

MCQs: 180 Time: 03 Hours

No Negative Marking

BIOLOGY (81 MCOs)

- 1 Which of the following hormones in the body of animal is lipid-based in nature?
 - A. Insulin
 - B. FSH
 - C. Oxytocin
 - D. Aldosterone
 - 2 Which of the following base pairing maintains the constant diameter of the DNA double helix as per Watson and Crick's model?
 - A. Purine - Purine
 - B. Pyrimidine - Pyrimidine
 - C. Purine - Pyrimidine
 - D. Sugar-Phosphate
 - 3 Which muscle type is under conscious control and is multinucleated?
 - A. Smooth muscle
 - B. Skeletal muscle
 - C. Cardiac muscle
 - D. Visceral muscle
 - 4 Which of the following connective tissue is completely avascular and heals slowly?
 - A. Bone
 - B. Cartilage
 - C. Adipose tissue
 - D. Areolar tissue
 - 5 Cardiac muscles are different from skeletal muscles because they:
 - A. Lack striations
 - B. Are voluntary and multinucleated
 - C. Are involuntary and multinucleated
 - D. Are striated but involuntary
 - 6 Which organelle give rise to primary lysosomes through budding in eukaryotic cells?
 - A. Smooth endoplasmic reticulum (SER)
 - B. Rough endoplasmic reticulum (RER)
 - C. Plasma membrane
 - D. Golgi cisternae
 - 7 A mutation prevents proper disulphide bond formation in a fibrous protein, causing brittle nails and slow hair growth. Which of the following proteinaceous substance would be affected?
 - A. Elastin
 - B. Actin
 - C. Keratin
 - D. Collagen
 - 8 In muscle fibers, T-tubules are extension of the sarcolemma that penetrate into the cell's interior. What is their main function during muscle contraction?
 - A. Unblock actin's binding sites.
 - B. Conduct nerve impulses deep into the muscle cell.
 - C. Synthesize glycogen in the sarcoplasm.
 - D. Store calcium ions with in the sarcoplasmic reticulum.
 - 9 Polysaccharides such as starch and glycogen are mainly used for:
 - A. Structural framework only
 - B. Short-term and long-term energy storage
 - C. Enzyme catalysis
 - D. Ready source of energy
 - 10 In chromatin, positively charged histone proteins are organized with negatively charged DNA. The positive charges of histone are due to an abundance of basic amino acids:
 - A. arginine and alanine
 - B. arginine and lysine
 - C. lysine and alanine
 - D. phenylalanine and arginine
 - 11 The envelop in a virus is derived from
 - A. Host cell ribosomes
 - B. Host cell membrane
 - C. Viral capsid proteins
 - D. Viral genome replication
 - 12 Myelin sheath acts as;
 - A. Protector
 - B. Insulator
 - C. Sensor
 - D. Supporter
 - 13 DNA/RNA probes are most commonly used as:
 - A. diagnostic tools of infectious diseases
 - B. carrier in gene cloning experiments
 - C. cementing material in somatic cell hybridization
 - D. carrier or vector in gene therapy
 - 14 The event that occurs first during skeletal muscle contraction?
 - A. Cross-bridge formation
 - B. Release of calcium from sarcoplasmic reticulum
 - C. Power stroke
 - D. Myosin head binds to ATP
 - 15 When genes are linked, they tend to:
 - A. Segregate randomly
 - B. Cross over every time
 - C. Stay together during inheritance
 - D. Be inherited separately
 - 16 According to Morgan's experiment, which of the following is essential for detecting gene linkage accurately?
 - A. Large number of progeny
 - B. Small sample size
 - C. Use of male flies only
 - D. Mutation induction
 - 17 The end of skeletal muscle attached with moveable bone is:
 - A. Insertion
 - B. Origin
 - C. Tendons
 - D. Belly
 - 18 Which of the following is common between aldosterone, sex hormone and cortisone ?
 - A. They are peptides
 - B. They are Phospholipids
 - C. They are steroids
 - D. They are glycoproteins

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- 19 Which one of the following organism is uricotelic with reference to excretion of nitrogenous compound?
- Human
 - freshwater Fish
 - Snake
 - Frog
- 20 Ureotelism (removal of nitrogenous waste in the form of urea) is an adaptation to the:
- cold weather
 - less availability of water
 - flooded environmental conditions
 - food shortage
- 21 All of the following are the characteristics of limbic system EXCEPT:
- Produce most basic and primitive emotions and drives
 - formation of memories
 - Consists of hypothalamus, amygdala and hippocampus
 - controls reflex movement of eyes
- 22 Sensory input from auditory and visual pathways, skin and within the body is received by _____ and distributed to _____:
- Hypothalamus: Cerebellum
 - Thalamus: cerebrum Correct
 - Cerebrum: rest of the brain
 - Cerebellum: rest of the brain
- 23 According to the Lamarck theory of evolution, the organ that has not been used in several generations will:
- Become strong
 - Get amputated
 - Disappear
 - Become developed
- 24 Which of the following statement is incorrect with reference to the enzyme action?
- Substrate binds with the enzyme at its active site
 - Non-competitive inhibitor binds the enzyme at a site distinct from that of active site
 - Addition of a lot of succinate do not reverse the inhibition of succinic dehydrogenase by malonate
 - Malonate is a competitive inhibitor of succinic dehydrogenase
- 25 The temperature of underground water remains constant due to;
- Heat capacity
 - Polarity of water
 - Heat of vaporization
 - Specific heat of vaporization
- 26 The shape of Adenovirus is;
- Helical shape
 - Tadpole shape
 - Polyhedron shape
 - Circular shape
- 27 In human female normally ovulation occurs at _____ day _____ of menstrual cycle.
- 9
 - 11
 - 14
 - 15
- 28 HIV belongs to which class of virus with respect to genome type?
- Single stranded DNA viruses
 - Double stranded RNA viruses
 - ssRNA; template for DNA synthesis
 - ssRNA; template for mRNA synthesis
- 29 How many ATPs are produced during oxidative phase of glycolysis?
- 2
 - 4
 - 34
 - 36
- 30 Which of the following best describes the relationship between endoplasmic reticulum (ER) and Golgi apparatus?
- Both ER and Golgi apparatus are completely separate organelles with no interaction
 - ER is precursor organelle to Golgi apparatus because material is transported from ER to Golgi
 - Golgi apparatus is precursor organelle to ER because material is transported from Golgi to ER
 - ER and Golgi apparatus have similar roles
- 31 Osmotic gradient of inner medulla of kidney is increased by:
- Urea
 - Water
 - Phosphate
 - Potassium
- 32 Decreased level of FSH hormone during menstrual cycle triggers the release of:
- hcg
 - LH
 - Oxytocin
 - progesterone
- 33 The digestive secretions from different parts of GIT have the ability to kill microbe present in the food. Which of the following best describe this role?
- Antiseptics
 - Disinfectants
 - Chemotherapeutics
 - Immunosuppressant
- 34 A carrier mother for hemophilia and a normal father can produce:
- All hemophilic sons
 - 25 % Hemophilic among sons
 - 50 % hemophilic among sons
 - All normal sons and daughter
- 35 During ventricular systole, which pressure changes occur?
- Ventricular pressure rises above atrial and arterial pressure
 - Atrial pressure rises above Ventricular pressure
 - Ventricular pressure falls below arterial pressures
 - Ventricular pressure falls below Atrial pressure
- 36 Which cell type is essential for stimulating cell division of both B-cells and T-cells?
- Plasma cells
 - Memory cells
 - Helper T-cells
 - Neutrophils

- 37 The hormone, when overproduced can lead to hypercalcemia and stone formation is:
A. Insulin
B. Thyroxine
C. Parathyroid hormone
D. Antidiuretic hormone
- 38 Fibrocartilage is found in:
A. Trachea
B. Nose
C. Knee joint
D. Ear flaps
- 39 Additional capillaries present in the juxtamedullary nephrons to form a loop of vessels are:
A. Efferent arterioles
B. Peritubular capillaries
C. Vasa recta
D. Afferent arterioles
- 40 Y-linked inheritance refers to which mode of the inheritance?
A. Crisscross
B. Straight
C. Loop
D. Jumping
- 41 If a colorblind lady marries a normal man, their children will be:
A. Normal daughters and normal sons
B. Normal sons and carrier daughters
C. Colorblind sons and carrier daughters
D. Colorblind sons and colorblind daughters
- 42 All of the following properties of water are associated with its capillary action. EXCEPT:
A. Adhesion
B. Density
C. Cohesion
D. Surface tension
- 43 Which organelle serves as a packaging and a distribution center for molecules within the cells?
A. Golgi apparatus
B. Mitochondria
C. Ribosome
D. Vacuole
- 44 Which of the following hormone is not produced in older women?
A. Estrogen
B. Gastrin
C. Secretin
D. Renin
- 45 Which lymphatic structure absorbs dietary fats in the intestine?
A. Peyer's patches
B. Lacteals in villi
C. Pancreatic duct
D. Lymph nodes
- 46 Thinking, memory and voluntary actions are mainly controlled by:
A. Cerebrum
B. Cerebellum
C. Pons
D. Hippocampus
- 47 Ventricular diastole causes:
A. ventricular contraction
B. Closure of Atrioventricular valve
C. Opening of semilunar valve
D. Closure of semilunar valve
- 48 Which of the following statement correctly describes the organelle that is not membrane bound?
A. Presence of cristae
B. Modification and packaging of proteins
C. Presence of digestive enzymes
D. Made of rRNA and protein
- 49 A biological laboratory is developing gene therapy with a modified virus that infects the birds only. Which of the following category does this virus belong to?
A. Algal virus
B. Fungal virus
C. Animal virus
D. Bacterial virus
- 50 CFTR gene that encode a protein which regulate:
A. Protein and salt
B. Salt and Water
C. Sugar and Water
D. Liquid and Protein
- 51 Which organelle is usually referred as post office of the cell and why?
A. Golgi apparatus, because it receives, sorts and packages material for transport to other parts of cell
B. Rough endoplasmic reticulum because it synthesizes protein used by the cell
C. Mitochondria, because it synthesizes and provides energy to other parts of the cells
D. Nucleus, because it controls other organelles of the cell
- 52 Components of reflex arc must contain neurons from:
A. Motor nerve and Mixed nerve
B. Sensory nerve and intermediate nerve
C. Motor nerve and Sensory Nerve
D. Mixed nerve and intermediate nerve
- 53 A confirmed COVID patient shows weak specific immunity. Which component is most likely deficient in this patient?
A. Red Blood Cells
B. Helper T-Lymphocytes
C. Thrombocytes
D. Suppressor T-Lymphocytes
- 54 Which of the following organ takes part in the T-cell maturation for both the lymphatic and endocrine systems?
A. Spleen
B. Thymus
C. Liver
D. Kidney



- 55 The part of male reproductive system that maintains the temperature for sperm production is:
- Testes
 - Scrotum
 - Vas deferens
 - Epididymis
- 56 After Liver transplant, doctors suppress the T-lymphocyte activity in patient. Why?
- To increase the rate of antibody production
 - To prevent infections
 - To avoid graft rejection immune system
 - To produce memory cells faster
- 57 How do the kidneys contribute to maintain normal blood calcium level?
- By storing excess calcium
 - By reabsorbing calcium and activating vitamin D
 - By secreting calcium directly into the blood
 - By converting calcium into urea for excretion
- 58 Nodes of Ranvier along the length of axon fibers allow:
- More diffusion of neurotransmitters
 - saltatory conduction of nerve impulse
 - Formation of new synaptic connections
 - Synthesis of new neurons
- 59 Arachidonic acid, which is the precursor molecule for prostaglandins is:
- A saturated fatty acid with 18 carbons
 - An unsaturated fatty acid with 18 carbons
 - A tri-unsaturated fatty acid with 20 carbons
 - A tetra-unsaturated fatty acid with 20 carbons
- 60 Atrial walls are thinner as compared to ventricles because:
- Atria are small in size
 - Atria are present above the ventricles
 - Atria has to force blood into the ventricles which lie very close to them
 - Blood enters into the atria by osmosis
- 61 A patient with a genetic disorder undergoes treatment where a normal gene is inserted into their cells. This is called
- Gene therapy
 - Genetic testing
 - Protein engineering
 - DNA fingerprinting
- 62 Which of the following is a potential symptom of chronic renal failure?
- Nephritis and bacterial infection
 - Bone pain and fractures
 - Impaired concentration and confusion
 - Muscle cramps due to electrolyte imbalance
- 63 Arthritis is a disease that primarily affects the
- Kidneys
 - Lungs
 - Joints
 - Muscles
- 64 Osmoreceptors that detect the osmotic pressure of blood are primarily located in the:
- