

Bolan University of Medical & Health Sciences, Quetta

Total MCQs: 200

Max. Marks: 200

MDCAT-2022

Time Allowed: 210 Minutes (3-1/2 hours)

- 1) **Diastase/ amylase acts on:**
 - (a) Maltose
 - (b) Sucrose
 - (c) Lactose
 - (d) Starch
- 2) **Which of the following is antagonistic to condensation?**
 - (a) Decarboxylation
 - (b) Hydration
 - (c) Dehydration
 - (d) Hydrolysis
- 3) **Which statement is wrong about saturated fats?**
 - (a) They have multiple double bonds in the carbon chains of their fatty acids
 - (b) They are more common in animals than in plants
 - (c) They contain more hydrogen than saturated fats having the same number of carbon atoms
 - (d) They generally solidify at room temperature
- 4) **Which of the following is a connective tissue?**
 - (a) Cartilage
 - (b) Epithelium
 - (c) Muscle
 - (d) Nerve
- 5) **A virion is designated as?**
 - (a) Viral enzyme
 - (b) Viral genome
 - (c) Complete Virus
 - (d) Viral lysosome
- 6) **Cell without cell wall would burst in:**
 - (a) Hypotonic solution
 - (b) Isotonic Solution
 - (c) Hypertonic Solution
 - (d) Solution having more electrolytes
- 7) **Long term control such as rate of growth and sexually maturity are controlled by:**
 - (a) Neurons

- (b) Hormones
 - (c) Glands
 - (d) Hypo
- 8) **In which blood group both the antigens are present?**
- (a) Blood group A
 - (b) Blood group B
 - (c) Blood group AB
 - (d) Blood group O
- 9) **Facilitated diffusion involves carrier molecules. The molecules are chemically carrier in nature?**
- (a) Glycolipids
 - (b) Lipids
 - (c) Proteins
 - (d) Carbohydrates
- 10) **Who proposed fluid mosaic model?**
- (a) Lorenz Oken & Brown
 - (b) Robert Brown & Palade
 - (c) Singer & Nicolson
 - (d) Singer & De-Duve
- 11) **Two simplest amino acids are?**
- (a) Trypsin and glycine
 - (b) Trypsin and alanine
 - (c) Glycine and alanine
 - (d) Glutamate and alanine
- 12) **The animal which is not having soft body?**
- (a) Hirudo
 - (b) Unio
 - (c) Sepia
 - (d) Loligo
- 13) **Stage of menstrual cycle that starts after ovulation is:**
- (a) Menstrual stage
 - (c) Follicular stage
 - (b) Proliferative stage
 - (d) Secretory stage
- 14) **Animals having jointed legs and chitinous exoskeleton are known as**
- (a) Chordates
 - (b) Arthropods
 - (c) Annelida
 - (d) Mollusca
- 15) **Similarity in the structure and function of DNA and RNA provides evidence that all organisms are:**
- (a) Heterophyletic
 - (c) Paraphyletic

- (b) Monophyletic
- (d) Polyphyletic

16) Which are called as naked viruses?

- (a) Non enveloped viruses
- (b) Enveloped viruses
- (c) Prions
- (d) Virioids

17) Maltose is a:

- (a) Polysaccharides
- (b) Disaccharide
- (c) Oligosaccharide
- (d) Monosaccharide

18) Lingual lipase is secreted by which gland?

- (a) Parotid
- (b) Submandibular
- (c) Ebner's gland
- (d) Pancreas

19) Which protein establishes the matrix of bone and cartilages?

- (a) Myoglobin
- (b) Hemoglobin
- (c) Fibrinogen
- (d) Collagen

20) How many phenotypes are possible for human ABO blood groups?

- (a) 2
- (b) 4
- (c) 6
- (d) 8

21) Histamine causes blood vessels to?

- (a) Dilate
- (b) Constrict
- (c) Block
- (d) Rupture

22) What is true about Smooth Endoplasmic Reticulum?

- (a) involved in removal of storage and waste products
- (b) involved in transmission of impulses
- (c) involved Protein metabolism
- (d) involved in intracellular digestion

23) Maximum photosynthesis occurs when:

- (a) Blue light is given to the plant
- (b) Red light is given to the plant
- (c) Green light is given to the plant
- (d) Yellow light is given to the plant

24) Which of the following is devoid of cell wall?

- (a) Archaeobacteria
- (b) Cyanobacteria
- (c) Eubacteria
- (d) Mycoplasma

25) Polio virus is an example of?

- (a) Spherical viruses
- (b) Tadpole shaped viruses
- (c) Rod shaped viruses
- (d) Helical shaped virus

26) Average sperm count per ml is:

- (a) 20-150 million
- (b) 2-10 million
- (c) 20-150 thousand
- (d) 2-10 thousand

27) When and who discovered Golgi apparatus?

- (a) 1888 - Camillo Golgi
- (b) 1898-Camillo Golgi
- (c) 1988-George Golgi
- (d) 1998-Kamillo Golgi

28) Which of the following is a DNA virus?

- (a) Polio virus
- (b) Influenza virus
- (c) Herpes virus
- (d) Mumps virus

29) The temperature at which inactive enzyme regains its function is called as?

- (a) Optimum temperature
- (b) Maximum temperature
- (c) Minimum Temperature
- (d) Favorable temperature

30) Optimum pH for digestive enzymes of stomach is?

- (a) Highly acidic
- (b) Highly alkaline
- (c) Slightly acidic
- (d) Slightly alkaline

31) Pseudomonas is an example of bacteria:

- (a) Photoautotrophic
- (b) Saprophytic bacteria
- (c) Symbiotic bacteria
- (d) Parasitic bacteria

32) Which of the following is used in baking?

- (a) Aerobic respiration
- (b) External respiration

- (c) Internal respiration
- (d) Anaerobic respiration

33) Treponema pallidum is the causative organism for which disease?

- (a) Gonorrhoea
- (b) Syphilis
- (c) AIDS
- (d) Diabetes

34) When two or more genes interact in a way that their effect is additive expression, it is:

- (a) Co-dominance relation
- (b) Polygenic inheritance
- (c) Epistasis
- (d) Incomplete dominance

35) 14 chromosomes are found in?

- (a) Potato
- (b) Fruit fly
- (c) Garden pea
- (d) Rat

36) Where does the Trachea lie in relation to the oesophag

- (a) Dorsal
- (b) Ventral
- (c) Medial
- (d) Lateral

37) A haemophiliac male marries a haemophilia B carrier female have 4 children. 1 of their children is haemophiliac and the remaining 3 are normal. What is the probability that their next child will be hemophiliac?

- (a) 25%
- (b) 50%
- (c) 75%
- (d) 100%

38) Which of the following cell does not possess Golgi apparatus

- (a) Bacterial cell
- (b) Animal cell
- (c) Plant cell
- (d) Fungal Cel

39) Corpus Luteum secretes the hormones:

- (a) Testosterone
- (b) Parathormone
- (c) Oxytocin
- (d) Progesterone

40) The maximum water potential of pure water is:

- (a) -100
- (b) 0
- (c) 1

(d) 100

41) What is the study of joints called?

- (a) Arthralgia
- (b) Arthrology
- (c) Myology
- (d) Cytology

42) Which of the following acts as lymphatic organ?

- (a) Stomach
- (b) Kidney
- (c) Spleen
- (d) Liver

43) What is true about nuclear membrane?

- (a) Number of nuclear pores is highly variable
- (b) Number of nuclear pores is highly constant
- (c) It is single membrane structure
- (d) Outer membrane is continuous with Golgi complex

44) BCG vaccine can be used to treat

- (a) Pulmonary tuberculosis
- (b) Typhoid
- (c) Cholera
- (d) Pneumonia

45) Mitochondria are present in which part of sperm?

- (a) Acrosome
- (b) Head
- (c) Mid piece
- (d) Tail

46) Which of the following is NOT an example of disuse of organs?

- (a) Snake's legs
- (b) Shedding of milk teeth
- (c) Muscle atrophy
- (d) Movement of ear

47) Cyanide is the example of which type of enzyme?

- (a) Competitive inhibitor
- (b) Non-competitive inhibitor
- (c) Co-enzyme
- (d) Activator

48) Which of the following types of organisms first evolved about 15 billion years ago?

