

# MCAT

## FULL LENGTH PAPER-7

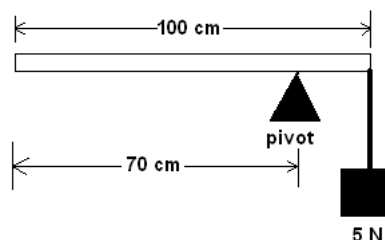
AS PER UHS PATTERN

Total MCQs: 220  
Max. Marks: 1100  
Minute

Time Allowed: 150

### PHYSICS

- Q.1 If  $P$  is the momentum of an object of mass  $m$ , the expression  $\frac{P^2}{m}$  has base units identical to
- A) Energy  
B) Force  
C) Power  
D) Velocity
- Q.2 The velocity of a particle is given in terms of time ' $t$ ' by the equation  $v = at$ . The dimensions of  $a$  are
- A)  $L^2$   
B)  $LT^2$   
C)  $LT^{-2}$   
D)  $L$
- Q.3 A uniform rod of weight 2 N is pivoted at 70 cm mark. When the rod is horizontal, what is the resultant torque about the pivot?

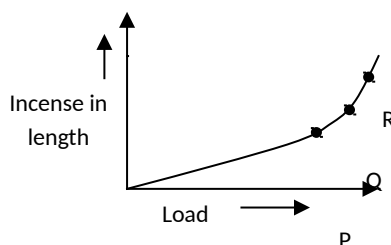


- A) zero  
B) 1.9 N m  
C) 1.1 N m  
D) 1.5 N m
- Q.4 Torque is \_\_\_\_\_ of moment arm and force
- A) Scalar product  
B) Vector product  
C) Product  
D) None of these
- Q.5 A steel ball of mass  $m$  falls in a viscous liquid with a terminal velocity  $V$ . Another steel ball of mass  $64m$  will fall through the same liquid with a terminal velocity
- A)  $V$   
B)  $4V$   
C)  $8V$   
D)  $16V$
- Q.6 A ball of mass  $m$  and radius  $r$  is released in a viscous medium of negligible density. Its terminal velocity is proportional to
- A)  $\sqrt{\frac{r}{m}}$   
B)  $\frac{m}{r}$   
C)  $\frac{r}{m}$   
D)  $\sqrt{\frac{m}{r}}$
- Q.7 An incompressible fluid flows steadily through a cylindrical pipe which has radius  $2R$  at point A and radius  $R$  at point B further along the flow direction. If the velocity at A is  $V$ , then that at B is
- A)  $\frac{V}{2}$   
B)  $V$   
C)  $2V$   
D)  $4V$
- Q.8 A physical system under going forced vibrations is known as
- A) harmonic oscillator  
B) free oscillator  
C) forced harmonic oscillator  
D) driven harmonic oscillator.
- Q.9 If the phase difference between two interfering beams is  $\pi$ . The path difference is
- A)  $\lambda/2$   
B)  $\lambda$   
C)  $3\lambda/2$   
D)  $2\lambda$

PIONEER	JOHAR TOWN	MATRIC	FAISAL TOWN	TOWNSHIP
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OUTFALL	RAVI ROAD	SHADMAN	MUGHALPURA	CHAUBURJI

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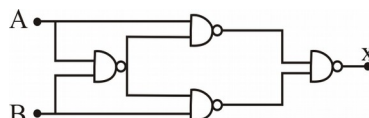
**Q.10** In the load-extension graph for a wire, the elastic limit lies between the points



- (a) R and P  
(b) Q and P  
(c) P and R  
(d) Q and R
- Q.11** The thyroid uptake scans are obtained using  
A) iodine-125  
B) iodine-131  
C) technetium-99  
D) sodium-24
- Q.12** A particle of mass 0.5 kg executes SHM. Its energy is 0.04 J if its time period is  $\pi$  seconds, its amplitude is  
A) 10 cm  
B) 20 cm  
C) 30 cm  
D) 40 cm
- Q.13** The length of a second's pendulum on the surface of moon is about  
A)  $1/36$  m  
B)  $1/6$  m  
C) 6m  
D) 36m
- Q.14** The radioactive isotopes carbon-14 functions as  
A)  $\gamma$ -source  
B)  $\alpha$ -source  
C)  $\beta$ -source  
D) neutron source
- Q.15** IN SHM, at the point of maximum potential energy, the ratio of v/w is  
A)  $x_0$   
B) 0  
C)  $2x_0$   
D)  $x_0\sqrt{2}$
- Q.16** What force is required to stretch a steel wire,  $1\text{cm}^2$  in cross section, to increase its length by percent. Given young's modulus for steel =  $2 \times 10^{11} \text{ N/m}^2$ .  
A)  $2 \times 10^4 \text{ N}$   
B)  $2 \times 10^5 \text{ N}$   
C)  $2 \times 10^{-5} \text{ N}$   
D)  $2 \times 10^6 \text{ N}$
- Q.17** Longitudinal strain can be produced in:  
A) Glass  
B) Honey  
C) Water  
D) Hydrogen gas
- Q.18** At a certain temperature the rms speed of molecules of an ideal gas is  $\bar{c}$ . If the certain temperature of gas is changed so that its pressure is halved while keeping its volume constant, the new rms speed of molecules is  
A)  $\sqrt{2}\bar{c}$   
B)  $\frac{1}{\sqrt{2}}\bar{c}$   
C)  $2\sqrt{2}\bar{c}$   
D)  $\sqrt{\frac{3}{2}}\bar{c}$
- Q.19** Product of pressure 'P' and volume 'V' of an ideal gas is  
A) A constant  
B) Equal to universal gas constant (R)  
C) Directly proportional to temperature 'T'  
D) Inversely proportional to temperature 'T'
- Q.20** For hydrogen gas  $C_p - C_v = a$  and for Oxygen gas  $C_p - C_v = b$ ,  $C_p$  and  $C_v$  being molar specific heats. The relation between a and b is  
A)  $a = 16b$   
B)  $16a = b$   
C)  $a = 4b$   
D)  $a = b$
- Q.21** A carnot engine takes 300 cal of heat at 500 k and rejects 150 cal of heat at 500 k and rejects 150 cal of heat to the sink. The temperature of the sink is  
A) 1000 K  
B) 750 K  
C) 250 K  
D) 125 K
- Q.22** The steam point of the water at Fahrenheit scale is  
A) 32  
B) 100  
C) 212  
D) 313.15

