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- Q.7 Gradual break down of the alveolar wall leads to which type of disease in a smoker?**
- A) Cororary heart disease
B) Bronchitus
C) Emphysema
D) Asthma
- Q.8 Which of the following holds the alpha helix of protein in its place**
- A) R group
B) Disulphide bond
C) Amino group
D) Hydrogen bond
- Q.9 If molecule can bind to another site of the enzyme rather than the true active site, it is referred as--**
- A) Competitive Inhibitors
B) Allosteric inhibition
C) Non competitive inhibitors
D) Irreversible inhibition
- Q.10 _____ is the site of light independent reaction**
- A) Thylakoid membrane
B) Thylakoid space
C) Stroma
D) Grana
- Q.11 When a nerve impulse jumps from one node of Ranvier to the next in a myelinated neuron, its called _____**
- A) synapses
B) Saltatory conduction
C) Resting potential
D) Membrane potential
- Q.12 The ability to distinguish between two separate points/objects is**
- A) Magnification
B) Fractionation
C) Centrifugation
D) Resolution
- Q.13 The term "Loss of appetite" refers to disease:**
- A) Botulism
B) Anorexia nervosa
C) Obesity
D) Bulimia nervosa
- Q.14 Lipid synthesis or lipid metabolism is the function of:**
- A) Smooth Endoplasmic Reticulum
B) mitochondria
C) Golgi complex
D) Rough Endoplasmic Reticulum
- Q.15 Salivary Amylase begins to digest Starch to shorter polysaccharides and then to**
- A) Glucose
B) Maltose
C) Sucrosus
D) Lactose
- Q.16 Chemical nature of primer used in PCR process is -----**
- A) RNA
B) Protein
C) Carbohydrate
D) DNA
- Q.17 In viruses, a combined structure formed by core (Nucleic Acid) and capsid is :**
- A) Nucleocapsid
B) Prion
C) Envelope
D) Capsomeres
- Q.18 Skull, vertebral column, ribs and sternum forms :**
- A) Appendicular skeleton
B) Hydrostatic Skeleton
C) Exoskeleton
D) Axial skeleton
- Q.19 Synthesis of microtubules increases in**
- A) M -phase
B) S- phase
C) G1- phase
D) G2 - phase
- Q.20 The region of the chromosome or, more specifically, a length of the DNA molecule, which has a particular function is called -----**
- A) Kinetochore
B) Locus
C) Allele
D) Gene

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Q.21 Urea cycle is the detoxification of

- A) Creatinine
- B) Amino acids
- C) Carbon dioxide
- D) Ammonia

Q.22 Chitin which makes the Exoskeleton in insects is further hardened by

- A) Protein and Sodium Bicarbonate
- B) Protein and Calcium Carbonate
- C) Protein and Potassium Carbonate
- D) Protein and Sodium Carbonate

Q.23 Number of salivary glands found in human oral cavity.

- A) 4
- B) 3
- C) 6
- D) 2

Q.24 Following group is the example of acoelomates

- A) Annelids
- B) Aschelminthes
- C) Molluscs
- D) Platyhelminthes

Q.25 Glycosidic bond is formed by the:

- A) Removal of Oxygen
- B) Addition of Oxygen
- C) Removal of Water
- D) Addition of Water

Q.26 Which of the following statement is correct about the respiratory pigments

- A) Myoglobin and Haemoglobin has higher affinity for nitrogen
- B) Cyanide and Haemoglobin has low affinity for oxygen
- C) Myoglobin has more affinity for oxygen as compared to haemoglobin
- D) Albumin, Globulin and Globin proteins are present in respiratory pigments

Q.27 Conversion of ammonium into nitrates is

- A) Nitrification
- B) Nitrogen Fixation
- C) Ammonification
- D) Denitrification

Q.28 An area previously supporting life is made barren, the subsequent recolonization is called—

- A) Climax community
- B) Pioneer succession
- C) Primary succession
- D) Secondary succession

Q.29 In human female egg is fertilized in

- A) Ovary
- B) Vagina
- C) Oviduct
- D) Uterus

Q.30 Which hormone is released in female in response to FSH from pituitary gland?

- A) Oestrogen
- B) ADH
- C) Oxytocin
- D) Progesterone

Q.31 In cross section each Centriole consist of nine (each in triplets) of

- A) Microfilaments
- B) Microvilli
- C) Microtubules
- D) Intermediat filaments

Q.32 In immunoglobulins /antibodies, Two light chains and two heavy chains are linked to each other by:

- A) Covalent bonds
- B) Hydrogen bonds
- C) Ionic bonds
- D) Disulphide bonds

Q.33 In nervous system chemical messengers are called _____.

- A) Neurotransmitters
- B) Hormones
- C) Chemoreceptores
- D) Enzymes

Q.34 The first part of the large intestine is

- A) Colon
- B) appendix
- C) Caecum
- D) Rectum

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- Q.35 Scapula is a**
A) Tail bone
B) Hip bone
C) Skull bone
D) Shoulder bone
- Q.36 A complete turn of the double helix of DNA comprises of:**
A) 34 nm
B) 3.4 Angstrom
C) 3.4 nm
D) 34 micrometer
- Q.37 The enzymes required in Glycolysis are present in:**
A) Golgi Apparatus
B) Cell cytoplasm
C) Inner Mitochondrial Membrane
D) Matrix of Mitochondria
- Q.38 Which lipid is totally hydrophobic or insoluble**
A) Triglycerides
B) Phospholipids
C) Waxes
D) Terpenoids
- Q.39 _____ hormone is released from posterior lobe of pituitary gland.**
A) Adrenaline
B) Thyroid stimulating hormone
C) FSH
D) Antidiuretic hormone
- Q.40 Ribosomes are made up of _____ and _____.**
A) Proteins and carbohydrates
B) RNA and Lipid
C) RNA and proteins
D) RNA and carbohydrates
- Q.41 A non protein part essential for proper and essential functioning of enzyme is called**
A) Additional factor
B) Co factor
C) Efficient co factor
D) Extra factor
- Q.42 DNA made by joining pieces from two or more different sources**
A) Probes
B) Restriction endonuclease
C) Mutated DNA
D) Recombinant DNA
- Q.43 The Hormone which controls the uptake of the Sodium ions in kidney and its maintenance in blood plasma is**
A) Somatotrophic Hormone
B) Aldosterone Hormone
C) Gonadotrophic Hormone
D) Thyroxin hormone
- Q.44 which statement is correct about mitochondria and chloroplast**
A) Number of mitochondria and chloroplast are same in all cells
B) chloroplast and mitochondria are single membrane structures
C) chloroplast and mitochondria can not live independently
D) 70 S ribosome is attached with the inner membrane of mitochondria and chloroplast.
- Q.45 The capillaries of glomerulus rejoin to form an-----**
A) Efferent arteriole
B) Afferent arteriole
C) Peritubular capillaries
D) Collecting duct
- Q.46 How many sodium ions are pumped out in response to two potassium ions transported into the membrane?**
A) 2
B) 3
C) 4
D) 1
- Q.47 Chance of a cross over between two loci is directly proportional to their**
A) Thickness
B) Width
C) Length
D) Distance
- Q.48 Process ensuring the survival of species over long periods of time, even though individual members of the species die.**
A) Reproduction
B) Adaptability
C) Mitosis
D) Respiration

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Q.49 Lysogenic Viruses are also known as

- A) Enveloped Phage
- B) Virulent Phage
- C) Prophage
- D) Bacteriophage

Q.50 Organs Specialized to perform different functions but structurally alike are

- A) Analogous organs
- B) Homologous organs
- C) Autologous organs
- D) Annelogous organs

Q.51 By PCR we means

- A) Polymerase chronic reaction
- B) Polymerase chain reaction
- C) Polymerase copy reaction
- D) Polymerase cross reaction

Q.52 If lipopolysaccharides did not appear in the wall of bacteria on staining then it will be known as _____

- A) Gram negative
- B) Gram positive
- C) Capsule
- D) Gram positive & gram negative

Q.53 The low levels of Surfactant produced by Alveolar epithelium causes :

- A) Respiratory distress syndrome
- B) Emphysema
- C) Bronchitis
- D) Asthma

Q.54 Deficiency of enzyme _____ causes combined immunodeficiency syndrome

- A) Adenosine transcriptase
- B) Adenosine transaminase
- C) Adenosine polymerase
- D) Adenosine deaminase

Q.55 Site of protein synthesis in cells are

- A) Ribosomes
- B) Endoplasmic Reticulum
- C) Nucleolus
- D) Smooth Endoplasmic Reticulum

Q.56 Keeping correct balance of ions and water in our body is called as:

- A) Thermoregulation
- B) Osmoregulation
- C) Excretion
- D) Selective reabsorption

Q.57 There are _____ number of linkage groups in human

- A) 46
- B) 22
- C) 80
- D) 23

Q.58 The actual or preserved remains of the organisms that lived in the ancient past are called

- A) Fossils
- B) Impression
- C) Ancient prints
- D) Ancient cast

Q.59 Which one of the following cells does not have nucleus

- A) Eosinophils
- B) Neutrophils
- C) Basophils
- D) Platelets

Q.60 These structures are involved in the breakdown of old organelles.

- A) Leucoplasts
- B) Peroxisome
- C) Glyoxysomes
- D) Lysosomes

Q.61 Which combination is the example of ball and socket joints

- A) Hip and shoulder joints
- B) Hip and knee joints
- C) Shoulder and knee joints
- D) Hip and elbow joints

Q.62 In aerobic respiration

- A) Pyruvate is completely oxidised to form carbondioxide and water
- B) Pyruvate is completely oxidised to form oxygen and water
- C) Pyruvate carboxylated to produce citrate
- D) Pyruvate is converted to ethanol and carbondioxide

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Q.63 Yeasts, the unicellular fungi belongs mostly to the group :

- A) Deuteromycota
- B) Zygomycota
- C) Basidiomycota
- D) Ascomycota

Q.64 Enzyme used by the Bacteria to cut the DNA of the invading Virus for its protection is

- A) Restriction exonuclease
- B) Restriction Ligase
- C) Restriction Endonuclease
- D) DNA polymerase

Q.65 The number and sequence of amino acids along a polypeptide chain is called _____ structure of a protein.

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

Q.66 Rod-shaped bacteria are known as _____

- A) Spirilla
- B) Bacilli
- C) Spirochete
- D) Cocci

Q.67 _____ is the exact position of a gene on the chromosome.

- A) Trait
- B) Centromere
- C) Genotype
- D) Locus

Q.68 Parathormone hormone production is controlled by the blood

- A) Ca level
- B) sugar level
- C) Na level
- D) Mg level

Q.69 Which one of the following act as a PACEMAKER in Heart

- A) Bundle of His
- B) Atrio ventricular node
- C) Atrio ventricular bundles of fibers
- D) Sino atrial node

Q.70 Single ringed pyrimidines are:

- A) Uracil, Cytosine and Thymine
- B) Cytosine, Guanine and Uracil
- C) Adenine and Guanine
- D) Cytosine, Adenine and Thymine

Q.71 Which one of the following is Multiple allelic character ?

- A) Colour of flower in pea plant
- B) Blood group of the human being
- C) Shape of seed in pea plant
- D) Length of stem in pea plant

Q.72 Which statement is correct about atrial systole

- A) Atria relax and ventricles contract
- B) Atria contract and ventricle also contract
- C) Ventricles remain relax while atria contract
- D) Atria and ventricles are relaxed

Q.73 Growth in the larva of young arthropods is restricted by

- A) Exoskeleton
- B) Appendages
- C) Endoskeleton
- D) Reduced mitosis

Q.74 At the last step of Glycolysis which of the following compound is formed

- A) Pyruvic Acid/ Pyruvate
- B) Lactic acid
- C) Ethyl Alcohol
- D) Fructose Phosphate

Q.75 NADP, nicotinamide adenine dinucleotide phosphate, is a carrier of :

- A) -OH Group
- B) O₂ Group
- C) Hydrogen
- D) Phosphate

Q.76 When filtration is completed the waste products through distal tube of Nephrons empties to

- A) Efferent Arterioles
- B) Collecting Tubles
- C) Peritubular capillaries
- D) Proximal tubles

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- Q.77 Blood solute potential is controlled by following hormone**
- A) Estrogen
B) Ephinephrin
C) Thyroxin
D) Vasopressin
- Q.78 The temperature that promotes the maximum activity of enzyme is referred as---**
- A) Fixed temperature
B) Optimum temperature
C) Controlled temperature
D) Active temperature
- Q.79 Divergent Evolution produces :**
- A) Vital Organs
B) Homologous Organs
C) Vestigial Organs
D) Analogous Organs
- Q.80 Tonoplast bounds which organelle**
- A) Golgi Complex
B) Nucleus
C) Endoplasmic Reticulum
D) Vacuoles
- Q.81 Antivenom given after a snake bite venom is an example of**
- A) Natural passive immunity
B) Artificial active immunity
C) Natural active immunity
D) Artificial passive immunity
- Q.82 The cisternae breaks up into vesicles from _____ of Golgi complex.**
- A) convex, maturing face
B) concave, forming face
C) convex, forming face
D) concave, maturing face
- Q.83 Which hormone causes the contraction walls of uterus during the process of birth?**
- A) FSH
B) STH
C) Oxytocin
D) LH
- Q.84 Which of the following is Unsaturated "Fatty Acid"**
- A) Stearic Acid
B) Palmitic Acid
C) Butyric Acid
D) Oleic Acid
- Q.85 When we extract Carotenoids from its source we see that it is**
- A) Violet in color
B) Blue green in color
C) Yellow green in color
D) Yellow to orange red in color
- Q.86 When two or more Alleles do not show complete dominance or both the Alleles are expressing independently in heterozygotic condition. Such a condition is called**
- A) Complete dominance
B) Over dominance
C) Co dominance
D) Incomplete dominance
- Q.87 Taste buds on the tongue are example of :**
- A) Pressure receptors
B) Chemoreceptors
C) Thermoreceptors
D) Photoreceptors
- Q.88 Which of the following hormone hormone acts on the uterus wall for thickening?**
- A) Progesterone
B) Zona pellucida
C) Follicle stimulating hormone
D) Oxytocin

CHEMISTRY

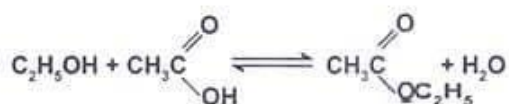
- Q.89 If concentration time graph of a reactant indicates a constant half-life, then the order reaction with respect to that reactant is:**
- A) zero order
B) half order
C) second order
D) first order

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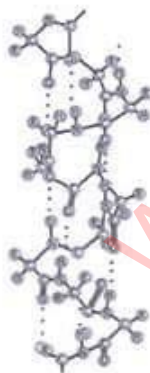
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Q.90



Which of the following catalyst is used in the above reaction

- A) Conc. H₂SO₄
B) Pumice stone
C) Pt
D) Ni
- Q.91 Halothane is a halo derivative of
A) Methane
B) Ethane
C) Methanol
D) Ethanol
- Q.92 The species which are produced by heterolytic bond breaking and can act as electron pair donors are known as.
A) Nucleophiles
B) Cations
C) Free radicals
D) Anions
- Q.93 The product of the concentrations of each ion in a saturated solution of a sparingly soluble salt at 298 K, raised to the power of their relative concentrations is
A) K_{sp}
B) K_a
C) K_w
D) K_b
- Q.94 The catalyst used for the manufacture of H₂SO₄ by contact process is
A) SO₃
B) V₂O₅
C) Fe₂O₃
D) Pt/Pd
- Q.95 Ligands having two lone pair of electrons for donation to the central transition metal ion are known as
A) polydentate ligands
B) monodentate ligand
C) bidentate ligands
D) hexadentate ligands
- Q.96 The stability in the following structure is due to the



- A) Weak vander Waal's forces
B) Disulfide bridges
C) presence of unpaired electron in the structure
D) Hydrogen bonding between NH group of one peptide and CO group of another peptide
- Q.97 Which is the structure of polyvinyl chloride (polychloroethene)?
A) $-\text{[CCl}_2\text{-CCl}_2\text{]-}$
B) $-\text{[HCCl-CH-Cl]-}$
C) $[\text{H}_2\text{C}=\text{CH-Cl}]$
D) $-\text{[H}_2\text{C-CH-Cl]-}$
- Q.98 Nylon-6,6 is also called
A) polystyrene
B) polyester
C) polyamide
D) polyvinyl alcohol

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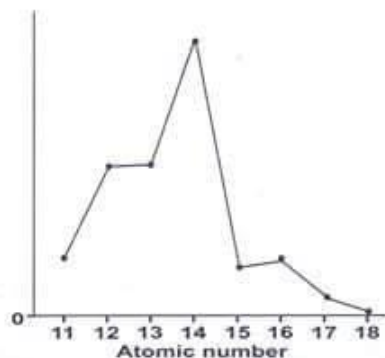
Q.99 Which compound will be produced by the oxidation of ethanal by acidified $K_2Cr_2O_7$?