- (a) Prokaryotes
- (b) Animals
- (c) Eukaryotes
- (d) Seed plants

- 49) **Dominance is the physiological effect of an allele over its partner allele occupying the:**
- (a) Same locus on same chromosome
 - (b) Different locus on same chromosomes
 - (c) Same locus on respective homologue
 - (d) Different locus on respective homologue
- 50) **During an involuntary action, nerve impulse is passed through a pathway called?**
- (a) Reflex action of nerve impulse
 - (b) Reflex action of glands
 - (c) Reflex arc and reflex action
 - (d) Reflex arc
- 51) **Which of the following can be considered as waste products of bacteria?**
- (a) Alcohol, Acetic acid and Lactic acid
 - (c) Alcohol, Potassium and Sulphur
 - (b) Alcohol, Glycogen and Phosphate
 - (d) Glycogen, fat and Potassium
- 52) **Most of carbon dioxide is transported in which form?**
- (a) Carboxyhemoglobin
 - (b) Hemoglobin
 - (c) Bicarbonate ions
 - (d) In dissolved form
- 53) **Who held to the concept of unity of life**
- (a) Aristotle
 - (b) Lamarck
 - (c) Darwin
 - (d) Alfred
- 54) **What is the number of hydrogen atoms in the molecular formula of Chlorophyll-a?**
- (a) Six
 - (b) Fifty five
 - (c) Seventy
 - (d) Seventy two
- 55) **Alternation of generation is the character of _____**
- (a) Annelida
 - (b) Arthropoda
 - (c) Coelenterata
 - (d) Echinoderma
- 56) **Which bacteria are called scavengers of earth?**
- (a) Parasitic bacteria
 - (b) Saprophytic bacteria
 - (c) Symbiotic bacteria
 - (d) photosynthetic bacteria
- 57) **Lysosomes are named so due to their**
- (a) Size and shape
 - (b) Shape and structure

- (c) Structure and role
- (d) Composition and role

58) White matter in nervous system is made of

- (a) Dendrites
- (b) Myelinated axons
- (c) Cell bodies
- (d) Unmyelinated axons

59) The catalytic site of enzyme is made up of how many amino acids?

- (a) 3-12
- (b) 30-50
- (c) 50-100
- (d) 100-1000

60) Hormone that make uterus receptive for the implantation of zygote is

- (a) Follicle-Stimulating Hormone (FSH)
- (b) Estrogen
- (d) Progesterone
- (c) Luteinizing Hormone (LH)

61) Acromegaly is caused due to over secretion of:

- (a) STH (Somatotrophic Hormone)
- (b) TSH (Thyroid Stimulating Hormone)
- (c) ICSH (Interstitial Cell Stimulating Hormone)
- (d) FSH (Follicle Stimulating Hormone)

62) Glycoproteins are present in which of the following?

- (a) Blood group antigen
- (b) Chloroplast membrane
- (c) Egg yolk membrane
- (d) Myelin sheath of nerves

63) Open type circulatory system is found in _____

- (A) Earth worm
- (b) Cockroach
- (c) Man
- (d) Fish

64) During muscle contraction, troponin binds to all of following EXCEPT:

- (a) Actin
- (b) tropomyosin
- (c) Myosin
- (d) calcium

65) Blood group A negative can be donated to:

- (a) O negative
- (b) O positive
- (c) A positive
- (d) B positive

66) Oxygen, which is the last electron acceptor in electron transport chain is:

- (a) Active
- (b) At high energy level
- (c) At low energy level
- (d) Gets chemically deactivated after electronic

67) The receptors for sensation of pain are known as

- (a) Thermoreceptors
- (c) Nociceptors
- (b) Chemoreceptors
- (d) Photoreceptors

68) Cardiac muscles are the muscles of the?

- (a) Heart walls only
- (b) Heart wall and Aorta
- (c) Heart wall and the valves
- (d) Heart wall and Pulmonary artery

69) Which one of the following statement is true?

- (a) Phenol is less acidic than alcohol
- (b) Phenol is more acidic than HCl
- (c) Phenol dissolves Alkalies readily
- (d) Phenol is more acidic than carboxylic acid

70) The precipitation occurs, if the ionic concentration is:

- (a) Less than K_{sp}
- (b) More than K_{sp}
- (c) Equal to K_{sp}
- (d) Present in any amount

71) What is the name of $\text{CH}_3\text{-CH}_2\text{-CH=CH-CH}_2\text{-CH=CH-CH}_3$?

- (a) 2,3-octadiene
- (b) 2,4-octadiene
- (c) 2,5-octadiene
- (d) 2,5-octadyne

72) Which of the following statement is correct about the Avogadro constant?

- (a) it is the mass of one mole of any element
- (b) it is the mass of 6.023×10^{23} atoms of any element
- (c) It is the number of atoms in one mole of neon
- (d) it is the number of atoms in 12 g of any element

73) Which of the following will have a meso isomer?

- (a) 2-chlorobutane
- (c) 2,3-dichloropentane
- (b) 2,3-dichlorobutane
- (d) 1,2-dichlorobutane

74) Select the group whose elements easily lose electron.

- (a) IA
- (b) VA

- (c) VIA
- (d) VIIA

75) The reaction of alkyl halide with lithium dialkyl copper produce:

- (a) Alkane
- (b) Alkene
- (c) Alkyl copper
- (d) Al

76) Which pair of ions have five unpaired d-electrons?

- (a) Fe⁺² and Mn⁺²
- (b) Fe⁺² and Mn⁺³
- (c) Fe⁺³ and Mn⁺³
- (d) Fe⁺³ and Mn⁺²

77) If four balloons are filled with different gases, which gas containing balloon will deflate first?

- (a) Helium
- (b) Oxygen
- (c) Hydrogen
- (d) Nitrogen

78) Which of the following has the least ionization potential?

- (a) He
- (b) Li
- (c) Zn
- (d) N

79) Which concept was introduced by the scientist Bohr?

- (a) Energy levels
- (b) Orbitals
- (c) Sub-orbits
- (d) Sub-m

80) Which enzyme is used for the treatment of blood cancer in children?

- (A) Thrombin
- (b) L-asparaginase
- (c) LDH-1
- (d) Zymase

81) Ideal gas equation helps to calculate the following properties of ideal gas except

- (a) Pressure
- (b) Density
- (c) Moles
- (d) Molarity

82) Benzene also undergoes electrophilic substitution with fuming sulfuric acid for several hours. The electrophile in this reaction is:

- (a) SO₂
- (b) SO₃
- (c) SO₄

(d) H_2SO_4

83) Which one is not a nucleophile?

- (a) $\text{C}_3\text{H}_7\text{O}^-$
- (b) SCN^-
- (c) H_2C^+
- (d) NH_3

84) What is the correct IUPAC name of the compound $\text{C}_6\text{H}_{11}\text{CHO}$?

- (a) Benzenecarbaldehyde
- (b) Cyclohexanal
- (c) Cyclohexyl aldehyde
- (d) Cyclohexanecarbaldehyde

85) A solution which does not tend to varies in pH is called?

- (a) Acidic Solution
- (b) Buffer Solution
- (c) Bases Solution
- (d) Super Saturated solution

86) What is the electronic configuration of C?

- (a) $1s^2, 2s^2, 2p^2$
- (b) $1s^2, 2s^2, 2p^4$
- (c) $1s^2, 2s^2, 2p^4, 3s^2$
- (d) $1s^2, 2s^2, 2p^4, 3s^2, 3p^4$

87) Phenol is more reactive than benzene towards electrophilic substitution. This characteristic is due to which of the following?

- (a) Hydrogen bonding
- (b) Inductive effect
- (c) Strong mesomeric effect
- (d) Weak mesomeric effect

88) What is the correct order of reactivity towards nucleophilic addition?

- (a) Benzaldehyde > Benzophenone > Acetophenone
- (b) Benzophenone > Benzaldehyde > Acetophenone
- (c) Acetophenone > Benzaldehyde > Benzophenone
- (d) Benzaldehyde > Acetophenone > Benzophenone

89) The outer shell electronic configuration of transition block elements is given by

- (a) $(n-1) d^{1-10} ns^2$
- (b) $(n-1)d^{1-10}(n-1)s^0-2$
- (c) $(n-1)d^{1-10}ns^0-2$
- (d) $nd^{1-10}ns^0-2$

90) The atomic weight of an element is represented by

- (a) amu
- (b) Grams
- (c) Kg
- (d) Mole

91) What is the oxidation number of C12

- (a) 0
- (b) +1
- (c) -1
- (d) -2

92) Zwitter ion is also called?

- (a) Double salt
- (b) Internal salt
- (c) Basic salt
- (d) Acidic salt

93) Which of the following hydroxide of group I is less soluble in water?

- (a) NaOH
- (b) LiOH
- (c) KOH
- (d) RbOH

94) During the formation of chemical bond

- (a) Energy decreases
- (b) Energy increases
- (c) Energy does not change
- (d) Energy first increases then decreases

95) Michael Faraday discovered benzene in the gas formed from?

- (a) Destructive distillation
- (b) Fractional distillation
- (c) Steam distillation
- (d) Vacuum distillation

96) IUPAC name of the following compound is $\text{CH}_3-(\text{CH}_2)_3-\text{C}(\text{CH}_3)_3$?

- (a) 2-methyl hexane
- (b) Neo-octane
- (c) 5,5-dimethyl pentane
- (d) 2,2-dimethyl hexane

97) One of the reactants consumed earlier than others in a chemical reaction is called:

- (a) Active reactant
- (b) Excess reactant
- (c) Limiting reactant
- (d) More active reactant

98) Geometry of complexes depends upon ?

- (a) Number of ligands
- (b) Hybridization of central metal
- (c) Oxidation state of central metal
- (d) Number of chelating agents

99) The color of the Mg metal flame is?