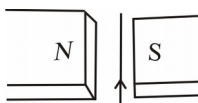
- Q.23** The output waveform of sweep or time base generator is
- A) Sine wave  
B) Cosine wave  
C) Square wave  
D) Saw tooth wave

**Q.24**



In the above diagram, if  $A = 1$ ,  $B = 0$ ,  $X = ?$

- A)  $x = 0$   
B)  $x = 1$   
C)  $x = A$   
D)  $x = \bar{B}$
- Q.25** A wire of resistance  $R$  is stretched till its length is increased to  $n$  times its original length. What is its resistance now?
- A)  $nR$   
B)  $(n^2 - 1)R$   
C)  $n^2R$   
D)  $\frac{R}{n^2}$
- Q.26** The xenon exists in how many isotopic forms?
- A) Three  
B) Two  
C) Thirty six  
D) Four
- Q.27** A resistance of 6 ohm is connected in series with another resistance of 4 ohm across a battery of 20 V. the p.d. across the 6 ohm resistor is
- A) 3V  
B) 6V  
C) 9V  
D) 12V
- Q.28** A charged particle is present in electric field  $E$  experiences a force  $9 \times 10^2 \text{N}$ . when another particle with doubled charge is placed at same position the force exerted by field on it is
- A)  $9 \times 10^2 \text{N}$   
B)  $4.5 \times 10^2 \text{N}$   
C)  $18 \times 10^2 \text{N}$   
D)  $27 \times 10^2 \text{N}$
- Q.29** The diagram shows a wire, carrying a current  $I$ , placed between poles of a magnet




In which direction does the force on wire act?

- A) Downwards  
B) Upwards  
C) Towards the N Pole of the magnet  
D) Towards the S pole of magnet
- Q.30** An electron is moving along the axis of a solenoid carrying a current. Which of the following is a correct statement about the electromagnetic force acting on the electron?
- A) The force acts radially inwards  
B) The force acts radially outwards  
C) The force acts in the direction of motion  
D) No force acts
- Q.31** The potential difference applied to an X – ray tube is increased. As a result, in the emitted radiation
- A) The intensity increases  
B) Minimum wavelength increases  
C) Intensity decrease  
D) Minimum wavelength decreases
- Q.32** The wavelength  $\lambda$  of the  $K\alpha$  line of characteristic X – ray spectra varies with atomic number  $Z$  approximately as
- A)  $\lambda \propto Z$   
B)  $\lambda \propto \sqrt{Z}$   
C)  $\lambda \propto 1/Z^2$   
D)  $\lambda \propto 1/\sqrt{Z}$
- Q.33** X – rays which can penetrate through longer distances in substances are called
- A) Soft x-rays  
B) Continuous x – rays  
C) Hard x – rays  
D) None of the above
- Q.34** X-rays cannot produce
- A) Compton effect  
B) photoelectrons  
C) electron-positron pair  
D) all of these X-rays cannot produce

- Q.35** Which of the following is not the characteristic of LASER radiation  
 A) High intensity C) Incohernece  
 B) uni-directional D) Monochromatic
- Q.36** CAT scanning is used to detect the image of  
 A) Soft tissues C) Boxes  
 B) Hard tissues D) Both "B" and "C"
- Q.37** Computerized tomography can detect the density difference of about  
 A) 0.1% C) 1%  
 B) 0.2 % D) 2%
- Q.38** The energy equivalent of atomic mass unit is  
 A)  $1.6 \times 10^{-19} \text{J}$  C) 931 MeV  
 B)  $6.02 \times 10^{23} \text{J}$  D) 9.31 MeV
- Q.39** Out of the following, the one which can pass through 20 cm thickness of steel is  
 A)  $\alpha$ -rays C)  $\gamma$ -rays  
 B)  $\beta$ -rays D) Ultra-violet rays
- Q.40** A radioactive nucleus X undergoes a series of decays according to the scheme  
 $X \xrightarrow{\alpha} X_1 \xrightarrow{\beta} X_2 \xrightarrow{\alpha} X_3 \xrightarrow{\gamma} X_4$  if the mass number and atomic number of X are 180 and 72 respectively, the corresponding numbers for  $X_4$  are  
 A) 176, 69 C) 176, 71  
 B) 172, 69 D) 172, 71
- Q.41** The percentage of the original quantity of a radioactive material left after five half lives is approximately  
 A) 1% C) 3%  
 B) 2% D) 5%
- Q.42** Curie is a unit of  
 A) Energy of gamma rays C) Half life  
 B) Intensity of gamma rays D) Radio activity
- Q.43** The accelerating voltage across the Coolidge tube is from  
 A) 25 to 100 volt C) 25 to 100 million volt  
 B) 25 to 100 kilo volt D) 25 to 100 Giga volt
- Q.44** As the mass number A varies which of quantity related to nucleus does not change  
 A) Mass C) Binding energy  
 B) Volume D) Density

