

MDCAT PAST PAPER

2012 UHS MDCAT

Conducted by University of Health Sciences, Lahore, for Punjab

PAPER FORMAT

Punjab entrance test - pre-2020 pattern

Attempt it like the real thing

- Print it, sit in one place, and time yourself strictly
- No notes, no phone, no checking answers as you go
- Mark it from the official answer key at the back
- Group your mistakes by unit before you revise anything

Struggling with a whole unit, not just one question?

The MDCAT Unit Wise Book covers each PMDC syllabus unit separately - see the last pages of this file.

THE FULL LIBRARY IS FREE

Every MDCAT past paper from 2008 onwards, plus NUMS and SZABMU papers, unit-wise MCQs and the syllabus guide - all free on mdcatguide.com. The index is at the back of this file.

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University of Health Sciences, Lahore



Total MCQs: 220

Max. Marks: 1100

ENTRANCE TEST – 2012

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.

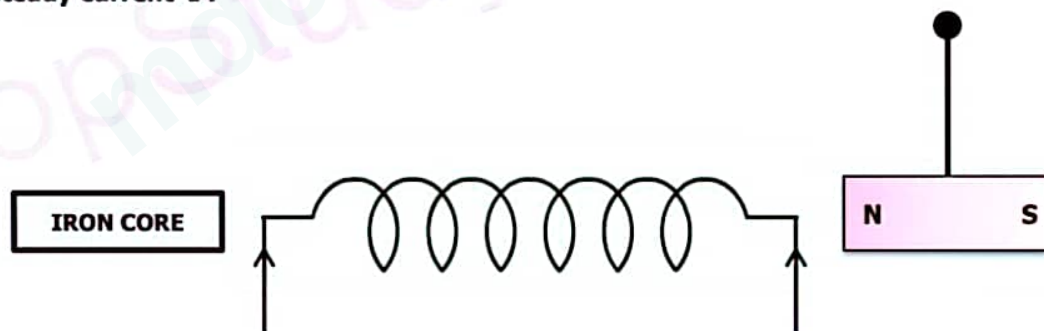
Ans: Colour of your Question Paper is Blue.

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

	A	B	C	D
ID	☐	☒	☐	☐
1	☐	☐	☐	☐
2	☐	☐	☐	☐
3	☐	☐	☐	☐
4	☐	☐	☐	☐

PHYSICS

Q.1 The diagram shows a small magnet hanging on a thread near the end of a solenoid carrying a steady current 'I':



What happens to the magnet as the iron core is inserted into the solenoid?

- It moves towards solenoid and rotates through 180°
- It moves towards the solenoid
- It moves away from solenoid
- It moves away from solenoid and rotates through 180°

Q.2 A 10 cm long solenoid has 100 turns. What will be the magnetic field inside it along its axis if one micro ampere current is passed through it?

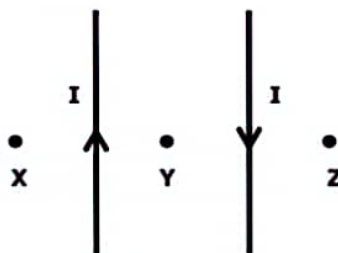
- $4\pi \times 10^{-13}$ tesla
- $4\pi \times 10^{-7}$ tesla
- $4\pi \times 10^{-10}$ tesla
- $4\pi \times 10^{-16}$ tesla

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CS CamScanner

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Q.3 Two long straight parallel wires held vertically have equal but opposite currents as shown in the figure.



Which of the following effect will be observed?

- A) Magnetic field at 'X' is stronger than that at 'Y' and 'Z'
- B) Magnetic field at 'X' is weaker than that at 'Y' and 'Z'
- C) Magnetic field at 'X', 'Y' and 'Z' is same
- D) Magnetic field at 'X' is weaker than that at 'Y' but stronger than that at 'Z'.

Q.4 The kinetic energy K.E. with which the electron strikes the target is given by:

- A) K.E. = e^2V
- B) K.E. = hc/λ
- C) K.E. = hf^2
- D) K.E. = eV

Q.5 LASER is an acronym for:

- A) Light amplification by stimulated emission of radiation
- B) Light annihilation by stimulated emission of radiation
- C) Light amplitude of stimulated emission of radiation
- D) Light amplification by stimulated emission of radio

Q.6 X-rays can be produced by bombardment of _____ on target metal:

- A) Protons
- B) Electrons
- C) Neutrons
- D) Alpha particles

Q.7 Laser light is monochromatic which means

- A) It consists of one ray of light
- B) It consists of one wavelength
- C) It consists of carbon monoxide gas
- D) It consists of photons having 1 eV energy

Q.8 If an electron in the 'K' shell is removed and an electron from 'L' shell jumps to occupy the hole in the 'K' shell, it emits a photon of energy:

- A) $hf_{K\alpha} = E_L - E_K$
- B) $hc = E_L - E_K$
- C) $h/\lambda_{K\alpha} = E_L - E_K$
- D) $hf_{K\alpha} = E_K - E_L$

Q.9 Which of the following property must be there in a substance so that it can be used as target in X-ray tube?

- A) It must have low melting point
- B) It must have low atomic number
- C) It must have high reflecting ability
- D) It must have high atomic number

Q.10 Which of the following can be used to produce population inversion for the emission of Laser?

- A) Optical pumping
- B) Optical fibre
- C) Optical instrument
- D) Optical polarization

Q.11 What is the charge on alpha particles emitted during the phenomenon of radioactivity?

- A) $+e$
- B) $-e$
- C) $-2e$
- D) $+2e$

Q.12 A radioactive nuclide decays by emitting an alpha particle, a beta particle and a gamma ray photon, the change in the nucleon number will be:

- A) -4
- B) -1
- C) -2
- D) -3

Q.13 A half-life of sodium-24 is _____ which is used to estimate the volume of blood in a patient:

- A) 6 hours
- B) 15 hours
- C) 8 hours
- D) 15 days

Q.14 Which of the following is unit of absorbed dose?

- A) Sievert
- B) Gray
- C) Roentgen
- D) Curie

- Q.15** In a radioactive phenomenon observation shown in figure where α deviates lesser than β in some electric or magnetic field (not shown in figure). What is the reason of less deviation of α ?