- (a) Blue
- (b) Violet

- (c) yellow
- (d) White

- 100) Which species has greater reduction potential?**
- (a) Barium ion
 - (b) Calcium ion
 - (c) Magnesium ion
 - (d) Aluminum ion
- 101) Why a reaction is reversible?**
- (a) Reactants are reactive
 - (c) Reactants are stable
 - (b) Products are reactive
 - (d) Products are stable
- 102) Amorphous solids?**
- (a) Have perfect arrangement of atoms
 - (b) Have sharp Melting point
 - (c) Can possess small regions of orderly arrangement of atoms
 - (d) Undergo clean cleavage when cut with knife
- 103) Which of the functional group are present in ethyl acetate?**
- (a) Aldehyde group
 - (b) Carboxyl group
 - (c) Ester group
 - (d) Ether group
- 104) Which of the following compounds will react with Tollens reagent to give metallic silver?**
- (a) Methanal
 - (b) Acetic Acid
 - (c) Ethyl alcohol
 - (d) Acetone
- 105) What a catalyst work by**
- (a) increasing the frequency of collisions.
 - (b) increasing the proportion of particles with energy greater than the activation energy
 - (c) increasing the activation energy
 - (d) increasing the concentration
- 106) Which of the following isomer of pentane have least melting and boiling points?**
- (a) n-Pentane
 - (b) iso-Pentane
 - (c) neo-Pentane
 - (d) 2-Methyl butane
- 107) Rate of reaction when the reactants concentration is taken as unity is called?**
- (a) Arrhenius constant
 - (b) ideal rate constant
 - (c) Molecularity

(d) Specific rate constant

108) Dry heating of calolum acetate gives which of the following?

- (a) Acetaldehyde
- (b) Acetic acid
- (c) Acetone
- (d) Ethane

109) The volume of a given mass of a gas according to Charles law should be zero at:

- (a) -273 °C
- (b) 273- °C
- (c) 100 °C
- (d) 25 °C

110) Which of the following is Lucas reagent?

- (a) Alcia
- (b) HCl
- (c) ZnCl₂
- (d) Both 2 and 3

111) Bein-Haber cycle is used to calculate?

- (e) enthalpy of combustion
- (b) lattice energy of covalent compounds
- (c) tattice energy of ionic compounds
- (d) enthalpy of ionization

112) Why do electrons have opposite spins when they are in the same orbital?

- (a) This condition reduces friction
- (b) This condition creates more energy
- (c) This condition results in zero magnetism and removes the charge of the electron
- (d) This condition results in less repulsion and opposite magnetic fielkis

113) Viscosity of liquid decreases with an increase in:

- (a) Molecular mass
- (b) Temperature
- (c) Atmospheric pressure
- (d) intermolecular forces

114) With the increase in the value of Principal Quantum number 'n' the size of the s-orbitals?

- (a) Decrease
- (b) Increase
- (c) May or may not remain the same
- (d) Remain the same

115) Which of the following is not a primary bond?

- (a) Ionic bond
- (b) Hydrogen bond
- (c) Dative bond

(d) Covalent bond

116) Which of the following has sp^3 hybridized carbon?

- (a) Benzene
- (b) 1-Butene
- (c) 2-Butyne
- (d) 1-Pentene

117) Which one of the following is not a crystalline solids?

- (a) Copper sulphate
- (b) Sugar
- (c) NaCl
- (d) Rubber

118) Bond energy is expressed in:

- (a) KJ/mol
- (b) Calries
- (c) Joules
- (d) Volt

119) The resonance hybrid structure of benzene is _____ KJ/mol more stable than the hypothetical 1,3,5-Cyclohexatriene.

- (a) 358.5
- (b) 208
- (c) 150.5
- (d) 231.5

120) The main structural feature of proteins is:

- (a) Peptide linkage
- (b) Glycoside linkage
- (d) Ester linkage
- (c) Ether linkage

121) Acetic acid is weak acid than sulphuric acid because of which of the following reasons?

- (a) it decomposes on increasing temperature
- (b) It has less degree of ionization
- (c) It has -COOH group
- (d) It has more inductive effect

122) Conversion of sodium into sodium ions is:

- (a) exothermic process
- (b) endothermic process
- (c) neutral process
- (d) sublimation process

123) The maximum value of induced emf in a rotating coil in a magnetic field does not depend upon ?

- (a) Resistance of the coil
- (b) Number of turns in the coil
- (c) Area of the coil

(d) Frequency of rotation of the coil

124) Which one of the following is Ohmic device?

- (a) Filament bulb
- (b) Transistor
- (c) Semiconductor diode
- (d) Copper wire

125) An induced emf is produced in a circuit when?

- (a) Electric flux changes
- (b) Magnetic flux changes
- (c) No magnetic flux produced
- (d) Magnetic flux remains constant

126) A circuit that converts pulsating voltage of the rectifier to smooth voltage is known as:

- (a) Generator
- (b) Transformer
- (c) Filter
- (d) Choke

127) According to the right-hand rule, the direction of angular displacement is along the ?

- (a) Curl of fingers
- (b) First finger
- (c) Pointing thumb
- (d) Second finger

128) During a projectile path, air friction affects:

- (a) Initial velocity of launch
- (b) Horizontal motion only
- (c) Vertical motion only
- (d) Both horizontal and vertical motions

129) A wave is characterized by three physical parameters:

- (a) Amplitude, wavelength and acceleration
- (b) Frequency, wavelength and acceleration
- (c) Wavelength, frequency and speed of wave
- (d) Displacement, wavelength and speed of wave

130) Which of the following experiments prove the particle nature of light?

- (a) interference
- (b) Diffraction
- (c) Reflection
- (d) Photoelectric effect

131) For better results, actual spectrometer makes use of

- (a) Capacitors
- (b) Diffraction grating
- (c) Mica window

(d) Polarizers

132) A bar magnet is falling inside a long copper tube. The acceleration of the magnet inside the copper tube is ?

- (a) Equal to g
- (b) Greater than g
- (c) Less than g
- (d) Zero

133) If a bulb has a 20W power, and is working at 50% efficiency. What is its output power?

- (a) 12W
- (b) 15W
- (c) 18W
- (d) 20W

134) The longitudinal waves travel faster through:

- (a) Solids
- (b) Liquide
- (c) Gasses
- (d) Plasma

135) The electric potential at the center of uniformly charged conducting sphere is

- (a) zero
- (b) Less than that at the surface
- (c) Greater than that at the surface
- (d) Equal to that at the surface

136) In an experiment count rate of a sample of a radioactive element tale from 400 counts per second to 50 counts per second in 150 minutes. What is the half-life of radioactive element?

- (a) 30 minutes
- (b) 40 minutes
- (c) 50 minutes
- (d) 60 minutes

137) Which one of these statements is true? A magnet attracts

- (a) plastics
- (b) any metal
- (c) iron and steel
- (d) aluminium

138) The kinetic energy of a simple harmonic oscillator is double of its potential energy at a point where instantaneous displacement is equal to:

- (b) $1/2$ (amplitude)
- (a) $1/\sqrt{2}$ (amplitude)
- (c) $1/\sqrt{3}$ (amplitude)
- (d) None

- 139) When a charged body is brought near an uncharged conductor on the insulating stand**
- (a) the nearer end of the conductor acquires the same charge while the farther end opposite charge
 - (b) no charge is induced on the conductor
 - (c) the nearer end of the conductor acquires opposite charge and the farther end the same charge
 - (d) Both ends of the conductor acquires same charge
- 140) Which of the following the fractional change in resistance per kelvin?**
- (a) conductivity
 - (b) resistivity
 - (c) temperature coefficient of resistivity
 - (d) temperature coefficient of resistance
- 141) A man pushes a wall and fails to displace it. He does:**
- (a) Negative work
 - (b) Positive work
 - (c) No work at all
 - (d) Maximum work
- 142) The ratio of angular speed of a minutes hand to hours hand of the watch is?**
- (a) 1:8
 - (b) 6:1
 - (c) 1:12
 - (d) 12:1
- 143) Which of the following pairs has the same direction always?**
- (a) Force, displacement
 - (b) Force, velocity
 - (c) Force, acceleration
 - (d) Force, momentum
- 144) The third law of motion explains:**
- (a) The effect of force
 - (b) The existence of a force
 - (c) The existence of two forces
 - (d) The existence of a pair of forces in nature
- 145) Thermal equilibrium in environment occurs due to:**
- (a) Heat generation
 - (b) Heat dissipation
 - (c) Heat flow
 - (d) Heat absorption
- 146) A second pendulum starts its oscillation from the extreme position. What is the ratio of it's amplitude to the displacement after 7 second?**
- (a) 1:2
 - (b) 1:4
 - (c) 1:14

(d) Infinity

147) Positron and electron annihilate into:

- (a) alpha - rays
- (b) One γ -ray photon
- (c) Two γ -ray photons
- (d) X-rays

148) An electric motor is used to operate an elevator. The motor does 140,000 J of work in 70 s. What is the output power of the motor?

- (a) 0.50 milliwatts
- (b) 2.0 watts
- (c) 2.0 kilowatts
- (d) 9.8 megawatts

149) The internal resistance of a battery is due to which of the following reasons?