## CHEMISTRY

- Q.45** The mole percent of oxygen in gaseous mixture containing 7.0g nitrogen and 8.0g of oxygen is  
 A) 25% C) 20%  
 B) 40% D) 50%
- Q.46** Limiting reactant concept is one of the major application in industry for controlling the amount of product and converting precious reactants completely into products, but the reactions to which this application makes no worth are  
 A) Redox reactions C) Most of the metallic reactions  
 B) Extremely fast ionic reactions D) Reversible reactions
- Q.47** Although zero Kelvin is unattainable, but the minimum temperature achieved up till now is  
 A)  $10^{-5} \text{K}$  C)  $10^{-2} \text{K}$   
 B)  $10^{-3} \text{K}$  D)  $10^{-4} \text{K}$
- Q.48** Which of the following structures is not an  $\alpha$ -amino acid  
 A)  $\text{CH}_3 - \underset{\text{NH}_2}{\text{CH}} - \text{COOH}$  C)  $\text{H}_2\text{N} - \underset{\text{CH}_2}{\text{CH}} - \text{COOH}$   
  
 B)  $\text{H}_2\text{N} - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{COOH}$  D)  $\text{H}_2\text{N} - \underset{\text{CH}_2\text{OH}}{\text{CH}} - \text{COOH}$

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- Q.49** The rate of an enzymatic reaction is directly proportional to the square root of the
- A) Concentration of substrate  
B) Concentration of enzyme  
C) 10°C increase in temperature  
D) 10 units increase in pH
- Q.50** The three dimensional twisting and folding of polypeptide chain results in
- A) Primary structure  
B) Tertiary structure  
C) Secondary structure  
D) Quaternary structure
- Q.51** The monomer of synthetic rubber is
- A) Isoprene  
B) Neoprene  
C) Chloroprene  
D) 2-methyl 1,3-butadiene.
- Q.52** If volume of an ideal gas at 0°C is 546 cm<sup>3</sup>, what is volume at 100°C
- A) 566 cm<sup>3</sup>  
B) 746 cm<sup>3</sup>  
C) 646 cm<sup>3</sup>  
D) 846 cm<sup>3</sup>
- Q.53** Hydration energies decreases by increasing
- A) Charge density  
B) Charge on ions  
C) Size of ions  
D) All of these
- Q.54** Seawater has  $5.65 \times 10^{-3}$ g of dissolved oxygen in one kilogram of water. Concentration of O<sub>2</sub> in parts per million is
- A) 7.69  
B) 5.65  
C) 5.20  
D) 4.11
- Q.55** A beckmann thermometer can read upto
- A) 0.001K  
B) 0.01K  
C) 1K  
D) 10K
- Q.56** Oxidation number of sulphur in SO<sub>4</sub><sup>2-</sup>
- A) +6  
B) +4  
C) +3  
D) +2
- Q.57** When CuSO<sub>4</sub> is electrolyzed in aqueous solution using copper electrodes, then the substance which is deposited at the cathode is
- A) Copper metal  
B) Copper ions  
C) Hydrogen  
D) Oxygen
- Q.58** The K<sub>c</sub> has following units for the reaction  $\text{H}_{2(g)} + \text{I}_{2(g)} \rightleftharpoons 2\text{HI}$
- A) mol<sup>2</sup>dm<sup>-6</sup>  
B) moldm<sup>-3</sup>  
C) No units  
D) mol<sup>-2</sup>dm<sup>6</sup>
- Q.59** Equilibrium constant (K<sub>c</sub>) for water can be represented as
- A)  $\frac{[\text{H}_2\text{O}]}{[\text{H}^+][\text{OH}^-]}$   
B)  $\frac{[\text{H}^+]}{[\text{OH}^-][\text{H}_2\text{O}]}$   
C)  $\frac{[\text{H}^+][\text{OH}^-]}{[\text{H}_2\text{O}]}$   
D)  $[\text{H}^+][\text{OH}^-]$
- Q.60** If E<sub>f</sub> and E<sub>b</sub> are the activation energies for forward and backward reaction respectively how these can be compared for the exothermic reaction
- A) E<sub>f</sub> > E<sub>b</sub>  
B) E<sub>f</sub> < E<sub>b</sub>  
C) E<sub>f</sub> = E<sub>b</sub>  
D) cannot be predicted
- Q.61** The rate law for the reaction  $\text{A} + 2\text{B} \rightarrow \text{products}$  is Rate = K[A][B]<sup>2</sup> when concentration of 'B' is increased from X to 3X by keeping the concentration of A constant. By what factor the rate of reaction will increase
- A) 3  
B) 6  
C) 9  
D) 27
- Q.62** The atomic radii from Cr to Cu is almost identical because of
- A) Increasing nuclear charge from Cr to Cu  
B) Repulsion among increased electrons  
C) Increased screening effect to nullify increased nuclear charge  
D) All of the above

