is from:



- A) Copper to zinc electrode  
 B) Right to left  
 C) Porous partition to zinc electrode  
 D) Zinc to copper electrode

**Q.58** By considering Arrhenius equation, the graph between ' $\frac{1}{T}$ ' and ' $\log K$ ' given a curve of the type:



**Q.59** Which one of the following is a redox reaction?

- A)  $\text{NaCl} + \text{AgNO}_3 \longrightarrow \text{NaNO}_3 + \text{AgCl}$   
 B)  $2\text{Cl}^- \longrightarrow \text{Cl}_2 + 2\text{e}^-$   
 C)  $2\text{Na} + \text{Cl}_2 \longrightarrow 2\text{NaCl}$   
 D)  $\text{Na}^+ + 1\text{e}^- \longrightarrow \text{Na}$

**Q.60** The chemical substance, when dissolved in water, gives " $\text{H}^+$ " is called:

- A) Acid  
 B) Base  
 C) Amphoteric  
 D) Neutral

**Q.61** The ' $\text{pH}$ ' of our blood is:

- A) 6.7 – 8  
 B) 7.9  
 C) 7.5  
 D) 7.35 – 7.4

**Q.62** In zero order reactions, the rate is independent of:

- A) Concentration of the product  
 B) Concentration of the reactant  
 C) Temperature of the reaction  
 D) Surface area of the product



**Q.63 What is the trend of melting and boiling point of the elements of short periods as we move from left to right in a periodic table?**

- A) Melting and boiling points first decrease then increase  
 B) Melting and boiling points increase gradually  
 C) Melting and boiling points first increase then decrease  
 D) Melting and boiling points decrease gradually

**Q.64 Along a period, atomic radius decreases. This gradual decrease in radius is due to:**

- A) Increase in number of electrons in valence shells  
 B) Increase in number of protons in the nucleus  
 C) Decrease in number of shells  
 D) Increase in number of shells

**Q.65 Alkaline earth metal oxides react with water to give hydroxides. The solubility of alkaline earth metal oxides in water increases as we move from top to bottom in a group. Which of the following alkaline earth metal oxides is least soluble in water?**

- A) MgO  
 B) CaO  
 C) BaO  
 D) SrO

**Q.66 The electronic structure of carbon monoxide is represented as:**

- A)  $\text{:C} \equiv \text{O:}$   
 B)  $\text{:C} \equiv \ddot{\text{O}}:$   
 C)  $\text{C} \equiv \ddot{\text{O}}:$   
 D)  $\dot{\text{C}} \equiv \ddot{\text{O}}$

**Q.67 Which one pair has the same oxidation state of 'Fe'?**

- A)  $\text{FeSO}_4$  and  $\text{FeCl}_3$   
 B)  $\text{FeCl}_2$  and  $\text{FeCl}_3$   
 C)  $\text{FeSO}_4$  and  $\text{FeCl}_2$   
 D)  $\text{Fe}_2(\text{SO}_4)_3$  and  $\text{FeSO}_4$

**Q.68 Oxidation state of 'Fe' in  $\text{K}_3[\text{Fe}(\text{CN})_6]$  is:**

- A) +2  
 B) +3  
 C) -6  
 D) -3

**Q.69 The nature of an aqueous solution of ammonia ( $\text{NH}_3$ ) is:**

- A) Amphoteric  
 B) Neutral  
 C) Acidic  
 D) Basic

**Q.70 Unpolluted rain water has a pH of:**

- A) 4.9  
 B) 5.6  
 C) 5.3  
 D) 7.0

**Q.71 In comparison with oxygen gas, a strong triple bond is present between two nitrogen atoms in a molecule and therefore nitrogen gas is:**

- A) Highly reactive gas  
 B) Completely inert like noble gases  
 C) Moderately reactive gas  
 D) Very less reactive gas

**Q.72 The catalyst used in the Haber's process is:**

- A) Magnesium oxide  
 B) Aluminium oxide  
 C) Silicon oxide  
 D) Iron crystals with metal oxide promoters

**Q.73 The cis-isomerism is shown by:**

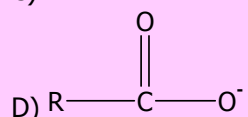
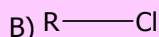
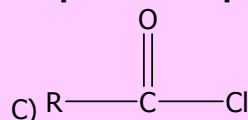
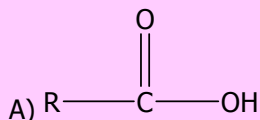
- A)   
 B)   
 C)   
 D) 

**Q.74 Select the nucleophile from the following examples:**

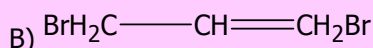
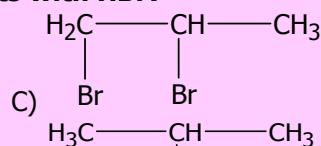
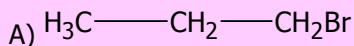
- A)  $\text{NO}_2$   
 B)  $\text{NH}_3$   
 C)  $\text{NO}_2^+$   
 D)  $\text{N}^+\text{H}_4$



**Q.75** The introduction of an alkyl group in benzene takes place in the presence of  $\text{AlCl}_3$  and:



**Q.76** What is the product formed when propene reacts with HBr?



**Q.77** The order of reactivity of alkyl halides towards nucleophile is:

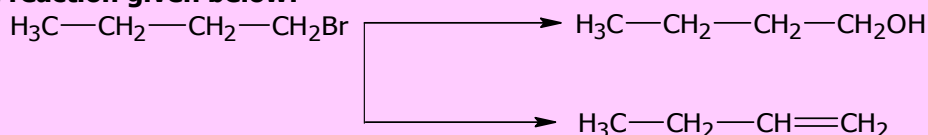
A)  $\text{RI} > \text{RBr} > \text{RF} > \text{RCI}$

C)  $\text{RF} > \text{RCI} > \text{RBr} > \text{RI}$

B)  $\text{RI} > \text{RBr} > \text{RCI} > \text{RF}$

D)  $\text{RF} > \text{RBr} > \text{RCI} > \text{RI}$

**Q.78** Consider the reaction given below:



**Which statement is true?**

A) Reagent for I is KOH in alcohol

C) Reaction I is Debromination

B) Reagent for II is KOH in aqueous medium

D) Reaction II is elimination

**Q.79** Consider the following reaction:



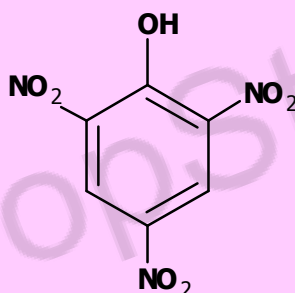
**What product(s) may be formed?**

A)  $\text{C}_2\text{H}_5\text{Cl}$  only

C)  $\text{C}_2\text{H}_5\text{Cl}$ ,  $\text{POCl}_3$  and  $\text{HCl}$

B)  $\text{C}_2\text{H}_5\text{Cl}$  and  $\text{HCl}$

D)  $\text{C}_2\text{H}_5\text{Cl}$  and  $\text{POCl}_3$



**Q.80** \_\_\_\_\_ is named as:

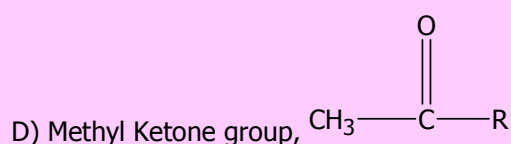
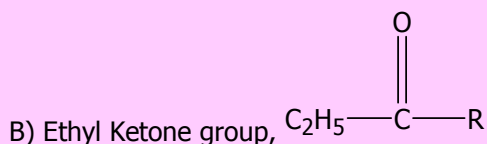
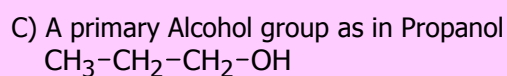
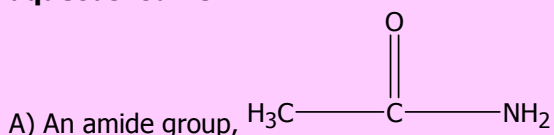
A) Picric acid

C) Benzoic acid

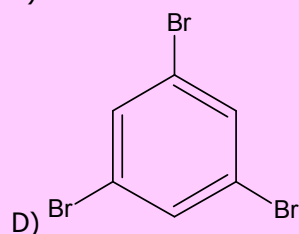
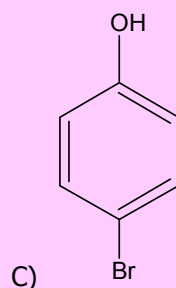
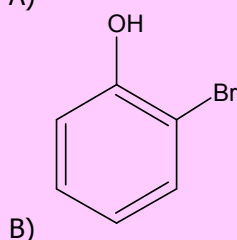
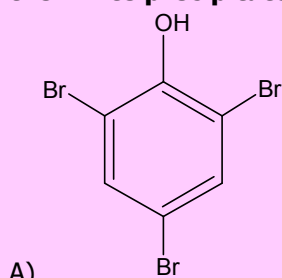
B) Nitro phenol

D) Malonic acid

**Q.81 Which group gives a yellow precipitate of triiodo methane when warmed with alkaline aqueous iodine?**



**Q.82** Aqueous phenol decolorizes bromine water to form a white precipitate. What is the structure of the white precipitate formed?

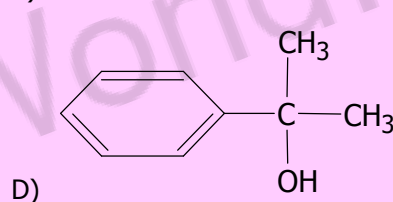
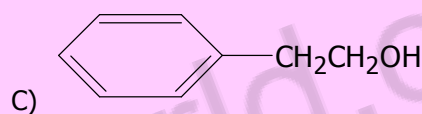
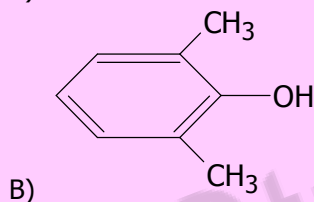
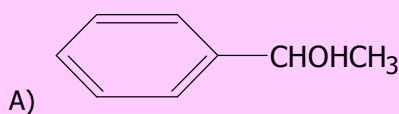
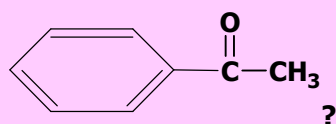