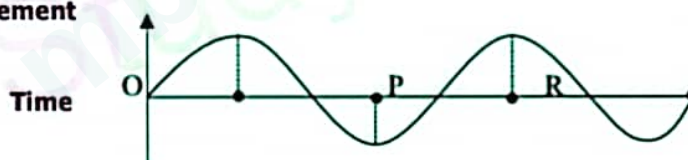


- A) α is charged particle
C) α is heavier particle
B) α is neutral particle
D) α is lighter particle
- Q.16** The isotope of Iodine-131 is used in the treatment of
A) Blood cancer
C) Lung tumor
B) Bone cancer
D) Thyroid cancer
- Q.17** Which of the following effect is observed due to emission of β^- during the phenomenon of radioactivity?
A) A increases by 1 and Z remains same
C) Z decreases by 1 and A remains same
B) Z increases by 1 and A remains same
D) A decreases by 1 and Z remains same
- Q.18** Electric charge on an object is measured as 5 micro coulombs. How the value of this charge can be expressed in terms of base units:
A) 5×100 ampere second
C) 5×10^{-6} coulomb second
B) 5×10^{-6} ampere second
D) 5×100 coulomb second
- Q.19** If 'm' is the mass, 'c' is the velocity of light and $x = mc^2$, then dimensions of 'x' will be:
A) $[LT^{-1}]$
C) $[MLT^{-1}]$
B) $[ML^2T^{-2}]$
D) $[MLT^{-2}]$
- Q.20** A force 'F' is acting at point 'P' of a uniform rod capable to rotate about 'O'. What is the torque about 'O'?
-
- A) $(OP)(F \tan \theta)$
C) $(OP)(F \sin \theta)$
B) $(OP)(F)$
D) $(OP)(F \cos \theta)$
- Q.21** An object of mass 'm' is suspended in an elevator moving downward with acceleration equal to acceleration due to gravity. What is the apparent weight of object?
A) Zero
C) mg
B) $2mg$
D) $\frac{mg}{2}$
- Q.22** Stokes' Law for steady motion in a fluid of infinite extent is given by
A) $F = 6\pi\eta rv$
C) $F = 6\pi\eta r^2\rho$
B) $F = (4/3)\pi r^3\rho g$
D) $F = 2gr^2\rho/9\eta$
- Q.23** If speed of efflux through a small hole in a large tank is 9.8 m/s. Find the height at the fluid above the hole
A) 1 m
C) 4.9 m
B) 9.8 m
D) 19.6 m

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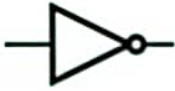
- Q.24** Flow speed of the fluid through a non-uniform pipe increases from 1 m/sec to 3 m/sec. If change in P.E. is zero, then pressure difference between two points will be: (density of the fluid = 1000 kg/m³)
 A) 1000 N/m² C) 8000 N/m²
 B) 9000 N/m² D) 4000 N/m²
- Q.25** Polarization of light exhibited the nature of light as
 A) Longitudinal wave C) Transverse wave
 B) Compressional wave D) Electromagnetic wave
- Q.26** The concentration of a sugar solution can be determined by
 A) Un-polarized light C) Interference of light
 B) Plane polarized light D) Diffraction of light
- Q.27** The information from one place to another can be transmitted very safely and easily by:
 A) Copper wire C) Photodiode
 B) Aluminium wire D) Optical fibre
- Q.28** The image of an object placed inside the focal length of a convex lens will be largest and clearest when it is at the
 A) Less than 25 cm C) Greater than 25 cm
 B) Near point D) Infinity
- Q.29** A simple harmonic oscillator has a time period of 10 seconds. Which equation relates its acceleration 'a' and displacement 'x'?
 A) $a = -2x$ C) $a = -\left(\frac{2\pi}{10}\right)^2 x$
 B) $a = -(20\pi)x$ D) $a = -(20\pi)^2 x$
- Q.30** When the length of a simple pendulum is doubled, find the ratio of the new frequency to the old frequency?
 A) 1/4 C) $\sqrt{2}$
 B) 1/2 D) $1/\sqrt{2}$
- Q.31** In the diagram below, the displacement of an oscillating particle is plotted against time. What does the length 'PR' on the time axis represents?

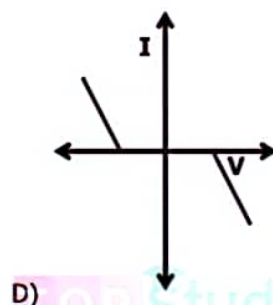
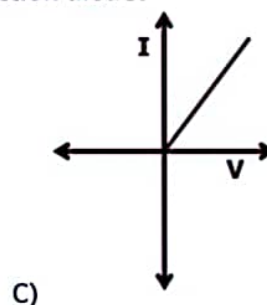
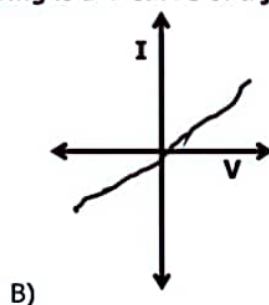
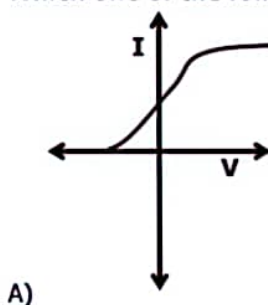
Displacement



- A) Twice the frequency C) Half the frequency
 B) Half the period D) Twice the period
- Q.32** When the source of sound moves towards the stationary observer, the value of apparent frequency ' f_o ' is:
 A) $f_o = \left(\frac{v+u_s}{v}\right) f$ C) $f_o = \left(\frac{v}{v+u_s}\right) f$
 B) $f_o = \left(\frac{v}{v-u_s}\right) f$ D) $f_o = \left(\frac{v-u_s}{v}\right) f$
- Q.33** The ratio of tensile strength to tensile strain is called
 A) Modulus of elasticity C) Young's Modulus
 B) Bulk Modulus D) Shear Modulus
- Q.34** A wire is stretched by a force 'F' which causes an extension Δl , the energy stored in the wire is:
 A) $F\Delta l$ C) $\frac{1}{2} F\Delta l^2$
 B) $2F\Delta l$ D) $\frac{1}{2} F\Delta l$