- (a) Electrolytes
- (b) Ions moving charges
- (c) Moving charges
- (d) Static charges

150) A magnetic field is produced by

- (a) moving charges
- (b) stationary charges
- (c) both moving and stationary charges
- (d) only ions

151) Air is pumped into a bicycle tire at constant temperature

- (a) more molecules strike the tire wall per second
- (b) the molecules are larger
- (c) the molecules are farther apart
- (d) each molecule come close to other

152) The distance traveled by a wave in one period is called its:

- (a) Frequency
- (b) Time period
- (c) Wavelength
- (d) Wavenumber

153) Radio isotopes can be formed by bombardment with particles

- (a) Neutron
- (b) Photons
- (c) Electrons
- (d) Positron

154) A stone is dropped from a building's top 80 m high from the ground. In how much time will it touch the ground?

- (a) 2s
- (b) 4s
- (c) 8s

(d) 10s

155) Magnetic flux is zero when angle between magnetic field and vector area is:

- (a) Zero degree
- (b) 90 degree
- (c) 60 degree
- (d) 30 degree

156) Fillings in teeth should be made from a material which

- (a) does not expand when heated.
- (b) expands by the same amount as the tooth when heated.
- (c) expands less than the tooth when heated.
- (d) expands more than the tooth when heated.

157) When a radioactive nucleus emits a gamma radiation then the mass number of atom is:

- (a) Remain same
- (b) Increased by a factor 2
- (c) Decreased by a factor 1
- (d) Increased by a factor 1

158) In the SI system of units, the centripetal force is measured in ?

- (a) J
- (b) N
- (c) T
- (d) W

159) A charged particle moves in a uniform electric field between two oppositely charged parallel metal plates to calculate the force acting on the particle due to the electric field, which quantity is not required?

- (a) particle charge
- (b) particle speed
- (c) plate separation
- (d) potential difference between the plates

160) The best example of uniform circular motion is?

- (a) The motion of the earth around the sun
- (b) The motion of a mass attached with a string on a vertical circle
- (c) The motion of a minutes hand in the clock
- (d) The motion of a spinning top

161) A body of mass 5 kg is moving with a momentum of 10 kg m/s. A force of 0.2 N acts on it in the direction of motion of the body for 10 s. The increase in its kinetic energy is:

- (a) 2.8 J
- (b) 3.2 J
- (c) 3.8 J
- (d) 4.4 J

162) If two equal masses are in motion with same individual speeds, we can conclude that

- (a) Their momentums are same
- (b) Their momentums can be different from each other
- (c) Their kinetic energies are different from each other
- (d) Their total energies are same

163) The electric field intensity at a point situated 4 meters from a point charge is 200 N/C. If the distance is reduced to 2 meters, what will be the field intensity?

- (a) 400 N/C
- (b) 800 N/C
- (c) 600 N/C
- (d) 1200 N/C

164) The units of the equation of Compton scattering $\Delta\lambda = h/mc(1-\cos)$ are of:

- (a) Length
- (b) Time
- (c) Mass
- (d) Frequency

165) Which type of energy does the capacitor store?

- (a) Kinetic
- (b) Potential
- (c) Thermal
- (d) Light

166) When the distance between two charged particles is halved the coulomb force between them becomes:

- (a) one fourth of the initial force
- (b) four times the initial force
- (c) double the initial force
- (d) one-half of the initial force

167) When a body moves in a straight line then its displacement coincides with:

- (a) Distance
- (b) Force
- (c) Acceleration
- (d) Length

168) Speed of sound is fast in moist air because:

- (a) Moist air is heavier than dry air
- (b) Value of Gamma is more for moist air
- (c) Density of moist air is less than density of dry air
- (d) Density of moist air is more than density of dry air

169) The emf produced by an A. C. generator is maximum when the plane of the coil and the magnetic field are θ .

- (a) Perpendicular to each other
- (b) Parallel to each other
- (c) Inclined at an angle of 45 degree to each other
- (d) inclined at an angle of 60 degree to each other

- 170) In an electronic transition, what can the atom not emit?
(a) Gamma rays
(b) Infrared radiation
(c) Ultraviolet radiation
(d) Visible light
- 171) Which of the following quantity is measured in kilowatt hours?
(a) Charge
(b) Current
(c) Energy
(d) Power
- 172) The parallel metal plates of the capacitor are separated by
(a) Insulators
(b) Isolators
(c) Capacitors
(d) Resistors
- 173) Stationary waves can't transport:
(a) Energy
(b) Mass
(c) Both energy and mass
(d) Momentum
- 174) A child is swinging a swing, the minimum and maximum heights of swing are 0.75 m and 2 m respectively. The maximum velocity of this swing is
(a) 5 m/s
(b) 10 m/s
(c) 15 m/s
(d) 20 m/s
- 175) In transformer, two coils are _____ linked with each other?
(a) Electrically
(b) Magnetically
(c) Thermally
(d) Mechanically
- 176) The Gaussian surface for a line charge will be
(a) Sphere
(b) Cylinder
(c) Cube
(d) Cuboid
- 177) Choose correct spelling from the given words:
(a)
(b) patriarchal
(c) patriarchal
(d) patriarchal
- 178) The antonym for 'asylum' is:
(a) Security

- (b) refuge
- (c) danger
- (d) Protection

179) **Choose the correct option.**

- (a) She is good in speaking English
- (b) She is good with speaking English
- (c) She is good at speaking English
- (d) She is well at speaking English

180) **For each of the following, choose the sentence with the correct punctuation**

- (a) it is mentioned in the notification, all of us should read it.
- (b) it is mentioned in the notifications all of us should read it.
- (c) it is mentioned in the notification? all of us should read it
- (d) it is mentioned in the notification, all of us should read it.

181) **Choose the correct form of verbs to be filled in the blank: I _____ with my parents.**

- (a) lives
- (b) am living
- (c) is living
- (d) shall living

182) **The melody is _____ not energetic like the hymns in church. The most appropriate word to be filled in is:**

- (a) plaintive
- (b) baffling
- (c) blissful
- (d) perplexing

183) **Choose the correct tense option to fill in the blank. When I opened my eyes, I _____ a strange sight.**

- (a) am seeing
- (b) have seen
- (c) was seen
- (d) saw

184) **The Neighbours _____ so loudly last night that they _____ all awake until after midnight.**

- (a) are shouting/are keeping
- (b) were shouting/kept
- (c) shouted/have been keeping
- (d) have shouted/had kept

185) **Bread and butter is what the poor _____ today. Which of the following will correctly fill in the blank?**

- (a) need
- (b) needs
- (e) needed
- (d) needing

- 186) **Correct the given sentence. I like cats, I hate dogs**
(a) I like cats: I hate dogs.
(b) I like cats I hate dogs
(c) I like cats' I hate dogs.
(d) I like cats but I hate dogs.
- 187) **Choose the sentence that means the same as this sentence: I will not tolerate his rudeness.**
(a) I will not put up for his rudeness.
(b) I will not put up with his rudeness
(c) I will not put up to his rudeness.
(d) I will not put up by his rudeness
- 188) **Which of the following is a correct sentence?**
(a) The Bible says a person comes from the earth and has to go back to the earth
(b) The Bible says the person comes from the earth and has to go back to th
(c) The Bible says person comes from the earth and has to go back to the earth
(d) The Bible say the person comes from the earth and has to go back to the earth
- 189) **Identify the part of the following sentence that carries error: I think it is they who is wrong.**
(a) it
(b) who
(c) is
(d) wrong
- 190) **Identify correct spelling of the given word**
(a) Andoromeda
(b) Andromida
(c) Andre mode
(d) Andromeda
- 191) **Do not hanker _____ worldly pleasures. The correct preposition to be filled in is:**
(a) for
(b) after
(c) towards
(d) about
- 192) **Fill in the blank with the correct choice: Whatever she wants to do _____ fine with me.**
(a) the
(b) is
(c) are
(d) were
- 193) **The word INCLUSIVE means**
(a) Exclusive
(b) Comprehensive
(c) Diverse

(d) Embracing

194) The designer window treatments in her house, installed 17 years ago, were **outmoded**. What does the word "outmoded" mean?

- (a) unnecessary
- (b) pointless
- (c) out-of-date
- (d) worthless

195) All children are silly people. Some silly people are rich people. All rich people are **big shots**.

Which of the following conclusions are **NECESSARILY TRUE**? CONCLUSIONS:

- I. Some silly people are children.
- II. Some rich people are children
- III. Some silly people are big shots

- (a) I and III
- (b) II
- (c) II and III
- (d) I and II

196) Read the following and choose the correct answer

X, Y and Z are three whole numbers less than 31 but greater than 23. X is a prime number. Y is the largest odd number smaller than 35. Z is the smallest even number?

- (a) X is 31, Y is 29 and Z is 24
- (b) X is 29, Y is 29 and Z is 24.
- (e) X is 23, Y is 29 and Z is 24.
- (d) X is 27, Y is 31 and Z is 26.

197) Read the following statement, assuming everything in it to be true. Then decide which of the given suggested courses of action logically follow and are worth pursuing.

Statement: An invigilator catches a student trying to cheat for the third time in a professional exam.

Courses of Action:

- I. Remove the student from the room and cancel his exam attempt.
- II. Give the student another stern warning"

- (a) I
- (b) II
- (c) Both I and II
- (d) Neither I and II

MDCAT-2022 Answer Key (White)

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