- A) Ethene
B) Ethanol
C) Ethanoic acid
D) Ethanone

Q.100 Alcohol in which carbon atom bonded to OH group is further attached with three alkyl group is

- A) Tertiary alcohol
B) Primary alcohol
C) Aromatic alcohol
D) Secondary alcohol

Q.101 The following sketch shows the variation in a physical property of third period elements against their atomic numbers :



What physical property is plotted in this sketch?

- A) ionization energy
B) Melting point
C) ionic radius
D) Atomic radius

Q.102 The standard electrode potential of hydrogen is arbitrarily taken at 298 K is-----

- A) 0.00 volt
B) 0.10 volt
C) 10.0 volt
D) 1.00 volt

Q.103 The potential difference of an electrochemical cell is measured by

- A) Ammeter
B) Voltmeter
C) Galvanometer
D) Calorimeter

Q.104 Which of the following acts as a nucleophile in the reaction of alkyl halide with alcoholic/ aqueous ammonia?

- A) H^+
B) NH_3
C) NO_2^-
D) Br^-

Q.105 liquid in the container have temperature $70^\circ C$. what will be the temperature in Kelvin Scale?

- A) 350K
B) 343K
C) 300K
D) 283K

Q.106 The formula which shows the simplest whole number ratio for the atoms of different elements in a compound is

- A) ionic formula
B) structural formula
C) empirical formula
D) molecular formula

Q.107 Which one will be act as a strong acid .

- A) Chloroethanoic acid
B) Ethanoic acid
C) Trichloroethanoic acid
D) Dichloroethanoic acid

Q.108 The shape of $[Co(NH_3)_6]^{3+}$ complex is

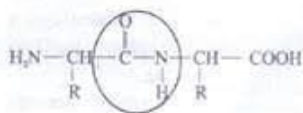
- A) linear
B) square planer
C) tetrahedral
D) octahedral

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- Q.109 Amino acids react with each other such that – COOH group of one amino acid reacts with the – NH₂ group of another amino acid to give a condensed structure as shown below



What is the name of circled part of this structure?

- A) Ester linkage
B) peptide linkage
C) carbide linkage
D) azide linkage
- Q.110 3.0 mole of calcium will contained _____ g of calcium
A) 105 gm
B) 120 gm
C) 80 gm
D) 100 gm
- Q.111 Which of the following is the correct equation to calculate relative molecular mass of a gas.
A) $M = mPR/VT$
B) $M = PV/mRT$
C) $M = mPRT/V$
D) $M = mRT/PV$
- Q.112 Reaction of water with quick lime result in the rise in the temperature of the system. Using the concept of energy change, indicate the nature of the reaction?
A) Endothermic Reaction
B) Non spontaneous reaction
C) Third Order reaction
D) Exothermic Reaction
- Q.113 Which one of the following compounds act as catalyst when alcohols react with carboxylic acids.
A) Pt
B) conc. HNO₃
C) Ni
D) conc. H₂SO₄
- Q.114 In Period 2 and Period 3 maximum melting point shown by elements:
A) Nitrogen and phosphorus.
B) Neon and Argon.
C) Lithium and Sodium.
D) Carbon and Silicon.
- Q.115 Which one of the following reagents is used to distinguish between aldehydes and ketones?
A) Alkaline Iodine
B) Tollen's reagent
C) Bromine
D) 2,4 DNP
- Q.116 Gas is enclosed in a container of 20cm³ with the moving piston. According to kinetic theory of gases , what will be the effect on freely moving molecules of the gas if temperature is increased from 20°C to 100°C ?
A) Pressure will become one half
B) Volume will be increased
C) Temperature has no effect on freely moving molecules
D) Colliding capability of molecule will become lower
- Q.117 Which of these pollutants is produced by burning of coal and causes acid rain.
A) NO
B) CO₂
C) SO₂
D) CO
- Q.118 Role of a catalyst in a chemical reaction is to
A) Decrease yield of a reaction
B) Decrease rate of a reaction
C) Increase yield of product
D) Increase rate of a reaction
- Q.119 The essential property of a fertilizer is that it should be
A) Immiscible
B) Highly soluble
C) Insoluble
D) Partially Soluble

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Q.120 Which option shows all the molecules with bond angle 109.5° .

- A) CH_4 , NH_4^+ , PH_3
B) SiCl_4 , H_2O , BeCl_2
C) SiCl_4 , NH_4^+ , CH_4
D) CH_4 , CCl_4 , NH_3

Q.121 Down the group acid-base behavior of metallic oxides of group 2 elements changes to

- A) more basic
B) no change
C) less basic
D) more acidic

Q.122 Butane molecule can have max. no of isomers

- A) 5
B) 3
C) 4
D) 2

Q.123 Select one which is alcohol

- A) $\text{CH}_3\text{-CH}_2\text{-Br}$
B) $\text{CH}_3\text{-O-CH}_3$
C) CH_3COOH
D) $\text{CH}_3\text{-CH}_2\text{-OH}$

Q.124 Which is the correct electronic configuration of Chromium (24Cr)?

- A) $1s^2 2s^2 3s^2 2p^6 3p^6 4s^2 3d^6$
B) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^4$
C) $1s^2 2s^2 2p^6 3s^2 3p^6 3d^6$
D) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1 3d^5$

Q.125 Which one of the following is the structure of Teflon ?

- A) $(-\text{CF}_2-\text{CF}_2-)_n$
B) $(-\text{CF}_2-\text{CCl}_2-)_n$
C) $(-\text{CH}_2-\text{CH}_2-)_n$
D) $(-\text{CF}_2-\text{CH}_2-)_n$

Q.126 Which one of the following enthalpy change is always exothermic?

- A) Enthalpy of combustion
B) Enthalpy of formation
C) Enthalpy of atomization
D) Enthalpy of solution

Q.127 While finding the relative atomic mass, which of the following standard is used to compare the atomic mass of chlorine (35.5amu).

- A) Carbon-13
B) Neon-20
C) Carbon-12
D) Nucleon number

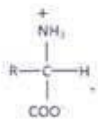
Q.128 Which compound is obtained by the elimination of bromopropane?

- A) propene
B) butene
C) ethene
D) propane

Q.129 Which product is formed by the reaction of carboxylic acid with alcohol ?

- A) Alkane
B) Ether
C) Aldehyde
D) Ester

Q.130 In aqueous solution amino acids exist in an ionic form as shown below



This ionic form of amino acid is known as

- A) zwitterion
B) amphoteric ion
C) cation
D) anion

Q.131 Reaction mechanism of alkanes with halogens is known as

- A) Propagation
B) Free radical substitution
C) Addition
D) Elimination

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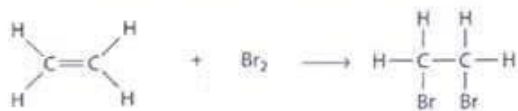
- Q.132 Why is it necessary to distill aldehyde formed from oxidation of primary alcohol through acidified potassium dichromate(VI) solution or acidified sodium dichromate(VI) solution?**
- A) Aldehyde formed may be oxidised further to carboxylic acid concerned.
B) Aldehyde formed is unstable and decompose back to original precursor, i.e., primary alcohol.
C) Aldehyde may be oxidised further to a ketone.
D) Aldehyde formed may react with primary alcohol, the original reactant.
- Q.133 Electron affinity of the atom is the energy released when**
- A) Covalent bond of molecule is broken
B) Electron is added to gaseous atom
C) Electron is removed from gaseous atom
D) Covalent bond is formed between the atoms
- Q.134 Which mechanism of reactions is shown by carbonyl compounds?**
- A) Electrophilic addition
B) Electrophilic substitution
C) Free radical substitution
D) Nucleophilic addition
- Q.135 Which of following compound is solid and room temperature?**
- A) Ethanol
B) Butane
C) Methanol
D) Phenol
- Q.136 Halogens are being used as fire extinguisher, mild antiseptic, CFCs and many other organic chemicals. Which of the following halogen is used to kill the bacteria in drinking water**
- A) Bromine
B) Fluorine
C) Chlorine
D) Iodine
- Q.137 Which of the following acts as a electrophile in the electrophilic substitution of benzene with bromine?**
- A) Br^+
B) FeCl_4^-
C) Fe^{+2}
D) Fe^{-2}
- Q.138 According to Lowry - Bronsted Acid & Base Concept, H_2O is**
- A) An Acid
B) A Base
C) An Amphoteric Species
D) A Salt
- Q.139 Which one of the following compounds is known as tertiary alcohol?**
- A) 1-Propanol
B) 2-methyl-2-propanol
C) 2-methyl-1-propanol
D) 2-Propanol
- Q.140 Which of the following molecule has largest number of shared pair of electrons?**
- A) C_2H_4
B) N_2
C) CO_2
D) NH_3
- Q.141 Nitrogen is present in air as a major constituent. It is an inactive gas in comparison with oxygen which is the next major constituent of air. Nonreactive nature of nitrogen is due to the reason;**
- A) there is one lone pair of electron on each nitrogen atom in its molecule.
B) there is a triple covalent bond in nitrogen molecule which is very strong and molecule is non polar.
C) nitrogen have three unpaired electrons in its 2p orbital which is comparatively stable electronic configuration.
D) there is a triple covalent bond in nitrogen molecule which is very strong and molecule is polar.
- Q.142 The dilute solution of ----- is called vinegar**
- A) Formic acid
B) Oxalic acid
C) Benzoic acid
D) Acetic acid
- Q.143 Percentage of nitrogen by volume in air is**
- A) 78%
B) 50%
C) 20%
D) 98%

Paper Code : C

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Paper Code : C

Q.144 Bromination of alkene is shown in the following reaction. This reaction is used for



- A) Detection of ketones
B) Detection of double bond

- C) Identification of Primary and secondary alcohols
D) Detection of Aldehydes

Q.145 What is the order of increasing reactivity of alkyl halides?

- A) fluoroalkane < chloroalkane < bromoalkane < iodoalkane
B) iodoalkane < bromoalkane < chloroalkane < fluoroalkane

- C) iodoalkane < bromoalkane < chloroalkane < Fluoroalkane
D) fluoroalkane < chloroalkane < bromoalkane < iodoalkane

Q.146 Which of the following would react with ozone in the atmosphere?

- A) F⁺
B) O₂

- C) O⁺
D) Cl⁺

PHYSICS

Q.147 A 5 watt LED bulb converts 80% of the power into light photons of wavelength 660 nm. What is the number of photons emitted from the bulb in one second.

- A) 5.8×10^{24}
B) 7.5×10^{18}

- C) 6.6×10^{27}
D) 1.3×10^{19}

Q.148 If $C_v = 5/2 R$,

C_p will be

- A) $2/5 R$
B) $2/7 R$

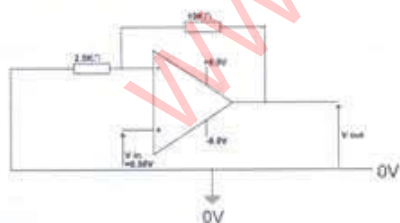
- C) $5/2 R$
D) $7/2 R$

Q.149 The rate at which work is being done is called

- A) Power
B) Energy

- C) Density
D) Force

Q.150 An input voltage V_{in} of 0.50 V is applied to an op-amp connected as shown in the diagram. What is the output voltage V_{out} ?



- A) 8.0 V
B) 1.2 V

- C) 2.5 V
D) 4.9 V

Q.151 A signal of -80 mV is applied to the inverting terminal of the amplifier while the non-inverting terminal is grounded. The gain of the amplifier is 25 using R_{in} (R_1) equal to 3Ω and R_f (R_2) equal to 75Ω . What would be the value of output signal?

- A) 200 mV
B) -3 V

- C) 2 V
D) 3 V

Paper Code : C

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Paper Code : C

Q.152 When the frequency of the applied force becomes equal to one of natural frequencies of body then the body oscillates with maximum displacement this phenomenon is called

- A) Heating
- B) Resonance
- C) Reverberation
- D) Damping

Q.153 Force is a derived quantity, its derived unit can be expressed in terms of the base units as,

- A) kgms^{-2}
- B) kgems^{-2}
- C) kgm^2s^2
- D) kgms^2

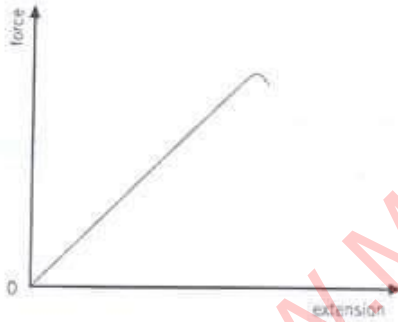
Q.154 e/m of an electron is given by the relationship,

- A) $e/m=2(V/B^2r^2)$
- B) $e/m=(V/Br)^2$
- C) $e/m=V_r/B$
- D) $e/m=VB/r$

Q.155 Lenz's law in electromagnetic induction is the direct consequence of the principle of conservation of

- A) energy
- B) charge
- C) momentum
- D) mass

Q.156 Which material will follow the below stress-strain curve.



- A) Copper
- B) Iron
- C) Lead
- D) Glass

Q.157 A wheel starts rotating from rest with angular acceleration of 2 rad s^{-2} till its angular speed becomes 6 rad/s . The angular displacement of the wheel will be equal to

- A) 4 rad
- B) 9 rad
- C) 12 rad
- D) 7 rad

Q.158 Coulombs law is given by the formula

$$F=k q_1 q_2 /r^2$$

The magnitude of k having the unit of $\text{N m}^2 \text{C}^{-2}$ for free space is equal to

- A) 9×10^7
- B) 6×10^7
- C) 10×10^9
- D) 9×10^9

Paper Code : C

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Paper Code : C

Q.159

Simple Harmonic Motion of a body is described by which statements mentioned below:

K: K.E is maximum when displacement $x = 0$

L: P.E is maximum when $x = 0$

M: P.E is maximum when $x = \pm x_0$

A) K and L
B) K and M

C) K, L and M
D) L and M

Q.160

Which of the following gives the relationship between linear velocity and angular velocity?

A) $v = r\omega$
B) $v = r\theta$

C) $v = s\omega$
D) $v = s\theta$

Q.161

A torch is rated 2.2 V, 0.25 A. Calculate the charge passing through the bulb in one second and energy transferred by the passage of each coulomb of charge.

A) 2.5 C and 0.55 J
B) 0.25 C and 2.2 J

C) 0.25 C and 2.2 V
D) 0.25 C and 0.55 J

Q.162

Energy consumed by 60 watt bulb in 2 minutes is equal to

A) 7.2 kilo joules
B) 720 joules

C) 120 joules
D) 72000 joules

Q.163

If one mole of an ideal gas is heated at constant pressure, then the first law of thermodynamics can be written as:

A) $C_p \Delta T = C_v \Delta T + P\Delta V$
B) $C_v \Delta T = C_p \Delta T + P\Delta V$

C) $C_p \Delta T = C_v \Delta T + Y\Delta P$
D) $\Delta C_p T = \Delta C_v T + P\Delta V$

Q.164

The de Broglie wave length of an electron travelling with a speed of 1.0×10^7 m/s is equal to,

($h = 6.6 \times 10^{-34}$ Js and $m_e = 9.1 \times 10^{-31}$ kg)

A) 7.3×10^{11} m
B) 7.3×10^8 m

C) 7.3×10^{11} m
D) 7.3×10^{13} m

Q.165

Find the mean translational kinetic energy of ideal hydrogen gas at 17 °C.

A) 6.21×10^{-21} J
B) 5×10^{-21} J

C) 6.21×10^{-12} J
D) 6×10^{-21} J

Q.166

Calculate the activity (decaying atom per unit time) of radioactive strontium-90 having 6.7×10^{21} atoms at $t=0$. decay constant of strontium-90 is $8.3 \times 10^{-10} \text{ s}^{-1}$.

A) 8.01×10^{10} Bq
B) $5.6 \times 10^{11} \text{ s}^{-1}$

C) 5.6×10^{12} Bq
D) 12×10^{11} Bq

Q.167

If the time period of the oscillation is 20 micro-sec, than what will be the frequency of that oscillating body?