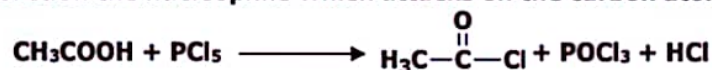
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- Q.35** H_2 and O_2 both are at thermal equilibrium at temperature 300 K. Oxygen molecule is 16 times massive than hydrogen. Root mean square speed of hydrogen is
 A) 4 root mean square of oxygen
 B) $\frac{1}{4}$ root mean square of oxygen
 C) $\frac{1}{16}$ root mean square of oxygen
 D) $\frac{1}{6}$ root mean square of oxygen
- Q.36** Which of the following is expression of mean square speed of 'N' gas molecules contained in a cylinder?
 A) $\frac{v_1 + v_2 + \dots + v_x}{N}$
 B) $\frac{v_1^2 + v_2^2 + \dots + v_x^2}{N}$
 C) $\sqrt{\frac{v_1 + v_2 + \dots + v_x}{N}}$
 D) $\sqrt{\frac{v_1^2 + v_2^2 + \dots + v_x^2}{N}}$
- Q.37** If 'Q' is the amount of heat supplied to a system and 'W' is the work done, then change in internal energy can be defined as
 A) Q/W
 B) $Q - W$
 C) W/Q
 D) $1 + Q/W$
- Q.38** A heat engine operating according to second law of thermodynamics rejects one fourth of the heat taken from high temperature reservoir. What is the percentage efficiency of heat engine?
 A) 100%
 B) 25%
 C) 50%
 D) 75%
- Q.39** First law of thermodynamics under adiabatic conditions can be mathematically written as:
 A) $Q = W$
 B) $Q = \Delta U$
 C) $Q = U + W$
 D) $W = -\Delta U$
- Q.40** What is the logic symbol for a NOT Gate?
 A) 
 B) 
 C) 
 D) 
- Q.41** The voltage that is applied across X-plates is provided by a circuit called
 A) Audio generator
 B) Time base generator
 C) Signal generator
 D) Linear generator
- Q.42** What will be the effect on the capacitance of a capacitor if area of each plate is doubled while separation between the plates is halved?
 A) Capacitance remains same
 B) Capacitance becomes double
 C) Capacitance becomes four times
 D) Capacitance reduces to half
- Q.43** 10 V potential difference is applied across the plate of $1 \mu F$ capacitor. What is the energy stored in capacitor?
 A) 0.5 mJ
 B) 0.05 mJ
 C) 5 mJ
 D) 50 mJ
- Q.44** Which one of the following is I-V curve of a junction diode?



CHEMISTRY

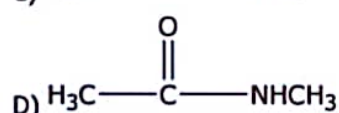
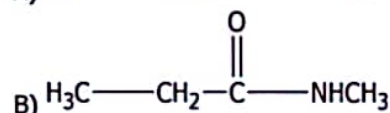
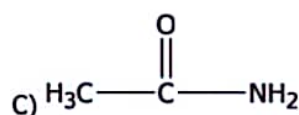
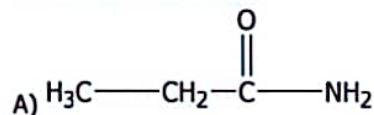
Q.45 In the below reaction the nucleophile which attacks on the carbon atom of acid is:



- A) OH-
B) P

- C) Cl-
D) H-

Q.46 When ethanol chloride reacts with methylamine, an amide is formed. What is the structure of the amide formed?

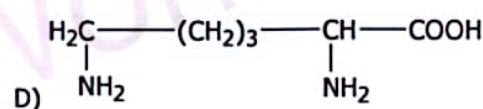
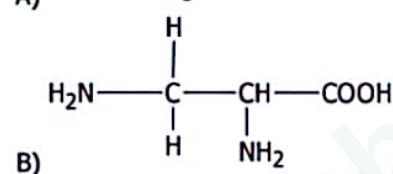
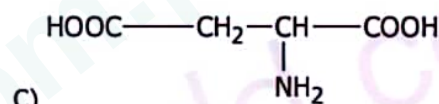
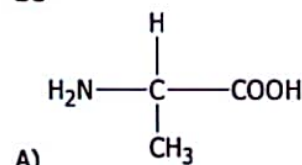


Q.47 Organic compound containing both amine and carboxyl group is known as

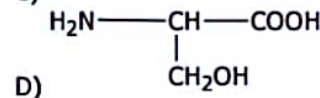
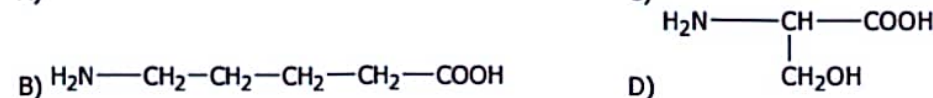
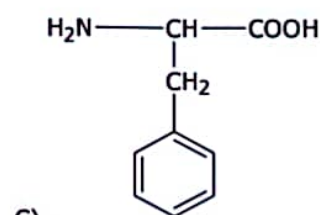
- A) Amino acid
B) Fatty acid

- C) Saccharide
D) Amide

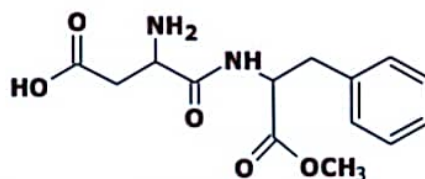
Q.48 Alanine is an amino acid which shows neutral effect on litmus paper, the formula of alanine may be



Q.49 Which of the following structures is not an alpha amino acid?



Q.50 The skeletal formula of dipeptide formed between aspartic acid and phenylalanine is given below:

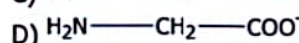
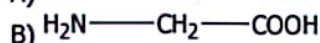
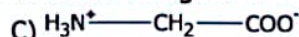
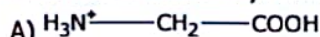


How many functional groups are present in its formula?

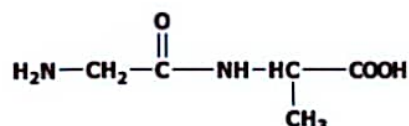
- A) 1
B) 2

- C) 4
D) 3

Q.51 In basic conditions, amino acid exists in which of the following forms?



Q.52 Structure of dipeptide is



This is called:

A) Glycyl glycine

C) Alaninyl alanine

C) Glycyl alanine

D) Alaninyl glycine

Q.53 The principle energy storage carbohydrate in animal's is

A) Glucose

C) Protein

B) Starch

D) Glycogen

Q.54 Starch is a polymer of

A) β -D-glucose

C) γ -D-glucose

B) α -glucose

D) α -L-glucose

Q.55 The reaction between fats and caustic soda is called

A) Hydrogenolysis

C) Esterification

B) Fermentation

D) Saponification

Q.56 Adipic acid and hexamethylene diamine both of which have _____ carbon atoms:

A) Seven

C) Six

B) Eight

D) Four

Q.57 Lactose is a sugar present in milk. It is an example of

A) Disaccharides

C) Polysaccharides

B) Monosaccharides

D) Starch

Q.58 Macromolecules are described as large molecules built up from small repeating units called:

A) Monomers

C) Metamers

B) Isomers

D) Tautomers

Q.59 The increase in concentration of oxidizing agents in smog like H_2O_2 , HNO_3 , PAN and ozone in the air is called

A) Carbonated smog

C) Photochemical smog

B) Nitrated smog

D) Sulphonated smog

Q.60 Which is the metal, whose elevated concentration is harmful for fish as it clogs the gills thus causing suffocation?

A) Sodium

C) Zinc

B) Lead

D) Aluminium

Q.61 An organic compound has empirical formula $\text{C}_3\text{H}_3\text{O}$, if molar mass of compound is $110.15 \text{ g mol}^{-1}$. The molecular formula of this organic compound is (A, of C=12, H=1.008 and O=16)

A) $\text{C}_6\text{H}_6\text{O}_2$

C) $\text{C}_9\text{H}_9\text{O}_3$

C) $\text{C}_3\text{H}_3\text{O}$

D) $\text{C}_6\text{H}_6\text{O}_3$

Q.62 When 8 grams (4 moles) of H_2 react with 2 moles of O_2 , how many moles of water will be formed?

A) Five

C) Six

B) Four

D) Three

Q.63 The number of molecules in 22.4 dm^3 of H_2 gas at 0°C and 1 atm are

A) 60.2×10^{23}

C) 6.02×10^{25}

B) 6.02×10^{22}

D) 6.02×10^{22}

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Q.64 Correct order of boiling points of the given liquid is

- A) $\text{H}_2\text{O} > \text{HF} > \text{HCl} > \text{NH}_3$ C) $\text{H}_2\text{O} > \text{HF} > \text{NH}_3 > \text{HCl}$
B) $\text{HF} > \text{H}_2\text{O} > \text{HCl} > \text{NH}_3$ D) $\text{HF} > \text{H}_2\text{O} > \text{NH}_3 > \text{HCl}$

Q.65 The relative energies of 4s, 4p and 3d orbitals are in the order

- A) $3d < 4p < 4s$ C) $4p < 4s < 3d$
B) $4s < 3d < 4p$ D) $4p < 3d < 4s$

Q.66 With increase in the value of Principal Quantum Number 'n', the shape of the s-orbitals remains the same although their sizes

- A) Decrease C) Remain the same
B) Increase D) May or may not remain the same

Q.67 The angle between unhybridized p-orbital and three sp^2 hybrid orbitals of each carbon atom in ether is:

- A) 120° C) 109.5°
B) 90° D) 180°

Q.68 In 'H-F' bond electronegativity difference is '1.9'. What is the type of this bond?

- A) Polar covalent bond C) Pi (π) bond
B) Non-polar covalent bond D) Co-ordinate covalent bond

Q.69 ' ΔH ' will be given a negative sign in

- A) Exothermic reactions C) Dissociation reaction
B) Decomposition reactions D) Endothermic reactions

Q.70 Lattice energy of an ionic crystal is the enthalpy of

- A) Combustion C) Dissolution
B) Dissociation D) Formation

Q.71 As number of solute particles increases, freezing point of the solution:

- A) Remains the same C) First increases, then decreases
B) Increases D) Decreases

Q.72 Boiling point constants help us to determine

- A) Molar masses C) Pressures
B) Volumes D) Masses

Q.73 In electrolysis of aqueous CuCl_2 , the metal deposited at cathode is

- A) Sodium C) Lead
B) Aluminium D) Copper

Q.74 In MgCl_2 , the oxidation state of 'Cl' is

- A) Zero C) -2
B) +2 D) -1

Q.75 Formation of NH_3 is reversible and exothermic process, what will happen on cooling?

- A) More reactant will form C) More H_2 will be formed
B) More N_2 will be formed D) More product (NH_3) will be formed

Q.76 A buffer solution is that which resists/minimizes the change in

- A) pOH C) pKa
B) pH D) pKb

Q.77 In some reactions, a product formed acts as a catalyst. The phenomenon is called

- A) Negative Catalysis C) Heterogeneous catalysis
B) Activation of Catalyst D) Autocatalysis

Q.78 The reaction rate in forward direction decreases with the passage of time because

- A) Concentration of reactants decrease C) The order of reaction changes
B) Concentration of product decreases D) Temperature of the system changes

- Q.79 Which one remains same along a period?**
 A) Atomic radius
 B) Melting point
 C) Number of shells (orbits)
 D) Electrical conductivity
- Q.80 More the ionization energy of an element:**
 A) More the electropositivity
 B) More the reducing power
 C) Less the metallic character
 D) Bigger the atomic radius
- Q.81 Alkaline earth metal hydroxides decompose on heating. Which of the following reactions is a correct representation of this decomposition?**
 A) $M(OH)_{2(s)} \longrightarrow MO_{(s)} + H_2O_{(l)}$
 B) $MOH_{(s)} \longrightarrow M_2O_{(s)} + H_2O_{(l)}$
 C) $2MOH_{2(s)} \longrightarrow 2MO_{(s)} + H_{2(l)}$
 D) $4MOH_{(s)} \longrightarrow 4M_{(s)} + 2H_2O_{(l)} + O_2$
- Q.82 Carbon has the unique ability to form long chains by bonding with other carbon atoms. This property of self-linking in carbon is known as:**
 A) Condensation
 B) Polymerization
 C) Cyclization
 D) Catenation
- Q.83 Oxidation state of 'Mn' in $KMnO_4$, K_2MnO_4 , MnO_2 and $MnSO_4$ is in the order:**
 A) +7, +6, +2, +4
 B) +6, +7, +2, +4
 C) +7, +6, +4, +2
 D) +4, +6, +7, +2
- Q.84 Which pair of transition elements shows abnormal electronic configuration?**
 A) Sc and Zn
 B) Cu and Sc
 C) Zn and Cu
 D) Cu and Cr
- Q.85 The acid rain water has pH:**
 A) Below 5
 B) 7
 C) Between 5 and 7
 D) Between 7 and 14
- Q.86 In Contact Process for manufacturing sulphuric acid, Sulphur trioxide (SO_3) is not absorbed in water because**
 A) The reaction does not go to completion
 B) The reaction is highly exothermic
 C) The reaction is quite slow
 D) SO_3 is insoluble in water
- Q.87 In modern Haber Process Plants, the temperature maintained during the process is**
 A) 670 – 770 K (400 °C – 500 °C)
 B) 270 – 370 K (0 °C – 100 °C)
 C) 370 – 470 K (100 °C – 200 °C)
 D) 570 – 600 K (300 °C – 380 °C)
- Q.88 In the Haber process for manufacturing of ammonia, Nitrogen is taken from**
 A) Proteins occurring in living bodies
 B) Ammonium salts obtained industrially
 C) Air
 D) Minerals containing nitrates
- Q.89 Ethene on polymerization, gives the product polyethene. This reaction may be called as**
 A) Addition
 B) Condensation
 C) Substitution
 D) Pyrolysis
- Q.90 In the following, which one is free radical?**
 A) Cl^-
 B) Cl^+
 C) Cl_2
 D) $Cl^\bullet$
- Q.91 The introduction of $R-\overset{\overset{O}{||}}{C}^+$ group in benzene is called**
 A) Acylation
 B) Carbonyl reduction
 C) Alkylation
 D) Formylation
- Q.92 The alkaline hydrolysis of bromoethane shown below gives alcohol as the product:**