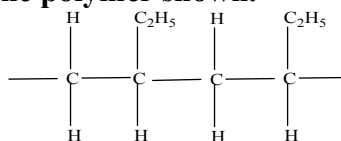
- Q.63 The limitation of the chemical equation is observed in**  
 A)  $\text{CuO} + \text{H}_2 \longrightarrow \text{Cu} + \text{H}_2\text{O}$   
 B)  $2\text{KBr} + \text{I}_2 \longrightarrow 2\text{KI} + \text{Br}_2$   
 C)  $\text{Cu} + 2\text{AgNO}_3 \longrightarrow \text{Cu}(\text{NO}_3)_2 + \text{Ag}$   
 D)  $\text{Fe} + \text{H}_2\text{SO}_4 \longrightarrow \text{FeSO}_4 + \text{H}_2$
- Q.64 The gas used as coolant in nuclear reactor:**  
 A) Helium  
 B) Neon  
 C) Krypton  
 D) Radon
- Q.65 Which element forms long chains alternating with oxygen**  
 A) Carbon  
 B) Silicon  
 C) Nitrogen  
 D) All of these
- Q.66 In transition elements the complexes are coloured due to the transition of unpaired electrons in the complex between eg and  $t_{2g}$  states. The transition metal which does not have this capability and has colourless compounds is**  
 A) Ni  
 B) Co  
 C) Mn  
 D) Zn
- Q.67 Which of the following pairs show resemblance in their valence shell configuration**  
 A) Ti, Ta  
 B) Zn, Cd  
 C) Mn, Mo  
 D) Pt, Au
- Q.68 In contact process arsenic impurities are removed by**  
 A) Freshly prepared ferric hydroxide  
 B) Iron metal in powdered form  
 C) Freshly prepared ferrous hydroxide  
 D) Freshly prepared ferric chloride
- Q.69 Urea is prepared by**  
 A) Dehydration of ammonium carbamate  
 B) Hydration of ammonia  
 C) Dehydration of ammonium nitrate  
 D) Dehydration of ammonium carbonate
- Q.70 In contact process, the purifying unit does not include**  
 A) Scrubbers  
 B) Lead purifier  
 C) Testing box  
 D) None of these
- Q.71 Sulphur dioxide causes pollution by increasing**  
 A) Alkalinity  
 B) Acidity  
 C) Basicity  
 D) Rainfall
- Q.72  $\text{CH}_3\text{—O—CH}_3$  and  $\text{C}_2\text{H}_5\text{OH}$  are:**  
 A) Chain isomers  
 B) Metamers  
 C) Positional isomers  
 D) Functional group isomers
- Q.73 Geometric isomerism is shown by:**  
 A) 1-Butene  
 B) 1-Hexene  
 C) 1-Chloro-2-bromopropene  
 D) None of these
- Q.74 Alkenes are also known as:**  
 A) Paraffins  
 B) Acetylenes  
 C) Olefins  
 D) Terpenes
- Q.75 The catalyst which proves to be most effective in case of hydrogenation at room temperature is**  
 A) Ni  
 B) Pt  
 C) Hg  
 D) Ag
- Q.76 Ethyl iodide reacts with ammonia to produce**  
 A) Ethyl amine  
 B) Ethanol  
 C) Ethane  
 D) Methane
- Q.77 Which of the following gives iodoform test**  
 A) Ethyl alcohol  
 B) Acetone  
 C) Acetaldehyde  
 D) All of the above
- Q.78 Phenol can be distinguished from ethyl alcohol by all of the following reagents except.**  
 A) Na  
 B)  $\text{FeCl}_3$   
 C)  $\text{Br}_2/\text{H}_2\text{O}$   
 D) NaOH



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- Q.79** An alcohol, X, can be dehydrated producing a hydrocarbon. Polymerization of this hydrocarbon gives the polymer shown.



- What is X?**  
A) 2-Methylpropan-1-ol  
B) Ethanol  
C) Butan-1-ol  
D) Propan-1-ol
- Q.80** Which reagent gives the same visible result with propanal and with propan-2-ol?  
A) Acidified potassium dichromate (VI)  
B) Sodium  
C) 2,4-dinitrophenylhydrazine reagent  
D) Tollen's reagent
- Q.81** Which ester is formed when the alcohol  $\text{CH}_3\text{CH}_2\text{OH}$  is reacted with  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CO}_2\text{H}$ ?  
A) Ethyl propanoate  
B) Propyl ethanoate  
C) Ethyl butanoate  
D) Butyl ethanoate
- Q.82** If value of Azimuthal quantum number 'l' is 3, the value of 'm' will be  
A) +3,+2,+1,0,-1,-2,-3  
B) 0,1,2,3  
C) 0,1,2  
D) +1,0,+1
- Q.83** A neutral atom of an element has 2 electrons in the first energy level, 8 in the second energy level and 8 in the third energy level. This information does not necessarily tell us  
A) The atomic number of the element  
B) Anything about the element's chemical properties  
C) The total number of electrons in s orbitals  
D) The number of neutrons in the nucleus of an atom of the element
- Q.84** According to Lewis concept, which one is acid  
A)  $\text{NH}_3$   
B)  $\text{AlCl}_3$   
C)  $\text{CH}_4$   
D)  $\text{PH}_3$
- Q.85** The Paramagnetic property is associated with a substance which has  
A) No unpaired electron/s  
B) Unpaired electron/s  
C) Free atoms  
D) Complete octet
- Q.86** Which equation shows lattice energy for the ionic compound is  $-787\text{KJ mol}^{-1}$   
A)  $\text{Na}_{(s)} + \frac{1}{2}\text{Cl}_{2(g)} \rightarrow \text{NaCl}_{(s)}$   
B)  $\text{Na}^+_{(aq)} + \text{Cl}^-_{(aq)} \rightarrow \text{NaCl}_{(aq)}$   
C)  $\text{Na}_{(s)} + \text{Cl}_{(g)} \rightarrow \text{NaCl}_{(s)}$   
D)  $\text{Na}^+_{(g)} + \text{Cl}^-_{(g)} \rightarrow \text{NaCl}_{(s)}$
- Q.87** Which is not base catalyzed reaction of carbonyl compound like aldehyde  
A) Addition of  $\text{NaHSO}_3$   
B) Addition with HCN  
C) Haloform reaction  
D) Polymerization
- Q.88** Methyl ketones usually characterized by  
A) Tollen's tests  
B) Lucas test  
C) Iodoform test  
D) Fehling solution test
- Q.89** Aldehydes can be synthesized by the oxidation of  
A) Primary alcohols  
B) Secondary alcohols  
C) Organic acids  
D) Inorganic acids
- Q.90** A and B react with Na gives  $\text{H}_2$  gas and by reaction of both A and B ethyl acetate is formed then A and B are  
A)  $\text{CH}_3\text{COOH}$ ,  $\text{C}_2\text{H}_5\text{OH}$   
B)  $\text{C}_3\text{H}_7\text{COOH}$ ,  $\text{C}_3\text{H}_7\text{OH}$   
C)  $\text{CH}_3\text{COOH}$ ,  $\text{CH}_3\text{OH}$   
D)  $\text{HCOOH}$ ,  $\text{CH}_3\text{COOH}$
- Q.91** In the following reaction, C and D are  
 $\text{CH}_3 - \text{CO} - \text{CH}_2 - \text{CH}_2 - \text{CH}_3 + [\text{O}] \longrightarrow \text{C} + \text{D}$   
A) 2 moles of  $\text{CH}_3\text{COOH}$   
B)  $\text{CH}_3\text{COOH} + \text{CH}_3\text{CH}_2\text{CH}_3$   
C)  $\text{CH}_3\text{COOH} + \text{CH}_3\text{CH}_2\text{COOH}$   
D)  $\text{HCHO} + 2\text{CH}_3\text{COOH}$
- Q.92**  $\text{R}-\text{CH}_2-\text{CH}_2\text{OH}$  can be converted into  $\text{RCH}_2\text{CH}_2\text{COOH}$  The correct sequence of the reagents is  
A)  $\text{PBr}_3, \text{KCN}, \text{H}_3\text{O}^+$   
B)  $\text{PBr}_3, \text{KCN}, \text{H}_2$   
C)  $\text{HCN}, \text{PBr}_3, \text{H}^+$   
D)  $\text{KCN}, \text{H}^+$

**Q.93** Consider the following sequence of amino acid preparation

The type of mechanism followed in A step is

- A) Free radical mechanism  
 B) Electrophilic addition  
 C) Nucleophilic substitution  
 D) Electrophilic substitution

**Q.94** The amino acids which contain sulphur is/are

- A) Serine  
 B) Cystein  
 C) Methionine  
 D) Both "B" and "C"

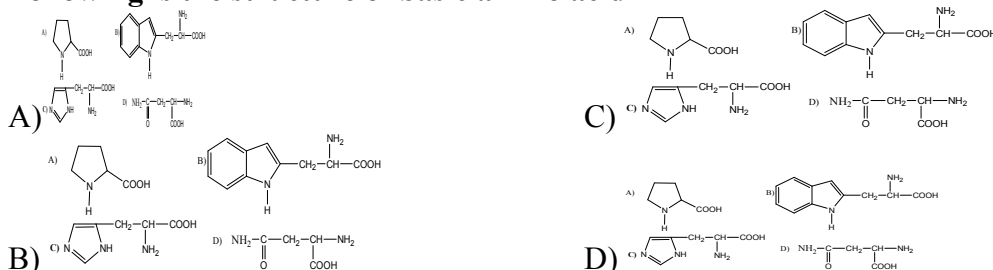
**Q.95** The number of amino acids which are neutral in nature

- A) Two  
 B) fifteen  
 C) Five  
 D) sixteen

**Q.96** Which amino acid is basic in nature

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

**Q.97** Following is the structure of basic amino acid



**Q.98** Cellulose is a biopolymer and in made up of

- A)  $\alpha$ -D-Glucose  
 B)  $\beta$ -D-Glucose  
 C) Amylopectin  
 D) Amylose

**Q.99** The enzyme which catalyze hydrolysis in human body

- A) Proteases  
 B) Carboxylase  
 C) Fumerase  
 D) Thiokinase

**Q.100** Increase in all of the following decrease enzyme activity except

- A) Temperature  
 B) pH  
 C) Radiations  
 D) Substrate concentration

**Q.101** To avoid the formation of toxic compounds with chlorine which substance is used for disinfecting water

- A)  $\text{KMnO}_4$   
 B) Alums  
 C)  $\text{O}_3$   
 D) Chloramines

**Q.102** Which substance can be used for disinfecting water

- A)  $\text{KMnO}_4$   
 B) Ozone  
 C) Alums  
 D) All of these

## ENGLISH

**Q.103** He found himself in the \_\_\_\_\_ position of appearing to support a point of view which he abhorred.

- A) Obvious  
 B) Innocuous  
 C) Anomalous  
 D) Envidable

**Q.104** Her \_\_\_\_\_ exhorted even the most timid of her enemies to encounter her.

- A) Temerity  
 B) Audacity  
 C) Submissiveness  
 D) Prejudiced

**Q.105** Hobbits were fond of an unadventurous and simple life, although they were capable of defending their homes \_\_\_\_\_.

- A) Meticulously  
 B) Simply  
 C) Courageously  
 D) Tragically

**Q.106** Max was subject to \_\_\_\_\_ and ridicule when he scored a goal for the opposing soccer team.

- (a) Espy  
 (b) Derision  
 (c) Gosling  
 (d) Impertinence

## SPOT THE ERROR

In the first type of 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.



- Q.107 Historically, nigger is controversial in literature due to its usage as both a racist insult  
 A) but a common noun. B) C) D)
- Q.108 It is essential that cancer was diagnosed and treated as early as possible in order to  
 A) assure a successful care. B) C) D)
- Q.109 The workers were raising more hue and cry when their demands were turned away.  
 A) B) C) D)
- Q.110 He came to the hurdles that he remember, over which once he had one so easy a victory.  
 A) B) C) D)
- Q.111 He set himself with earnest at school and soon developed the passion for work which  
 A) marked the rest of his life. B) C) D)
- Q.112 After Mehrun's marriage, I will feel as lightly as a feather, at least for some years to come.  
 A) B) C) D)

**Directions:**

In each question in the following, four alternative sentences are given. Choose the CORRECT one and fill the circle corresponding to that letter in the answer sheet.

- Q.113 A) The problem that a college dean faces calls for the same diagnostic ability as the physician's.  
 B) The problem who a college dean faces calls for the same diagnostic ability as the physician.  
 C) The problem which a college dean faces calls for the same diagnostic ability as that of the physician's.  
 D) The problem that a college dean faces call of the same diagnostic ability as the physician's.
- Q.114 A) She knew that the combs cost so much to buy them.  
 B) She knew that the combs cost too much that she could not buy it.  
 C) She knew that the combs cost very much to buy him.  
 D) She knew that the combs cost too much to buy them.
- Q.115 A) I cried and cried until he did not make me another plough.  
 B) I cried and cried untill he made me other plough.  
 C) I cried and cried until he not made me another plough.  
 D) I cried and cried until he made me another plough.
- Q.116 A) After a careful evaluation of the circumstances surrounding the incident, we decided that we neither have the authority nor the means to cope with the problem.  
 B) After a careful evaluation of the circumstances surrounding the incident, we decided that we neither have authority or the means to cope with the problem.  
 C) After a careful evaluation of the circumstances surrounding the incident, we decided that we have neither the authority nor the means to cope with the problem.  
 D) After a careful evaluation of the circumstances surrounding the incident, we decided that we have neither the authority or the means to cope the problem.
- Q.117 A) The cyclist looked with caution after he crossed the main street.  
 B) The cyclist had looked cautiously before he crossed the main street.  
 C) The cyclist was looked cautious when he crossed the main street.  
 D) The cyclist looks cautious when he crossed the main street.