**Q.83** The relative strength of carboxylic acid, water, ethanol and phenol has the following order of increasing acid strength:

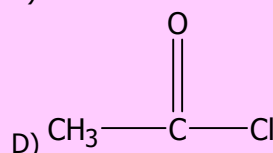
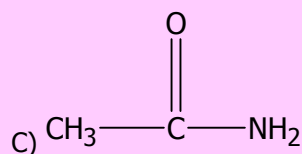
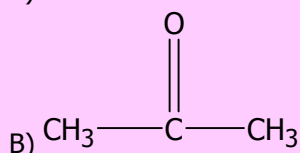
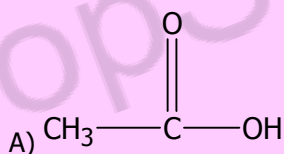
- A) Carboxylic Acid > Phenol > Ethanol > Water  
B) Carboxylic Acid > Phenol > Water > Ethanol

- C) Phenol > Carboxylic Acid > Ethanol > Water  
D) Water > Ethanol > Phenol > Carboxylic Acid

**Q.84** What is the structure of alcohol which on oxidation with acidified  $\text{Na}_2\text{Cr}_2\text{O}_7$  gives



**Q.85** Which of the following is the structure of ketone?



**Q.86** The formation of ester from acetic acid in presence of acid and ethanol is a:

- A) Nucleophilic substitution reaction  
B) Nucleophilic addition reaction

- C) Electrophilic substitution reaction  
D) Electrophilic addition reaction

**Q.87** Methyl cyanides, on boiling with mineral acids or alkalis yield:

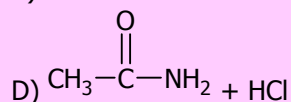
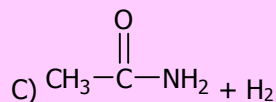
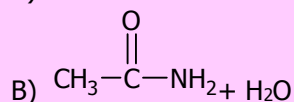
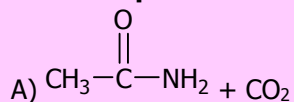
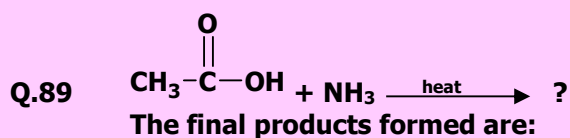
- A) Acetic acid  
B) Formic acid

- C) Propanoic acid  
D) Butanoic acid

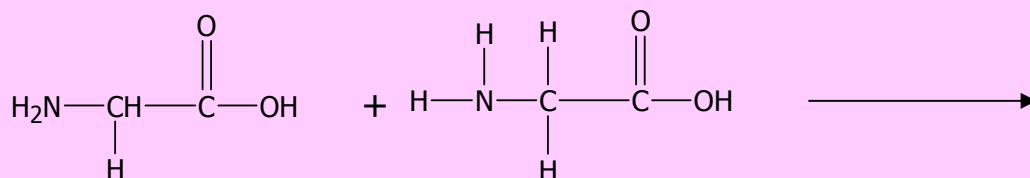
**Q.88** The amino acids which largely exist in dipolar ionic form are:

- A) Acidic amino acids  
B) Basic amino acids

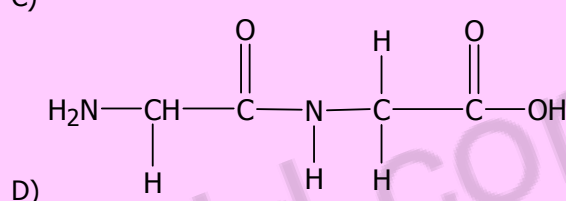
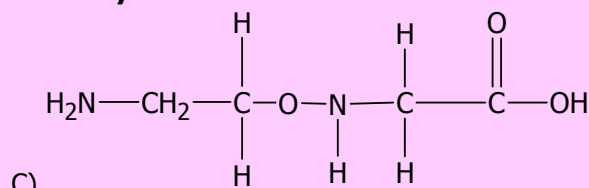
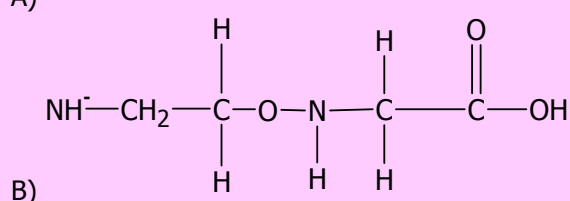
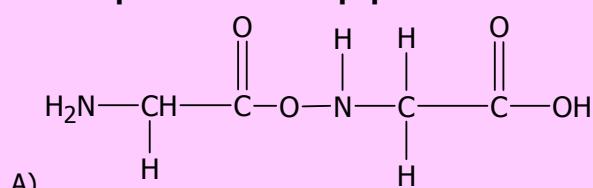
- C) Beta amino acids  
D) Alpha amino acids



**Q.90** The reaction:



Gives a product called dipeptide molecule represented by:



**Q.91** Two or more amino acids condensed to form protein by a peptide linkage which is resented between two atoms:

- A) C and C  
 B) O and C

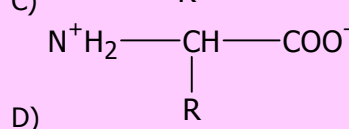
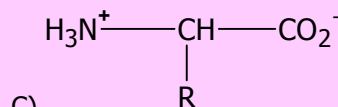
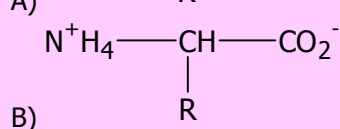
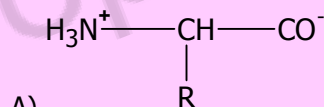
- C) C and N  
 D) C and H

**Q.92**  $\alpha$ -amino acids are compounds having carboxylic acid as well as amino functional groups attached to:

- A) Any H-atom in the molecule  
 B) Same carbon atom

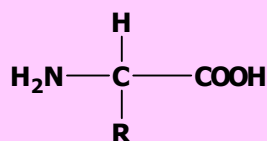
- C) Alternate carbon atoms  
 D) Neighboring carbon atoms

**Q.93** The formula of 'Zwitter ion' is represented by:



**Q.94** What is the name of amino acid,

- A) Glycine  
 B) Lysine



where 'R' is  $\text{CH}_3$  group?

- C) Aspartic acid  
 D) Alanine

**Q.95** Polyvinyl acetate (PVA) is colourless and non-toxic resin used as an adhesive and as a binder for making:

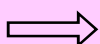
- A) Toys  
 B) Gramophone recorders

- C) Compact discs  
 D) Emulsion paints

- Q.96 Both ribose and deoxyribose are monosaccharides containing \_\_\_\_\_ carbon atoms.**  
 A) Four C) Five  
 B) Six D) Seven
- Q.97 The increased quantities of cholesterol in blood make plaque like deposits in the arteries causing:**  
 A) Cholera C) Heart attack  
 B) Down's syndrome D) Phenylketonuria
- Q.98 Polyvinyl chloride is an example of:**  
 A) Condensation polymer C) Biopolymer  
 B) Addition polymer D) Thermosetting polymer
- Q.99 Collagen is a fibrous protein present most abundantly in:**  
 A) Hair C) Tendons  
 B) Nail D) Arteries
- Q.100 Animals store glucose in the form of glycogen in:**  
 A) Stomach C) Liver and muscles  
 B) Mouth D) Small intestine
- Q.101 Aerobic decomposition of organic matter i.e. glucose by bacteria in water sediments produces:**  
 A) Propene C) Methane  
 B) Ethane D) Butane
- Q.102 The yellowish-brown color in photochemical smog is due to the presence of:**  
 A) Sulphur dioxide C) Carbon dioxide  
 B) Carbon monoxide D) Nitrogen dioxide

## ENGLISH

- Q.103 Indolence gives vent to \_\_\_\_ disposition in human life.**  
 A) Static C) Energetic  
 B) Enthusiastic D) Filthy
- Q.104 The Quaid's \_\_\_\_ enthusiasm led the Muslims Indo-Pak to independence.**  
 A) Simplified C) Onerous  
 B) Latent D) Threatening
- Q.105 He \_\_\_\_\_ the incident to the back of his mind.**  
 A) Revered C) Reagitated  
 B) Regulated D) Relegated
- Q.106 He \_\_\_\_\_ the day they had bought such a large house**  
 A) Hues C) Rues  
 B) Rows D) Dues



**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 From.**

- Q.107** Amjad was not conscious to the aberration he had committed in the public meeting. It was disliked by all and sundry.  
 A) B) C) D)
- Q.108** Late Agha Shahi was an outstanding genius in the international affairs. He was gifted of the acumen to judge the future events, judge the future events in advance.  
 A) B) C) D)

- Q.109** The old man was sitting quite bamboozled when the swindler deprived him from his pension money by his evil tricks.  
A) B) C) D)
- Q.110** The prime minister fired a broadside at the opposition leaders. A few of his remarks were not up at the mark.  
A) B) C) D)
- Q.111** Lucy is the diva which performance as an opera singer is peerless.  
A) B) C) D)
- Q.112** The police report exonerated Anwar of all charges of corruption and job was also restored.  
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) We should pay maximum accolade for our national heroes.  
B) We should pay maximum accolade in our national heroes.  
C) We should pay maximum accolade to our national heroes.  
D) We should pay maximum accolade from our national heroes.
- Q.114**  
A) Does any bodys knows why the latitudes close to the equator are called the horse latitudes?  
B) Do any body knows why the latitudes close to the equator are called the horse latitudes?  
C) Does any body knows why the latitudes close to the equator are called the horse latitudes?  
D) Does any body know why the latitudes close to the equator are called the horse latitudes?
- Q.115**  
A) Shelley is consider to be an idealist poet.  
B) Shelley is considering to be an idealist poet.  
C) Shelley is considers to be an idealist poet.  
D) Shelley is considered to be an idealist poet.
- Q.116**  
A) Pakistan cricket team forged an impregnable lead.  
B) Pakistan cricket team forged the impregnable lead.  
C) Pakistan cricket team forged against impregnable lead.  
D) Pakistan cricket team forged on impregnable lead.
- Q.117**  
A) A person which job involves calculating insurance risks and payments for insurance companies by studying how frequently fires, accidents, death etc. happen is called an actuary.  
B) A person who job involves calculating insurance risks and payments for insurance companies by studying how frequently fires, accidents, death etc. happen is called an actuary.  
C) A person whose job involves calculating insurance risks and payments for insurance companies by studying how frequently fires, accidents, death etc. happen is called an actuary.  
D) A person whose job involves calculating insurance risks and payments for insurance companies by studying how frequently fires, accidents, death etc. happen are called an actuary.
- Q.118**  
A) His addled brain refuse to think clearly and solve the problem.  
B) His addle brain refused to think clearly and solve the problem.  
C) His addle brain refuse to think clearly and solve the problem.  
D) His addled brain refused to think clearly and solve the problem.
- Q.119**  
A) The children had bloomed while their stay on the farm.  
B) The children had bloomed during their stay on the farm.  
C) The children had bloomed on their stay on the farm.  
D) The children was bloomed while their stay on the farm.

Q.120

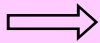
- A) I should had business acumen. C) I should has business acumen.  
B) I should have business acumen. D) I should may have been business acumen.

Q.121

- A) No one is casting aspersions to you. C) No one is casting aspersions on you.  
B) No one is casting aspersions at you. D) No one is casting aspersions with you.

Q.122

- A) This is one of the bifurcated road. C) This is one of them bifurcated road  
B) This is one of the bifurcated roads. D) This is one off the bifurcated road.



**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 **HEINOUS**

- A) Heroic C) Odious  
B) Humorous D) Hone

Q.124 **ILLICIT**

- A) Intimate C) Illegal  
B) Licentious D) Limited

Q.125 **MOTIF**

- A) Tough C) Motion  
B) Stuff D) Design

Q.126 **INCULCATE**

- A) Calculate C) Instigate  
B) Instill D) Stimulate

Q.127 **INIQUITY**

- A) Inequality C) Wickedness  
B) Injustice D) Efficiency

Q.128 **INTRANSIGENT**

- A) Parallel C) Adventurous  
B) Inflexible D) Spirited

Q.129 **LAMPOON**

- A) Irk C) Lacerate  
B) Gratification D) Ridicule

Q.130 **MESMERIZE**

- A) Objectify C) Amalgamate  
B) Modify D) Fascinate

Q.131 **OBLITERATE**

- A) Sanctify C) Annihilate  
B) Obscure D) Oplate

Q.132 **MALEVOLENCE**

- A) Empathy C) Hostility  
B) Maligning D) Management

## **BIOLOGY**

Q.133 **The simplest independent unit of life is known as:**

- A) Bacterial colony C) Chloroplast  
B) Cell D) DNA

- Q.134 The process by which unwanted structures within the cell are engulfed and digested within the lysosome is known as:**  
 A) Endocytosis  
 B) Exocytosis  
 C) Hydrolysis  
 D) Autophagy
- Q.135 The plants having foreign DNA incorporated into their cells are called:**  
 A) Clonal plants  
 B) Transgenic plants  
 C) Biotech plants  
 D) Tissue cultured plants
- Q.136 Pasteurization technique is widely used for preservation of:**  
 A) Water  
 B) Heat  
 C) Milk products  
 D) Vaccines
- Q.137 The production of genetically identical copies of organisms by asexual reproduction is called:**  
 A) Genetic engineering  
 B) Integrated disease management  
 C) Hydroponic culture technique  
 D) Cloning
- Q.138 The \_\_\_\_\_ model of plasma membrane suggests that proteins are embedded in lipid bilayer:**  
 A) Unit membrane  
 B) Fluid mosaic  
 C) Permeable  
 D) Ultracentrifuge
- Q.139 The function of nucleolus is to make:**  
 A) rDNA  
 B) Ribosomes  
 C) RNA  
 D) Chromosomes
- Q.140 Lipid metabolism is the function of:**  
 A) Mitochondria  
 B) Sarcoplasmic reticulum  
 C) RER  
 D) SER
- Q.141 The enzymes of lysosomes are synthesized on:**  
 A) RER  
 B) SER  
 C) Chloroplast  
 D) Golgi Apparatus
- Q.142 Centrioles are made up of \_\_\_\_\_ microtubules:**  
 A) 9  
 B) 27  
 C) 3  
 D) 12
- Q.143 Which of the following structures is absent in higher plants and found in animal cells:**  
 A) Centriole  
 B) Cytoskeleton  
 C) Mitochondria  
 D) Cytoplasm
- Q.144 The soluble part of cytoplasm or fluid that remains when all organelles are removed is known as:**  
 A) Solution  
 B) Gelatin material  
 C) Cytoskeleton  
 D) Cytosol
- Q.145 The outer membrane of the nuclear envelope is at places continuous with the:**  
 A) Golgi apparatus  
 B) Endoplasmic Reticulum  
 C) Lysozymes  
 D) Peroxisomes
- Q.146 Down's syndrome is a result of non-disjunction of \_\_\_\_\_ pair of chromosomes that fails to segregate:**  
 A) 21<sup>st</sup>  
 B) 22<sup>nd</sup>  
 C) 18<sup>th</sup>  
 D) 24<sup>th</sup>
- Q.147 \_\_\_\_\_ is most abundant carbohydrate in nature.**  
 A) Waxes  
 B) Glycerol  
 C) Starch  
 D) Cellulose
- Q.148 Which of the following is a keto sugar:**  
 A) Glyceraldehyde  
 B) Dihydroxy-acetone  
 C) Ribose  
 D) Glucose



**Q.149 Amino acid in which the R-group is hydrogen is:**

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

**Q.150 Acyl-glycerols like fats and oils are esters formed by condensation reaction between:**

- A) Fatty acids and water
- B) Fatty acids and alcohols
- C) Fatty acids and glucose
- D) Fatty acids and phosphates

**Q.151 Which of the following is purine:**

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

**Q.152 If the co-factor is covalently or tightly and permanently bonded to enzyme then it will be called:**

- A) Coenzyme
- B) Prosthetic group
- C) Activator
- D) Apoenzyme

**Q.153 Optimum pH value for the working of pancreatic lipase is:**

- A) 4.50
- B) 7.60
- C) 2.00
- D) 9.00

**Q.154 The view that active site of an enzyme is flexible and when a substrate combines with it, cause changes in enzyme structure is known as:**

- A) Lock & key model
- B) Induce fit model
- C) Sliding filament model
- D) Specificity model

**Q.155 All coenzymes are derived from:**

- A) Proteins
- B) Nucleic acids
- C) Carbohydrate
- D) Vitamins

**Q.156 Reverse transcription is used to make DNA copies of:**

- A) Host RNA
- B) Viral RNA
- C) Host DNA
- D) Viral DNA

**Q.157 Antibiotics are produced by fungi and certain bacteria of group:**

- A) Actinomycetes
- B) Oomycetes
- C) Ascomycetes
- D) Basidiomycetes

**Q.158 Which statement about bacteria is true:**

- A) Gram positive bacteria have more lipids in their cell wall
- B) Gram negative bacteria have more lipids in their cell wall
- C) Lipids are absent in cell wall of both gram positive and negative bacteria
- D) Both have equal amount of lipids

**Q.159 Fungi which cause thrush in humans:**

- A) Sarcomeres
- B) Candidiasis
- C) Lovastatin
- D) Aspergillus

**Q.160 When beef which is not properly cooked is consumed by humans, they become infected by:**

- A) Tape worm
- B) Hook worm
- C) Pin worm
- D) Round worm

**Q.161 Sleeping sickness in humans is caused by:**

- A) Trypanosoma
- B) Plasmodium
- C) Anopheles
- D) Andes

**Q.162 Schistosoma is a parasite that lives in the \_\_\_\_\_ of the host.**

- A) Intestine
- B) Kidney
- C) Liver
- D) Blood

**Q.163 The cavity between body wall and alimentary canal is:**

- A) Coelom
- B) Mesoderm
- C) Endoderm
- D) Mesoglea

- Q.164 The layer which forms the lining of digestive tract and glands of digestive system is:**  
 A) Ectoderm C) Endoderm  
 B) Mesoderm D) Mesoglea
- Q.165 Which one of the following vitamins is produced by microflora of large intestine?**  
 A) Vitamin K C) Vitamin A  
 B) Vitamin C D) Vitamin D
- Q.166 \_\_\_\_\_ is activated to \_\_\_\_\_ by Enterokinase/enteropeptidase enzyme secreted by the lining of duodenum:**  
 A) Pepsinogen, Pepsin C) Trypsinogen, Trypsin  
 B) Pepsinogen, Trypsin D) Chymotrypsinogen, Chymotrypsin
- Q.167 Which of the following are absorbed in the large intestine?**  
 A) Water and salts C) Salts and glycerol  
 B) Water and peptones D) Amino acids and sugars
- Q.168 Saliva is basically composed of water, mucus, amylase and:**  
 A) Sodium bicarbonate C) Sodium hydroxide  
 B) Sodium chloride D) Hydrocarbons
- Q.169 The total inside capacity of lungs is \_\_\_\_\_ for man.**  
 A) 6.7 liters C) 7 liters  
 B) 2.5 liters D) 5 liters
- Q.170 The average life span of red blood cell is about:**  
 A) Four months C) Five months  
 B) Two months D) One month
- Q.171 The lymphatic vessels of the body empty the lymph into blood stream at the:**  
 A) Abdominal vein C) Jugular vein  
 B) Subclavian vein D) Bile duct
- Q.172 Right atrium is separated from right ventricle by:**  
 A) Tricuspid valve C) Semilunar valve  
 B) Bicuspid valve D) Septum
- Q.173 Site of filtration in nephron is:**  
 A) Glomerulus and Bowman's capsule C) Ascending and descending arm  
 B) Proximal and Distal end D) Loop of Henle
- Q.174 Antidiuretic hormone increases the reabsorption of:**  
 A) Amino acids C) Ammonia  
 B) Salts D) Water
- Q.175 Active uptake of \_\_\_\_\_ in the ascending limb or thick loop of Henle is promoted by the action of aldosterone:**  
 A)  $K^+$  C)  $Ca^{++}$   
 B)  $Cl^-$  D)  $Na^+$
- Q.176 The process through which the body maintains the internal environment from the fluctuations of external environment is called as:**  
 A) Behavior of organisms C) Thermoregulation  
 B) Adaptation D) Homeostasis
- Q.177 Active pumping out of  $Na^+$  occurs at which part of nephron:**  
 A) Proximal tubule C) Ascending loop of Henle  
 B) Descending loop of Henle D) Collecting ducts
- Q.178 The structures which respond when they are stimulated by impulse coming through motor neuron are:**  
 A) Receptors C) Transducers  
 B) Responders D) Effectors