A) 5000 Hz
B) 50000 Hz

C) 20000 Hz
D) 1000 Hz

Q.168

In photo-emission from a metal, if light of λ is replaced by light of wavelength $\lambda/4$, the maximum kinetic energy of the photo-electrons

A) decreases by an amount equal to half of an incident photon of wavelength λ C) increases by an amount equal to the work function of the metal
B) increases by an amount equal to four times energy of an incident photon of wavelength λ D) decreases by an amount equal to the energy of an incident photon of wavelength λ .

Paper Code : C

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- Q.169 A cyclist is traveling at 15ms^{-1} , she applies brakes so that she doesn't collide with the wall in front of her at a distance of 18m. Calculate the magnitude of deceleration.
- A) 6.3ms^{-2}
B) 5.3ms^{-2}
C) 13ms^{-2}
D) 12.5ms^{-2}
- Q.170 In a practical transformer mutual induction between primary and secondary coils takes place. In such transformer what can be deduced about the power
- A) power output = power input
B) power out put > power input
C) power output \geq power input
D) power output < power input
- Q.171 If slope of velocity time graph is not constant at different points then body is moving with
- A) uniform velocity
B) increasing acceleration
C) average acceleration
D) constant acceleration
- Q.172 Electric potential due to $2\text{ }\mu\text{C}$ charge at distance of one meter is equal to
- A) 18×10^4 volt
B) 1.8×10^6 volt
C) 1.8×10^9 volt
D) 1.8×10^4 volt
- Q.173 Kirchhoffs first law is manifestation of
- A) Law of conservation momentum
B) Law of conservation mass.
C) Law of conservation of energy
D) Law of conservation of charge
- Q.174 Light photons, each of energy $3.5 \times 10^{-19}\text{ J}$ falls on the cathode of a photocell. The current through the cell is reduced to zero by taking the cathode to a potential +0.25 V relative to anode. The work function of the cathode is:
- A) $3.35 \times 10^{-19}\text{ J}$
B) $3.5 \times 10^{-19}\text{ J}$
C) $3.25 \times 10^{-19}\text{ J}$
D) $3.1 \times 10^{-19}\text{ J}$
- Q.175 A diffraction grating has 500 lines per mm, its grating element d is equal to
- A) 2×10^{-6} meter
B) 2×10^{-2} meter
C) 2×10^{-2} cm
D) 2×10^{-6} cm
- Q.176 In the case of linear deformation, the ratio of tensile stress to tensile strain is called
- A) energy stored in a stretched wire
B) young's double slit phenomenon
C) Bulk modulus
D) Young's modulus
- Q.177 What is name of the energy which is released when an atom is formed from its constituent particles?
- A) Atomic Energy
B) Radioactive Energy
C) Nuclear Energy
D) Binding Energy
- Q.178 Calculate the half life of bismuth-214 which has a decay constant of $4.3 \times 10^{-3}\text{ s}^{-1}$.
- A) $2.9 \times 10^{-3}\text{ s}$
B) $1.6 \times 10^{-4}\text{ s}$
C) $3.9 \times 10^3\text{ s}$
D) $2.9 \times 10^3\text{ s}$
- Q.179 What is the main feature required by the optical fiber for the propagation of light in an optical fiber?
- A) Optical glass should be cleaned
B) Light should be totally confined within the fiber.
C) They are cheaper than copper wire
D) LED light must be used
- Q.180 Two long, parallel conductors which are free to move are arranged 1.0 cm apart. A steady current of 20 A flows in each of the conductor in the same direction. The conductors
- A) remain stationary
B) move towards each other
C) move away from each other
D) move at right angles to each other

Paper Code : C

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Paper Code : C

- Q.181** A stone of mass 2.0 kg is dropped from a rest position 5.0m above the ground. What is its velocity at a height of 3.0m above the ground?
- A) 12.5m/s
B) 6.3m/s
C) 9.3m/s
D) 16.0m/s
- Q.182** In case of half wave rectification the resistance of diode during negative half of A.C is
- A) very high
B) very low
C) a few ohms
D) Negative
- Q.183** Newton first law of motion is also known as
- A) law of inertia
B) law of electromagnetism
C) law of universal gravity
D) law of conservation of momentum
- Q.184** When a potential difference is applied across the ends of a uniform wire of length l and radius r , a current I flows in the wire. If same potential difference is applied to the ends of another wire of the same material but of length $2l$ and radius $2r$, the current in the wire is
- A) $I/4$
B) $2I$
C) I
D) $I/2$
- Q.185** A shock wave is produced due to an earthquake which makes the buildings move in the direction of the shock wave. Which progressive wave would this be?
- A) longitudinal wave
B) transverse wave
C) material wave
D) particle wave
- Q.186** A neutron having mass equal to a proton ($m_p = 1.6 \times 10^{-27}$ kg) is moving in a magnetic field of intensity 1.20×10^{-3} T with a speed of 2.0×10^7 ms⁻¹. what is the Maximum force experienced by the neutron.
- A) 3.84×10^{-15} N
B) 0
C) 3.84×10^{-12} N
D) 38.4×10^{-15} N
- Q.187** In S H M the kinetic energy of the body is maximum when
- A) The body is at mean position
B) The body is at extreme position from the mean.
C) The body is exactly half way down between mean and extreme position
D) The body is some where between mean and extreme position.
- Q.188** The different magnitudes of same physical quantities are measured by comparing them to:
- A) available scale
B) standard size
C) each other
D) other physical quantities
- Q.189** Force experienced per unit positive test charge at a point in an electric field is the definition of:
- A) Electric potential energy
B) Electric field strength
C) Electric potential
D) Electric field
- Q.190** A metal rod of length 10.0 cm is moving at a speed of 0.5 ms⁻¹ in a direction perpendicular to a 0.20 T magnetic field. Find the emf produced in the rod.
- A) 2.0×10^{-3} V
B) 0.50×10^{-2} V
C) 1.0×10^{-2} V
D) 1.0×10^{-3} V

ENGLISH

Part - I: Choose THE BEST Option.