- Q.118 A) Sometime there was unexpected respite.  
 B) Sometimes there were unexpected respite.  
 C) Sometimes there were unexpectedly respite.  
 D) Sometimes there were unexpected respites.
- Q.119 A) “Don’t worry; we’re near there.  
 B) “Don’t worried; we’re nearly there.  
 C) “Don’t worry; we are nearly their.  
 D) “Don’t worry; we’re nearly there.
- Q.120 A) If you are sure that you are on the right, you would not mind an independent examination of the case.  
 B) If you are sure that you are in the right, you would not mind an independent examination of the case.  
 C) If you are sure that you are to the right, you would not mind an independent examination of the case.  
 D) If you are sure that you are for the right, you would not mind an independent examination of the case.
- Q.121 A) He stands on arms akimbo.  
 B) He stands to arms akimbo.  
 C) He stands with arms akimbo.  
 D) He stands through arms akimbo.
- Q.122 A) A day later he reached his first glimpse of Lahore.  
 B) A day later he took his first glimpse of Lahore.  
 C) A day later he found his first glimpse of Lahore.  
 D) A day later he caught his first glimpse of Lahore.

**Directions:**  
 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 Bubble / Circle on the MCQ Response Form.

- Q.123 **POSTULATE**  
 A) Hypothesize                      B) Retort                      C) Investigate                      D) Facilitate
- Q.124 **PREDATORY**  
 A) Composed                      B) Voracious                      C) Veracious                      D) Preposterous
- Q.125 **PROCURE**  
 A) Décor                      B) Protest                      C) Attain                      D) Relinquish
- Q.126 **POTABLE**  
 A) Drinkable                      B) Doable                      C) Possible                      D) Portable
- Q.127 **PRIG**  
 A) Feud                      B) Prude                      C) Crude                      D) Dude
- Q.128 **QUINTESSENTIAL**  
 A) Quiet                      B) Moral                      C) Modal                      D) Model
- Q.129 **RESTITUTION**  
 A) Amends                      B) Precursor                      C) Attention                      D) Rest
- Q.130 **REDOLENT**  
 A) Indicative                      B) Inductive                      C) Vindictive                      D) Deductive
- Q.131 **RELEGATE**  
 A) Upgrade                      B) Downgrade                      C) Resuscitate                      D) Indicate
- Q.132 **RETRENCH**  
 A) Economize                      B) Drench                      C) Stench                      D) Pulverize

**BIOLOGY**

- Q.133 **Characteristics of a regional community primarily are determined by:**  
 A) Species                      C) Nutrients  
 B) Plants                      D) Climate
- Q.134 **Cellular organization is not present in:**  
 A) Amoeba                      C) Fungi  
 B) Bacteria                      D) Virus
- Q.135 **You are studying the characteristic of Prong horn antelope, you are dealing with what level of organization:**  
 A) Species                      C) Individual  
 B) Population                      D) Ecosystem

- Q.136** The most important element for skeleton of life is:  
 A) Carbon C) Oxygen  
 B) Hydrogen D) Nitrogen
- Q.137** Which of the following is an intermediate product for energy transformation reactions:  
 A) Tetrose C) Pentose  
 B) Triose D) Glucose
- Q.138** Most of functional proteins like enzymes, hormones etc. show \_\_\_\_ structure:  
 A) Fibrous C) Asymmetrical  
 B) Globular D) Symmetrical
- Q.139** Maximum unsaturation in a fatty acid molecule can be up to \_\_\_\_ double bonds:  
 A) 3 C) 9  
 B) 6 D) 12
- Q.140** Which of the following do not contain nucleic acid:  
 A) Nucleus C) Golgi complex  
 B) Mitochondria D) Ribosome
- Q.141** Lock and key model was modified by:  
 A) E. Fischer C) Wilson  
 B) D. Koshland D) Sanger
- Q.142** Which type of inhibitors form permanent bonds with active site?  
 A) Reversible C) Competitive  
 B) Irreversible D) All "A" "B" "C"
- Q.143** Which one plays role in urea cycle?  
 A) Sucrase C) Arginase  
 B) Amylase D) Lipase
- Q.144** Trypsin can work best in:  
 A) Stomach C) Small intestine  
 B) Kidney D) Large intestine
- Q.145** Outermost boundary in a plant cell:  
 A) Plasma membrane C) Cell wall  
 B) Protoplast D) Capsule
- Q.146** In a mature plant cell, central and large organelle is:  
 A) Nucleus C) Vacuole  
 B) Mitochondria D) Golgi body
- Q.147** Chromatin is present in:  
 A) Ribosomes C) Nucleus  
 B) RER D) Cytoplasm
- Q.148** Chromosomes are visible during:  
 A) Interphase C) Dividing stage  
 B) Prophase only D) Never visible
- Q.149** Which contains hydrolytic and digestive enzymes?  
 A) Peroxisomes B) Glyoxisomes  
 C) Lysosomes D) Cytoplasm
- Q.150** Golgi vesicles for phragmoplast arise during:  
 A) Prophase C) Anaphase  
 B) Metaphase D) Telophase
- Q.151** Which phase of prophase I can last up to weeks or years?  
 A) Pachytene C) Diplotene  
 B) Zygotene D) Leptotene
- Q.152** In karyokinesis, division of \_\_\_\_ occurs:  
 A) Organelles C) Cell  
 B) Cytoplasm D) Nucleus
- Q.153** Chemically, ribosomes are:  
 A) Glycoproteins C) Nucleoproteins  
 B) Lipoproteins D) Histonproteins
- Q.154** In which of the following meiosis occurs during gamete formation?  
 A) Plants C) Bacteria  
 B) Animals D) Fungi

PIONEER	JOHAR TOWN	MATRIC	FAISAL TOWN	TOWNSHIP
IQBAL TOWN	NISHTER BLOCK	SODI WAL	GULSHAN RAVI	GULBERG
OUTFALL	RAVI ROAD	SHADMAN	MUGHALPURA	CHAUBURJI

KASUR	GUJRANWALA	GUJRAT	SIALKOT	FAISALABAD	SARGODHA	JHANG
RAWALPINDI	ISLAMABAD	ABBOTTABAD	MIRPUR	PESHAWAR	OKARA	
SAHIWAL	BUREWALA	MULTAN	D.G KHAN	BAHAWALPUR	R.Y KHAN	

- Q.155 Which of the following is not true about mitosis?**  
 A) Growth  
 B) Healing  
 C) Cloning  
 D) Recombination
- Q.156 First discovered virus was:**  
 A) HIV  
 B) TMV  
 C) Bacteriophage  
 D) HCV
- Q.157 Which is not the function of Pilli in bacteria?**  
 A) Attachment  
 B) Conjugation  
 C) Nutrition  
 D) Both "A" & "B"
- Q.158 Respiratory enzymes in bacteria are present in:**  
 A) Mitochondria  
 B) Cytoplasm  
 C) Mesosomes  
 D) Ribosomes
- Q.159 The most developed invertebrate group is:**  
 A) Echinoderms  
 B) Mollusca  
 C) Arthropods  
 D) Nematodes
- Q.160 Which is not an enzyme of human digestive tracts?**  
 A) Erypsin  
 B) Lactase  
 C) Gastrin  
 D) Amylopsin
- Q.161 Bacteria in large intestine produce vitamin:**  
 A) B  
 B) E  
 C) A  
 D) K
- Q.162 Bile contains:**  
 A) Trypsin  
 B) Lipase  
 C) Salts  
 D) All "A" "B" "C"
- Q.163 Which is not the function of tongue?**  
 A) Mixing  
 B) Selection  
 C) Swallowing  
 D) Mastication
- Q.164 Opening of Larynx is called:**  
 A) Voice box  
 B) Epiglottis  
 C) Glottis  
 D) Trachea
- Q.165 Structurally, diaphragm is made of:**  
 A) Connective tissue  
 B) Fibrous tissue  
 C) Muscular tissue  
 D) Mucous membrane
- Q.166 Deoxygenated blood means:**  
 A) Blood without O<sub>2</sub>  
 B) Blood with less O<sub>2</sub>  
 C) Blood with less CO<sub>2</sub>  
 D) Blood with CO
- Q.167 The component which does not vary in inspired and expired air:**  
 A) Vapours  
 B) Nitrogen  
 C) CO<sub>2</sub>  
 D) O<sub>2</sub>
- Q.168 Aldosteron acts to increase the absorption of:**  
 A) K<sup>+</sup>  
 B) Ca<sup>++</sup>  
 C) Na<sup>+</sup>  
 D) Water
- Q.169 Uremia can be treated by:**  
 A) Lithotripsy  
 B) Dialysis  
 C) Transplantation  
 D) Gene therapy
- Q.170 Maximum reabsorption of glucose takes place in:**  
 A) PCT  
 B) DCT  
 C) Loop of Henle  
 D) Glomerulus
- Q.171 Urea is produced from the metabolism of:**  
 A) Proteins  
 B) Nucleic acid  
 C) Amino acid  
 D) Creatine
- Q.172 CNS is chiefly composed of:**  
 A) Motor neurons  
 B) Sensory neurons  
 C) Inter neurons  
 D) Nerves
- Q.173 Over activity of sympathetic nervous system can cause:**  
 A) Decreased heart rate  
 B) Ulcer  
 C) Constipation  
 D) Double vision

- Q.174** Receptors for neurotransmitters are present on \_\_\_\_ membrane:
- A) Pre synaptic  
B) Post synaptic  
C) Cell body  
D) Receptor cell
- Q.175** Reduction in dopamine production is associated with:
- A) Alzeihmer’s disease  
B) Epilepsy  
C) Parkinson’s disease  
D) Cushing disease
- Q.176** Which one is haploid structure?
- A) Spermatogonium  
B) Primary spermatocyte  
C) Primary oocyte  
D) Secondary oocyte
- Q.177** In males, interstitial cells are present:
- A) In sperm ducts  
B) Scorotum  
C) Among seminiferous tubules  
D) In prostate gland
- Q.178** Zygote in humans is formed in:
- A) Ovary  
B) Oviduct  
C) Uterus  
D) Cervix
- Q.179** Reduction in level of which hormone causes birth?
- A) ACTH  
B) Corticosteroids  
C) Oxytocin  
D) Progesterone
- Q.180** Earliest form of muscles to evolve:
- A) Cardiac  
B) Skeletal  
C) Smooth  
D) Cartilaginous
- Q.181** Direct source of energy for muscle contraction is:
- A) ADP  
B) ATP  
C) Creatine phosphate  
D) Glucose
- Q.182** During contraction Ca<sup>++</sup> ions bind with:
- A) Tropomyosin  
B) Myosin  
C) Action  
D) Troponin
- Q.183** Which one is infectious disease?
- A) Tetany  
B) Cramps  
C) Fatigue  
D) Tetanus
- Q.184** Which hormone is polysaccharide in nature:
- A) Gastrin  
B) Secretin  
C) Gonadotropin  
D) None of these
- Q.185** Which hormone in plasma will increase if connection between pituitary and hypothalamus is cut:
- A) FSH  
B) ACTH  
C) Prolactin  
D) STH
- Q.186** Literal meaning of hormone:
- A) Harmonius condition  
B) Setting in motion  
C) Giving rhythm  
D) Activity regulator
- Q.187** Which one is part of nervous as well as chemical coordination?
- A) Thalamus  
B) Pituitary  
C) Hypothalamus  
D) Pineal gland
- Q.188** Which provides defence against foreign invaders?
- A) Skin  
B) Mucus membrane  
C) Antibodies  
D) All “A” “B” “C”
- Q.189** Which is false about antibodies?
- A) Always protein in nature  
B) Produced by vertebrates only  
C) Present in lymph and plasma  
D) One type is effective against all type of antigen
- Q.190** Transplant rejection is basically:
- A) Humoral immunity  
B) Cell mediated immunity  
C) Artificial immunity  
D) Passive immunity
- Q.191** Injecting antiserum is a mean to get:
- A) Active immunity  
B) Cell mediated immunity  
C) Natural immunity  
D) Passive immunity