**Q.179 Thalamus and cerebrum are the part of:**

- A) Fore brain
- B) Mid brain
- C) Hind brain
- D) Spinal cord

**Q.180 There is also EVIDENCE that high levels of \_\_\_\_\_ may contribute to the onset of Alzheimer's disease:**

- A) Mg
- B) Mo
- C) Al
- D) Ca

**Q.181 L-dopa or Levodopa is used to get some relief from??**

- A) Epilepsy
- B) Alzheimer's disease
- C) Parkinson's disease
- D) Dementia

**Q.182 Spermatogonia differentiate directly into?**

- A) Primary spermatocytes
- B) Secondary spermatocytes
- C) Spermatozoa
- D) Spermatids

**Q.183 Treponema palladium causes?**

- A) AIDS
- B) Genital herpes
- C) Syphilis
- D) Gonorrhea

**Q.184 What is the location of interstitial cells in testes?**

- A) Inside the seminiferous tubules
- B) Between the seminiferous tubules
- C) Among the germinal epithelial cells
- D) Around the testes

**Q.185 A type of cells in human testes which produce testosterone are called?**

- A) Germ cells
- B) Sertoli cells
- C) Interstitial cells
- D) Spermatocytes

**Q.186 The hormone produced from corpus luteum is:**

- A) Prolactin
- B) FSH
- C) Progesterone
- D) LH

**Q.187 The length of myofibril from one Z-band to the next is described as:**

- A) Sarcolemma
- B) Sarcoplasm
- C) Sarcomere
- D) Muscle fiber

**Q.188 The  $\text{Ca}^{++}$  ions released during a muscle fiber contraction attach with:**

- A) Myosin
- B) Actin
- C) Troponin
- D) Tropomyosin

**Q.189 The joint that allows the movement in several directions is called:**

- A) Hinge joint
- B) Ball and Socket joint
- C) Cartilaginous joint
- D) Fibrous joint

**Q.190 Where can we find H zone in the figure of fine structure of skeletal muscle's myofibril?**

- A) In the mid of A band
- B) In I-band
- C) Besides the Z-line
- D) Along the I-band

**Q.191 First vertebra of cervical region of vertebral column is known as:**

- A) Atlas
- B) Sacral
- C) Thoracic
- D) Axis

**Q.192 Chemically insulin and glucagon are:**

- A) Carbohydrates
- B) Proteins
- C) Lipids
- D) Nucleic acids

**Q.193 Hormones secreted by anterior pituitary and which controls the secretion of hormones of other endocrine glands are known as:**

- A) Release factor
- B) Inhibitor
- C) Accelerator
- D) Tropic or trophic hormones

- Q.194 Alpha cells of Islets of Langerhans secrete hormone called:**  
 A) Glucocorticoid C) Glucagon  
 B) Insulin D) Aldosterone
- Q.195 Which of the following is the function of glucagon hormone?**  
 A) Glucose to lipids C) Glucose to glycogen  
 B) Glucose to proteins D) Glycogen to glucose
- Q.196 In passive immunity which of the following components are injected into body?**  
 A) Antigens C) Serum  
 B) Immunogens D) Immunoglobulins
- Q.197 Which part of the antibody recognizes the antigen during immune response?**  
 A) Heavy part C) Light part  
 B) Variable part D) Consonant part
- Q.198 Two identical light chains and two identical heavy chains in antibody molecule are linked by:**  
 A) Disulphide bridges C) Glycerol bond  
 B) Peptide bond D) Ionic bond
- Q.199 Antibodies are produced against invading cells by:**  
 A) Lymphocytes C) Basophils  
 B) Basophils D) Neutrophils
- Q.200 In the structural diagram of an antibody molecule which portion is occupied by variable chains?**  
 A) Lower region C) Middle region  
 B) Upper region D) In between chains
- Q.201 Every molecule of NADH, fed into ETC produces:**  
 A) 2 ATP C) 4 ATP  
 B) 3 ATP D) 6 ATP
- Q.202 Final acceptor of electrons in respiratory chain is:**  
 A) Cytochrome a C) Cytochrome  $a^3$   
 B) Oxygen D) Cytochrome c
- Q.203 The end product of anaerobic respiration in humans and other mammals is:**  
 A) Pyruvic acid C) Lactic acid  
 B) Ethanol D) Glucose
- Q.204 A biochemical process which occurs within a cell to breakdown complex compounds to produce energy is called:**  
 A) Respiration C) Oxidation reduction  
 B) Photosynthesis D) Photophosphorylation
- Q.205 Which part of chlorophyll molecule absorbs light?**  
 A) Phytol C) Pyrrole  
 B) Porphyrin ring D) Thylakoid membrane
- Q.206 The DNA molecule formed from messenger-RNA by reverse transcriptase is called??**  
 A) Complementary DNA C) Chimeric DNA  
 B) Recombinant DNA D) Plasmid DNA
- Q.207 The agent which separates the two strands of DNA in PCR is??**  
 A) DNA ligase C) Heat  
 B) Primer D) Helicase
- Q.208 Cystic fibrosis patient lack a gene that codes for trans-membrane carrier of??**  
 A)  $\text{Na}^+$  ions C)  $\text{Ca}^{++}$  ions  
 B)  $\text{Cl}^-$  ions D)  $\text{K}^+$  ions

**Q.209 The phage commonly used as a vector in genetic engineering is?**

- A) Lambda phage
- B) Gamma phage
- C) T<sub>2</sub> phage
- D) T<sub>4</sub> phage

**Q.210 Restriction endonucleases are naturally occurring enzymes of:**

- A) Viruses
- B) Bacteria
- C) Fungi
- D) Plants

**Q.211 In an ecosystem mycorrhizae are an example of:**

- A) Predation
- B) Symbiosis
- C) Mutualism
- D) Parasitism

**Q.212 As a result of destruction of ozone layer there is significant increase in:**

- A) Ultra-violet radiations
- B) Greenhouse gases
- C) Nitrogen oxide
- D) Sulphur oxide

**Q.213 Higher rate of a biological activity in a nutrient rich pond water is called:**

- A) Water pollution
- B) Air pollution
- C) Eutrophication
- D) Industrial effects

**Q.214 Living part of ecosystem is:**

- A) lithosphere
- B) Hydrosphere
- C) Community
- D) Biosphere

**Q.215 A living association between two living organisms of different species which is beneficial to both the partners is called:**

- A) Commensalism
- B) Parasitism
- C) Mutualism
- D) Predation

**Q.216 The structures which are reduced during the course of evolution and have no apparent function are called:**

- A) Regenerated organs
- B) Vestigial organs
- C) Saltatory organs
- D) Useless organs

**Q.217 When a gene suppresses the effect of another gene at another locus the phenomenon is termed as:**

- A) Over dominance
- B) Pleiotropy
- C) Epistasis
- D) Co-dominance

**Q.218 Phenylketonuria is an example of:**

- A) Polyploidy
- B) Transmutation
- C) Inversion
- D) Point mutation

**Q.219 A situation in which one gene affects two or more unrelated characters is called:**

- A) Epistasis
- B) Pleiotropy
- C) Dominance relation
- D) Polygenes

**Q.220 The mutation which causes change in the sequence of DNA is called:**

- A) Point mutation
- B) Chromosomal mutation
- C) Deletion
- D) Inversion

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# UNIVERSITY OF HEALTH SCIENCES, LAHORE

## Entrance Test – 2013

For admission to Medical / Dental Institutions of the Punjab

### ANSWER KEY

The answer key to the questions of Entrance Test 2013 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	B	92	B	138	B	184	B
1	C	47	A	93	A	139	B	185	C
2	D	48	B	94	D	140	D	186	C
3	B	49	B	95	D	141	A	187	C
4	B	50	D	96	C	142	B	188	C
5	B	51	A	97	C	143	A	189	B
6	A	52	A	98	B	144	D	190	A
7	A	53	A	99	C	145	A	191	A
8	B	54	A	100	C	146	A	192	B
9	A	55	C	101	C	147	D	193	D
10	C	56	A	102	D	148	B	194	C
11	D	57	D	103	A	149	A	195	D
12	D	58	B	104	C	150	B	196	D
13	A	59	C	105	D	151	A	197	B
14	C	60	A	106	C	152	B	198	A
15	C	61	D	107	A	153	D	199	A
16	C	62	B	108	B	154	B	200	B
17	B	63	C	109	B	155	D	201	B
18	A	64	D	110	D	156	D	202	B
19	C	65	A	111	A	157	A	203	C
20	D	66	A	112	A	158	B	204	C
21	B	67	C	113	C	159	B	205	B
22	A	68	A	114	D	160	A	206	A
23	A	69	A	115	D	161	A	207	C
24	B	70	B	116	D	162	D	208	B
25	C	71	D	117	C	163	A	209	A
26	A	72	D	118	D	164	C	210	B
27	D	73	C	119	B	165	A	211	B
28	C	74	B	120	B	166	C	212	A
29	B	75	B	121	C	167	A	213	C
30	C	76	D	122	B	168	A	214	D
31	C	77	B	123	C	169	D	215	C
32	C	78	D	124	B	170	A	216	B
33	D	79	B	125	D	171	B	217	C
34	A	80	A	126	B	172	A	218	D
35	B	81	D	127	C	173	A	219	B
36	A	82	A	128	B	174	D	220	A
37	C	83	B	129	D	175	D		
38	B	84	A	130	D	176	D		
39	D	85	B	131	C	177	C		
40	B	86	A	132	C	178	D		
41	D	87	A	133	B	179	A		
42	C	88	D	134	D	180	C		
43	C	89	B	135	B	181	C		
44	B	90	A	136	C	182	A		
45	A	91	C	137	D	183	C		