- Q.191** That is just an example of what I complain _____.
- A) Of
B) Off
C) To
D) With

Paper Code : C

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Paper Code : C

Q.192 The region _____ which they were passing was known as the Land of Thirst and Death

- A) Through
- B) By

- C) In
- D) From

Q.193 I know how to _____ a throat for inspection.

- A) Force
- B) Prepare

- C) Expose
- D) Open

Q.194 It is better for me to _____ than to shed the blood of an innocent boy.

- A) Died
- B) Die

- C) Had died
- D) Have died

Part - II: 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.195 The most important and the most difficult thing to achieve is a desire

A

B

C

between individuals to limit the size of family.

D

Q.196 There is terror from the outset, and there are all the components necessary to

A

B

create a melodrama-- a dimly-lit bus station, the storm accompanied by

C

flashes of lighting, and the promise of violent action or emotion

D

Q.197 The king feels disturbed and on hearing these words he could not

A

B

C

D

control his tears

Q.198 He had earned the reputation of being a great jester, and jests were

A

B

C

expected from him.

D

Q.199 He glances back at the door, then turns his attention once more towards the paper

A

B

C

and begins going through it casually.

D

Paper Code : C

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Paper Code : C

Q.200 However, by being so long in lowest form I gained an immense

A

B

C

advantage over the cleverer boys.

D

Part - III: 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.201 a.The manager looked on me in some alarm.

b.The manager looked on me with some alarm.

c.The manager looked at me with some alarm

d.The manager looked at me in some alarm..

Q.202 A:There is no clearly defined plot nor is there an attempt to establish a strong "hero figure"

B:There is neither clearly defined plot nor is there an attempt to establish a strong "hero figure"

C:There is not clearly defined plot nor is there any attempt to establish a strong "hero figure"

D:There is not either clearly defined plot nor is there an attempt to establish a strong "hero figure"

Q.203 A:I lost my little plough in a furrow and I cried and cried until he had made me another plough

B:I lost my little plough in a furrow and I have cried and cried until he made me another plough

C:I lost my little plough in a furrow and I had cried and cried until he made me another plough

D:I lost my little plough in a furrow and I cried and cried until he made me another plough.

Q.204 A.A common cause of failure is a mistaking ambition for the boy on the part of the parents.

B.A common cause of failure is a mistook ambition for the boy on the part of the parents.

C.A common cause of failure is a mistaken ambition for the boy on the part of the parents.

D.A common cause of failure is a mistake ambition for the boy on the part of the parents.

Q.205 A:In my experience ,the awakening of that clear judgement as to what the college is for,is not as difficult as is often supposed.

B:In my experience ,the awakening of a clear judgement as for what the college is for,is not as difficult as is often supposed

C:In my experience ,the awakening of a clear judgement as to what the college is for,is not as difficult as is often supposed

D:In my experience ,the awakening of a clear judgement as to what the college is for,is not as much as difficult as often supposed.

Paper Code : C

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- Q.206 A.Oppressive it was, too , with the heaviness of a storm.
B.Oppressive it was, too, in the heaviness of a storm.
C.Oppressive it was,too, up the heaviness of a storm.
D.Oppressive it was, off the heaviness of a storm.
- Q.207 a. I leaned over the parapet and looked down.
b. I leaned at the parapet and looked down.
c. I leaned against the parapet and looked down.
d. I leaned down the parapet and looked down.
- Q.208 A .Towards the end of the month he took to his bed.
B.Towards the end of the month he took into his bed.
C.Toward end of month he took to his bed.
D.Towards the end of month he took to his beds .
- Q.209 A China is now the fashion around the world.
B. China is now the fusion around the world .
C. China is now the function around the world .
D. China is now fissure around the world .
- Q.210 A. The sufferer becomes depressed and feels very ill.
B.The sufferer becomes depress and feels very ill .
C.The sufferer becomes depressed and feeling very ill.
D.The sufferer become depressed and feels very ill.

Part - IV: In each of the following questions, 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.211 **Ilk**
A) Breed
B) Civilization
C) Origin
D) Culture
- Q.212 **Dunce**
A) Brainy
B) Intellectual
C) Cautious
D) Oaf
- Q.213 **Hiatus**
A) Lull
B) Longing
C) Heretical
D) Veneration
- Q.214 **Buffers**
A) Shocks
B) Shield
C) Support
D) Window

Paper Code : C

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Paper Code : C

Q.215 Encumber

- A) Clear
- B) Spacious

- C) Convenient
- D) Strained

Q.216 Hector

- A) Harass
- B) Helpmate

- C) Hellish
- D) Hefty

Q.217 Nexus

- A) Focal point
- B) Success

- C) Hinterland
- D) Politics

Q.218 Perpetuate

- A) Skulk
- B) Eternize

- C) Deviate
- D) Perish

Q.219 August

- A) Local
- B) Old

- C) Venerable
- D) Foreign

Q.220 Lampoon

- A) Appreciate
- B) Burlesque

- C) Approve
- D) Annoy

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University of Health Sciences, Lahore

MDCAT-2018 held on September 23, 2018

For Admissions to Medical / Dental Institutions of the Punjab

Answer Key



The answer key to the questions of MDCAT 2018, held on September 23rd, 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 only be dealt after the declaration of official result of the MDCAT-2018 by the University. No request in this regard will be entertained before that.

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

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University of Health Sciences
Lahore.

Jamroz
23/9/18