- Q.192 Disease in which immune system fails to perform its duty:**  
 A) Cancer  
 B) AIDS  
 C) Klinefelter’s syndrome  
 D) Mumps
- Q.193 They have ability to convert solar energy into chemical energy:**  
 A) Animals  
 B) Fungi  
 C) Plants  
 D) Protozoans
- Q.194 How many CO<sub>2</sub> are produced by one Krebs cycle?**  
 A) 5  
 B) 3  
 C) 2  
 D) 1
- Q.195 Rubisco is:**  
 A) Carbohydrate  
 B) Lipid  
 C) Protein  
 D) Fatty acid
- Q.196 In photolysis, which molecule is broken:**  
 A) CO<sub>2</sub>  
 B) Water  
 C) Chlorophyll  
 D) ATP
- Q.197 End product of glycolysis is:**  
 A) Acetyl Co A  
 B) Pyruvate  
 C) CO<sub>2</sub> and water  
 D) G3P
- Q.198 Identical copies of a gene can be obtained by:**  
 A) Gene expression  
 B) Gene therapy  
 C) Gene cloning  
 D) Gene sequencing
- Q.199 Gene of interest can be sealed into plasmid by:**  
 A) DNA polymerase  
 B) DNA isomerase  
 C) DNA ligase  
 D) DNA reductase
- Q.200 Primer used in PCR contains how many nucleotides:**  
 A) 10  
 B) 15  
 C) 20  
 D) 25
- Q.201 SCID is a condition which results from failure of maturation of:**  
 A) Monocytes  
 B) Granulocytes  
 C) Thrombocytes  
 D) Lymphocytes
- Q.202 A probe to search genomic library is:**  
 A) Single stranded DNA  
 B) Double stranded DNA  
 C) mRNA  
 D) DNA ligase
- Q.203 Restriction endonucleases naturally used by bacteria against:**  
 A) Host DNA  
 B) Bacteriophages  
 C) Antibiotics  
 D) Plasmids
- Q.204 Evolution of eukaryote from prokaryote took \_\_\_\_billion years:**  
 A) 4.5  
 B) 3.5  
 C) 1.5  
 D) 2
- Q.205 Darwinism explains:**  
 A) Origin of new species  
 B) Origin of human species  
 C) Origin of life on earth  
 D) Distribution of life on earth
- Q.206 Color recognition is possible due to:**  
 A) Eye lens  
 B) Rods cell in retina  
 C) Cone cell in retina  
 D) Cone cell in lens and retina
- Q.207 Interaction of alleles occupying same locus is called:**  
 A) Mutation  
 B) Dominance  
 C) Pleiotropy  
 D) Epistasis
- Q.208 Blue color blindness is \_\_\_\_traits:**  
 A) X linked dominant  
 B) Y linked  
 C) Autosomal  
 D) X linked recessive
- Q.209 Competitor plants can be easily controlled by**  
 A) Insecticides  
 B) Pesticides  
 C) Herbicides  
 D) Fungicides
- Q.210 Acid rains are mainly result of:**  
 A) Water pollution  
 B) Air pollution  
 C) Soil pollution  
 D) Ozone depletion

- Q.211** Synthesis of enzymes takes place by:
- A) Translation  
B) Transamination  
C) Deamination  
D) Transcription
- Q.212** Cereals and millets which constitute the chief food stuff of mankind belong to:
- A) Solanaceae  
B) Fabaceae  
C) Caesalpinaceae  
D) Poaceae
- Q.213** Food in buccal cavity is mainly ground by:
- A) Canines  
B) Incisors  
C) Pre-molars  
D) Molars
- Q.214** These are extensions of walls of the ventricle in heart:
- A) Connective tissue flaps  
B) Chorda tendinae  
C) Papillary muscles  
D) Interventricular septum
- Q.215** CO<sub>2</sub> combines with hemoglobin through its:
- A) Fe<sup>+2</sup>  
B) NH<sub>2</sub>  
C) COOH  
D) R
- Q.216** Reticular formation involved in screening the input information before they reach the higher centers is part of:
- A) Forebrain  
B) Midbrain  
C) Hindbrain  
D) Spinal cord
- Q.217** A copper containing proteins involved in photosynthesis is:
- A) Plastoquinone  
B) Cytochrome  
C) Plastocyanine  
D) Ferridoxin
- Q.218** In this stage the lichens are just like crumpled leaves attached at one point:
- A) Crustose stage  
B) Foliage stage  
C) Moss stage  
D) Herbaceous stage
- Q.219** Which traits are more common in men than women?
- A) X-linked recessive  
B) X-linked dominant  
C) Pseudoautosomal  
D) Autosomal
- Q.220** Mesoderm forms a loose, cellular tissue called mesenchyma or parenchyma without coelom in:
- A) Platyhelminthes  
B) Aschelminthes  
C) Arthropoda  
D) Coelenterata