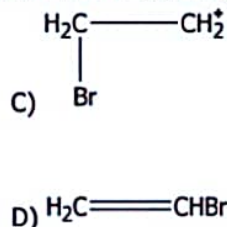
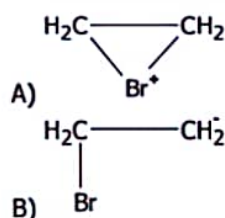


The reagent and the condition used in this reaction may be:

- A) H_2O at room temperature
 B) Ethanol, heat
 C) KOH in alcohol
 D) Dilute $NaOH_{(aq)}$ warm

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Q.93 In the reaction of ethane with bromine the intermediate formed is



Q.94 In substitution reactions, dihaloalkane or secondary halogenoalkane give / show:

- A) $\text{S}_{\text{N}}1$ Mechanism
 B) $\text{S}_{\text{N}}2$ Mechanism
 C) Both E_1 and E_2
 D) Both $\text{S}_{\text{N}}1$ and $\text{S}_{\text{N}}2$

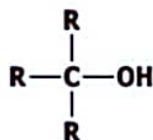
Q.95 The dehydration of ethyl alcohol with concentrated H_2SO_4 at 140°C gives:

- A) Ethene
 B) Diethyl ether
 C) Alcohol
 D) Carboxylic acid

Q.96 Ethanol can be converted in to ethanoic acid by:

- A) Oxidation
 B) Fermentation
 C) Hydration
 D) Hydrogenation

Q.97 The following structure is of:



- A) Secondary alcohol
 B) Primary alcohol
 C) Tertiary alcohol
 D) Carboxylic acid

Q.98 When ethanol is warmed with ethanoic acid in the presence of strong acid catalyst, an ester ethyl ethanoate is formed.



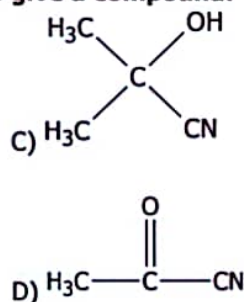
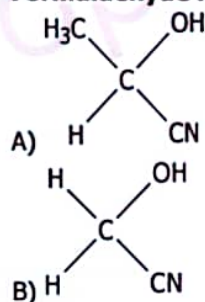
During this reaction:

- A) Alcohol is reduced
 B) O-H bond in ethanoic acid is broken
 C) O-H bond in ethanol is broken
 D) Acid is oxidized

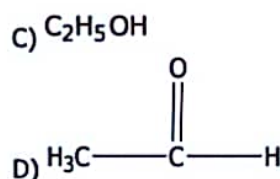
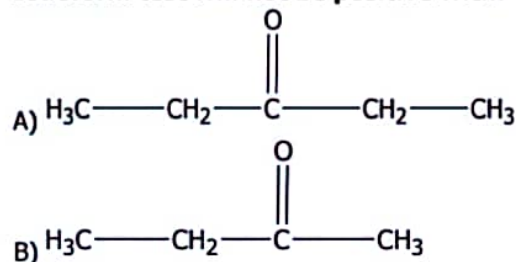
Q.99 Primary alcohols normally give us aldehydes when oxidized in the presence of $\text{Na}_2\text{Cr}_2\text{O}_7$, what the product will be, when the secondary alcohols are oxidized in same conditions?

- A) Alkenes
 B) Alkynes
 C) Alkyl halides
 D) Ketones

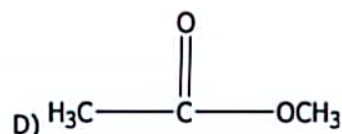
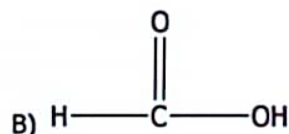
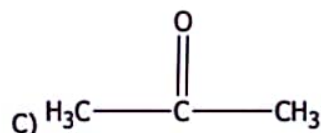
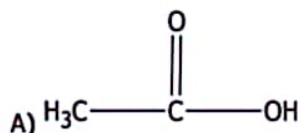
Q.100 Formaldehyde reacts with HCN ($\text{NaCN} + \text{HCl}$) to give a compound:



Q.101 Iodoform test will not be positive with:



Q.102 When $\text{CH}_3\text{—CH}_2\text{—OH}$ is oxidized in the presence of $\text{K}_2\text{Cr}_2\text{O}_7$ and H_2SO_4 , the product formed is



ENGLISH

Q.103 He had a heart attack and all attempts to _____ him failed.

- A) Renew
B) Resuscitate

- C) Revise
D) Refurnish

Q.104 The _____ stench of dead animals and plants made Mumtaz ill.

- A) Putrid
B) Purified

- C) Perturbed
D) Purchased

Q.105 While going up the hills, by bus, she felt _____ inside.

- A) Fishy
B) Itchy

- C) Queasy
D) Squeezy

Q.106 The craft statesman manipulated the situation by making false promises and declaring sport festivities as a _____ to fool the public.

- A) Red-Hearing
B) Red-Feather

- C) Red-Herring
D) Red-Haring

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

Q.107 The theory was discarded as there was no corroborating evidence for its favour.

- A) B) C)

D)

Q.108 The workers were raising much hue and cry when their demands were turned away.

- A) B)

C)

D)

Q.109 Aslam was badly cudgeled from his step-brother. He received many bruises and contusions. Thank God! No

injury was serious.

D)

A)

B)

C)

Q.110 I extend a cordial invitation for you to visit our farm house. We have grown vegetables without chemical

fertilizers over there.

D)

A)

B)

C)

Q.111 Although he is not a close relative of me, yet I was greeted with a show of deep cordiality.

A)

B)

C)

D)

Q.112 This antibiotic destroys red corpuscles in the blood and cause pernicious anaemia.

A)

B) C)

D)

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⇒ 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) Why does not Nomana remained true to her husband?
- B) Why did not Nomana remain true to her husband?
- C) Why had not Nomana remain true to her husband?
- D) Why did not Nomana remained true to her husband?

Q.114

- A) All my childhood, I longed desperately in for a tricycle.
- B) All my childhood, I longed desperately to a tricycle.
- C) All my childhood, I longed desperately for a tricycle.
- D) All my childhood, I longed desperately at a tricycle.

Q.115

- A) She felt unreal to the voice informed her of the subway accident.
- B) She felt unreal as the voice informed her of the subway accident.
- C) She felt unreal that the voice informed her of the subway accident.
- D) She felt unreal for the voice informed her of the subway accident.

Q.116

- A) Bill Gates is one of the wealthiest person in the world.
- B) Bill Gates is one of the wealthy person in the world.
- C) Bill Gates is one of the wealthiest persons in the world.
- D) Bill Gates is one of the more wealthy person in the world.

Q.117

- A) Her father is a SP in the Punjab Police.
- B) Her father was a SP in the Punjab Police.
- C) Her father is an SP in the Punjab Police.
- D) Her father are a SP in the Punjab Police.

Q.118

- A) There were musical instruments in the shop.
- B) There was musical instruments in the shop.
- C) There has musical instruments in the shop.
- D) There is musical instruments in the shop.

Q.119

- A) He died for heart attack in 1982.
- B) He died with heart attack in 1982.
- C) He died in heart attack in 1982.
- D) He died of heart attack in 1982.

Q.120

- A) Always speak in the truth.
- B) Always tell for the truth.
- C) Always tell the truth.
- D) Always telling truth.

Q.121

- A) Hand up the answer sheet to me.
- B) Hand over the answer sheet to me.
- C) Hand down the answer sheet to me.
- D) Hand for the answer sheet to me.

Q.122

- A) Are you noticed the peach blossoms?
- B) Have you noticed the peach blossoms?
- C) Will you noticed the peach blossoms?
- D) Were you noticed the peach blossoms?

⇒ 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 **DISSONANCE**

- A) Inconsistency
- B) Expansion
- C) Perceptible
- D) Warp

Q.124 **TRIFLE**

- A) Pudding
- B) Minor
- C) Deluge
- D) Treble

- Q.125 MURKY**
A) Dusty
B) Squeamy
C) Clear
D) Unclear
- Q.126 FAUX**
A) Blunder
B) Mistake
C) Indiscretion
D) False
- Q.127 MYRIAD**
A) Countable
B) Multitude
C) Measured
D) Blurred
- Q.128 FACILE**
A) Fallacy
B) Depict
C) Delicate
D) Superficial
- Q.129 MAGNUM**
A) Masterpiece
B) Magnanimity
C) Modest
D) Magnetic
- Q.130 SIDLE**
A) Sneak
B) Sift
C) Siege
D) Sieve
- Q.131 PLETHORA**
A) Plastic
B) Super-fluidity
C) Measure
D) Malleable
- Q.132 VERTEX**
A) Poetry
B) Depth
C) Zenith
D) Diminish

BIOLOGY

- Q.133 The part of neuron fibre which conducts nerve impulses from the cell body is**
A) Dendron
B) Dendrites
C) Axon
D) Peripheral branch
- Q.134 The number of cranial nerves in human is**
A) 31 pairs
B) 12 pairs
C) 24 pairs
D) 62 pairs
- Q.135 The part of brain which controls breathing, heart rate and swallowing is**
A) Cerebrum
B) Cerebellum
C) Medulla
D) Hypothalamus
- Q.136 Syphilis is a sexually transmitted disease which is caused by**
A) Neisseria gonorrhoeae
B) E. coli
C) Treponema pallidum
D) Mycobacterium avium
- Q.137 Discharge of ovum or secondary oocyte from ovary or from Graafian follicle is called**
A) Fertilization
B) Pollination
C) Follicle formation
D) Ovulation
- Q.138 Second meiotic division in the secondary oocyte proceeds as far as**
A) Metaphase
B) Prophase
C) Anaphase
D) Telophase
- Q.139 Which one of the following differentiates directly into mature sperm?**
A) Primary spermatocyte
B) Secondary spermatocyte
C) Spermatogonia
D) Spermatid

Page 14 of 19**Q.140 Uterus opens into the vagina through**

- A) Cervix
- B) Fallopian tube
- C) External genitalia
- D) Vulva

Q.141 Each muscle fibre is surrounded by membrane which is called

- A) Sarcomere
- B) Sarcolemma
- C) Twitch fibre
- D) Capsule

Q.142 When calcium ions are released from the sarcoplasmic reticulum they bind with _____ during muscle contraction

- A) Tropomyosin
- B) Sarcolemma
- C) Cytosol's ions
- D) Troponin

Q.143 Human and mammalian skeleton can be divided into two parts, axial skeleton and

- A) Appendicular skeleton
- B) Exoskeleton
- C) Endoskeleton
- D) Hydrostatic skeleton

Q.144 Last four vertebrae in humans are fused to form a structure called

- A) Sacrum
- B) Cervical vertebrae
- C) Pubis
- D) Coccyx

Q.145 How many bones are involved in the formation of each half of pelvic girdle?

- A) 3 bones
- B) 4 bones
- C) 2 bones
- D) 1 bone

Q.146 Ductless glands are known as

- A) Endocrine gland
- B) Exocrine gland
- C) Salivary glands
- D) Bile glands

Q.147 Gastrin is the hormone which is produced by the

- A) Liver
- B) Pyloric region of stomach
- C) Adrenal gland
- D) Mucosal lining of intestine

Q.148 β -cells of liver secrete a hormone that is called

- A) Insulin
- B) Glucagon
- C) Antidiuretic hormone
- D) Gastrin

Q.149 Vasopressin and Oxytocin are released from the

- A) Placenta
- B) Ovary
- C) Anterior pituitary
- D) Posterior pituitary

Q.150 Antigen is a foreign protein or any other molecule which stimulates the formation of

- A) MHC complex
- B) Immunogen
- C) Mucus
- D) Antibodies

Q.151 Antibodies are produced by which of the following lymphocytes?

- A) B lymphocytes
- B) A lymphocytes
- C) T lymphocytes
- D) B and T lymphocytes

Q.152 T-lymphocytes become mature and competent under the influence of

- A) Liver
- B) Bursa of fabricius
- C) Thymus gland
- D) Spleen

Q.153 Skin and mucous membranes are part of the body defense system and they form the

- A) Physical barrier
- B) Mechanical barriers
- C) Chemical barriers
- D) Biological barriers

Q.154 Snake bite is treated with which type of immunization?

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

- Q.155 The product(s) of cyclic photophosphorylation is / are:**
 A) ATP
 B) NADP
 C) NADP and ATP
 D) NADP, ATP, and O₂
- Q.156 Total NADH formed by one glucose molecule during Krebs's Cycle are**
 A) 6
 B) 3
 C) 8
 D) 18
- Q.157 The terminal electron acceptor in electron transport chain is**
 A) Hydrogen
 B) Iron
 C) Cytochrome
 D) Oxygen
- Q.158 The end product of glycolysis is**
 A) ADP
 B) Reduced FAD
 C) Citric acid
 D) Pyruvate
- Q.159 One molecule of FADH₂ is produced in Krebs's cycle during conversion of**
 A) Fumarate Malate
 B) Succinate Fumarate
 C) Malate Oxaloacetate
 D) α-Ketoglutarate Succinate
- Q.160 In recombinant DNA technology _____ are tools for manipulating DNA**
 A) Viruses
 B) Chromosomes
 C) Enzymes
 D) Genes
- Q.161 In DNA finger printing process, the use of _____ produces distinctive pattern on autoradiography or X-ray film**
 A) Restriction enzyme
 B) Microsatellites
 C) Macrosatellites
 D) Probes for genetic markers
- Q.162 In the recombinant DNA technology plasmids are used as**
 A) Genetic material
 B) Enzymes
 C) Vectors
 D) Probes
- Q.163 In which process, multiple copies of the desired genes are produced?**
 A) Polymerase chain reaction
 B) Gene sequencing
 C) Analyzing DNA
 D) DNA finger printing
- Q.164 The enzyme adenosine deaminase is missing in person suffering from:**
 A) Cystic fibrosis
 B) Hypercholesterolemia
 C) Severe combined immunodeficiency syndrome
 D) Parkinson's disease
- Q.165 What is the niche of an organism in an ecosystem?**
 A) Role played by many organisms in an ecosystem
 B) Role played by a dead organism in an ecosystem
 C) Role played by community of microorganisms in their ecosystem
 D) Role played by an organism in its ecosystem.
- Q.166 The distinct levels or links of food chain are called**
 A) Trophic level
 B) Food web
 C) Energy pyramid
 D) Food chain
- Q.167 A relationship between two or more organisms of different species in which all partners get benefit is called**
 A) Symbiosis
 B) Parasitism
 C) Commensalism
 D) Predation
- Q.168 Bacteria and fungi are examples of**
 A) Producers
 B) Decomposers
 C) Consumers
 D) Denvers
- Q.169 The cause of acid rain is**
 A) Oxides of carbon
 B) Oxides of nitrogen and Sulphur
 C) Oxides of Sulphur
 D) Oxides of nitrogen

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- Q.170 When the presence of a gene at one locus suppresses the effect of a gene at another locus, the phenomenon is called**
A) Hypostasis
B) Pleiotropy
C) Epistasis
D) Epitropy
- Q.171 The gene for ABO-blood group systems in humans is represented by symbol:**
A) X
B) I
C) Y
D) O
- Q.172 When a single gene affects two or more traits, the phenomenon is called**
A) Epistasis
B) Pleiotropy
C) Dominance
D) Over dominance
- Q.173 The comparative embryology of all vertebrates shows development of**
A) Hairs
B) Gill pouches
C) Scales
D) Fins
- Q.174 In men, sex-determination depends upon the nature of**
A) Heterogametic male
B) Homogametic female
C) Heterogametic female
D) Homogametic male
- Q.175 Population of different species (plants and animals) living in the same habitat form a**
A) Community
B) Ecosystem
C) Biosphere
D) Microhabitat
- Q.176 The part of the body which forms a structural and functional unit and is composed of more than one tissue is called**
A) Organ
B) Organelle
C) Organ system
D) Whole organism
- Q.177 A method in which pests are destroyed by using same living organisms or natural enemies is called**
A) Pasteurization
B) Integrated disease management
C) Biological control
D) Genetic engineering
- Q.178 Chemicals produced by microorganisms which are capable of destroying the growth of microbes are called**
A) Antigen
B) Biocidal
C) Antiseptics
D) Antibiotics
- Q.179 Plastids are only found in the**
A) Animals and Plants
B) Animals
C) Plants
D) Viruses
- Q.180 Plasma membrane is chemically composed of**
A) Phospholipids only
B) Lipids and proteins
C) Lipids and carbohydrates
D) Glycoproteins
- Q.181 Endoplasmic reticulum contains a system of flattened membrane-bounded sacs which are named as**
A) Cristae
B) Marks
C) Cisternae
D) Tubules
- Q.182 Lipids synthesis / metabolism takes place in which of the following organelle?**
A) Mitochondria
B) Vacuoles
C) Rough endoplasmic reticulum
D) Smooth endoplasmic reticulum
- Q.183 Ribosomes exist in two forms, either attached with RER or freely dispersed in the**
A) Tonoplast
B) Golgi bodies
C) Cytoplasm
D) SER

- Q.184 Exchange of segments between homologous chromosomes is called**
A) Segregation
B) Independent assortment
C) Crossing over
D) Mutation
- Q.185 If a person has 44 autosomes + XXY, he will suffer from**
A) Klinefelter's syndrome
B) Down's syndrome
C) Turner's syndrome
D) Edward's syndrome
- Q.186 The ribosomal RNA is synthesized and stored in**
A) Endoplasmic reticulum
B) Nucleolus
C) Golgi complex
D) Chromosomes
- Q.187 In which stage of Interphase, there is increase in cell size and many biochemical are formed?**
A) G₂ phase
B) G₁ phase
C) S phase
D) C phase
- Q.188 In Down's syndrome, which one of the following pair of chromosome fails to segregate?**
A) 7
B) 18
C) 21
D) 19
- Q.189 Carbohydrates are organic molecules and contain three elements**
A) Carbon, water and oxygen
B) Carbon, Sulphur and hydrogen
C) Carbon, calcium and hydrogen
D) Carbon, hydrogen and oxygen
- Q.190 Which one are intermediates in respiration and photosynthesis both?**
A) Ribose and heptolose
B) Glyceraldehydes and dihydroxyacetone
C) Glucose and galactose
D) Fructose and ribulose
- Q.191 Which of the following is a peptide bond?**
A) -C-N
B) -C-O
C) -C-P
D) -C-S
- Q.192 Which of the following is an unsaturated fatty acid?**
A) Acetic Acid
B) Butyric acid
C) Oleic acid
D) Palmitic acid
- Q.193 Which of the following combination of base pair is absent in DNA?**
A) A-T
B) C-G
C) A-U
D) T-A
- Q.194 The type of inhibition in which inhibitor has no structural similarity to substrate and combines with enzyme at other than the active site is called**
A) Irreversible inhibition
B) Competitive inhibition
C) Non-competitive and reversible inhibition
D) Reversible inhibition
- Q.195 The inhibitors that bind tightly and permanently to enzymes and destroy their globular structure and catalytic activity are**
A) Reversible inhibitors
B) Irreversible inhibitors
C) Competitive inhibitors
D) Non-competitive inhibitors
- Q.196 Enzyme succinate dehydrogenase converts succinate into**
A) Malate
B) Malonic acid
C) Citrate
D) Fumarate
- Q.197 If the detachable co-factor is an inorganic ion then it is designated as**
A) Coenzyme
B) Prosthetic group
C) Holoenzyme
D) Activator
- Q.198 In HIV viruses, reverse transcriptase converts single-stranded RNA into double stranded viral DNA. This process is called**
A) Translation
B) Duplication
C) Replication
D) Reverse Transcriptase

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- Q.199 Mesosomes are infoldings of the cell membrane and are involved in**
A) DNA replication
B) RNA synthesis
C) Protein synthesis
D) Metabolism
- Q.200 Most widespread problem of the antibiotics misuse is the**
A) Rapid cure
B) Increased resistance in pathogen
C) Disturbance of metabolism
D) Immunity
- Q.201 Which of the following component is found in the cell wall of fungi?**
A) Cellulose
B) Chitin
C) Proteins
D) Glycerol
- Q.202 The male reproductive parts of the flower are called**
A) Gynoecium
B) Calyx
C) Androecium
D) Corolla
- Q.203 Fasciola is the name given to**
A) Tapeworm
B) Planaria
C) Liver fluke
D) Earthworm
- Q.204 Ascaris is**
A) Diploblastic
B) Triploblastic
C) Haploid
D) Acoelomate
- Q.205 During development, in an animal, mesoderm layer gives rise to**
A) Nervous System
B) Alimentary canal lining
C) Muscular and skeletal system
D) Mouth
- Q.206 Polymorphism is characteristic feature of**
A) Porifera
B) Cnidaria
C) Annelida
D) Nematodes
- Q.207 The muscles of the stomach walls thoroughly mix up the food with gastric juices and the resulting semi-solid / semi-liquid material is called**
A) Bolus
B) Bolus or chime
C) Mucus
D) Chyme
- Q.208 Trypsinogen is converted into trypsin by the activity of**
A) Goblet cells
B) Absorptive cells
C) Enterokinase
D) Peptidase
- Q.209 In large intestines, vitamin K is formed by the activity of**
A) Symbiotic bacteria
B) Obligate parasite
C) Parasitic bacteria
D) Facultative bacteria
- Q.210 Goblet cells secrete**
A) HCl
B) Mucus
C) Enzymes
D) Amylase
- Q.211 Mature mammalian red blood cells do not have**
A) Nucleus
B) Red color
C) Fluids
D) Haemoglobin
- Q.212 In a normal person plasma constitutes about _____ by volume of blood**
A) 50%
B) 60%
C) 45%
D) 55%
- Q.213 Which vein has oxygenated blood?**
A) Renal vein
B) Subclavian vein
C) Pulmonary vein
D) Jugular vein

- Q.214 What is the residual volume of air which always remains inside the lungs of human?**
A) 3.5 Liters
B) 0.5 Liters
C) 5.0 Liters
D) 1.5 Liters
- Q.215 In nephron, most of the reabsorption takes place in the**
A) Distal tubule
B) Proximal tubule
C) Ascending limb
D) Descending limb
- Q.216 Detection of change and signaling for effector's response to the control system is a**
A) Negative feedback
B) Positive feedback
C) Inter-coordination
D) Feedback mechanism
- Q.217 What are three components of mechanism of homeostatic regulations?**
A) Receptors, control centre and effectors
B) Sensory, motor and associative neurons
C) CNS, PNS and diffused nervous system
D) Cerebrum, cerebellum and pons
- Q.218 Blood enters the glomerulus through**
A) Efferent arteriole
B) Afferent arteriole
C) Renal artery
D) Renal vein
- Q.219 Which portion of nephron is under the control of ADH?**
A) Bowman's capsule
B) Ascending arm
C) Distal and collecting ducts
D) Descending arm
- Q.220 Cause of Parkinson's disease is death of brain cells that produce**
A) Dopamine
B) Acetylcholine
C) ADH hormone
D) Oxytocin

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UNIVERSITY OF HEALTH SCIENCES, LAHORE

Entrance Test – 2012

For admission to Medical / Dental Institutions of the Punjab

ANSWER KEY

The answer key to the questions of Entrance Test 2012 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	B	46	D	92	D	138	A	184	C
1	B	47	A	93	A	139	D	185	A
2	C	48	A	94	D	140	A	186	B
3	A	49	B	95	B	141	B	187	B
4	D	50	C	96	A	142	D	188	C
5	A	51	D	97	A	143	A	189	D
6	B	52	B	98	C	144	D	190	B
7	B	53	D	99	D	145	A	191	A
8	A	54	B	100	B	146	A	192	C
9	D	55	D	101	A	147	C	193	C
10	A	56	C	102	A	148	X	194	C
11	D	57	A	103	B	149	D	195	B
12	A	58	A	104	A	150	D	196	D
13	B	59	C	105	C	151	A	197	D
14	B	60	D	106	C	152	C	198	D
15	C	61	A	107	D	153	A	199	A
16	D	62	B	108	D	154	B	200	B
17	B	63	D	109	A	155	A	201	B
18	B	64	C	110	A	156	A	202	C
19	B	65	B	111	A	157	D	203	C
20	D	66	B	112	D	158	D	204	B
21	A	67	B	113	B	159	B	205	C
22	A	68	A	114	C	160	C	206	B
23	C	69	A	115	B	161	D	207	D
24	D	70	D	116	C	162	C	208	C
25	C	71	D	117	C	163	A	209	A
26	B	72	A	118	A	164	C	210	B
27	D	73	D	119	D	165	D	211	A
28	B	74	D	120	C	166	A	212	D
29	C	75	D	121	B	167	A	213	C
30	D	76	B	122	B	168	B	214	D
31	B	77	D	123	A	169	B	215	B
32	B	78	A	124	B	170	C	216	D
33	C	79	C	125	D	171	B	217	A
34	D	80	C	126	D	172	B	218	B
35	A	81	A	127	B	173	B	219	C
36	A	82	D	128	D	174	A	220	A
37	B	83	C	129	A	175	A		
38	D	84	D	130	A	176	A		
39	D	85	A	131	B	177	C		
40	A	86	B	132	C	178	D		
41	B	87	A	133	C	179	C		
42	C	88	C	134	B	180	B		
43	B	89	A	135	C	181	C		
44	B	90	D	136	C	182	D		
45	C	91	A	137	D	183	C		

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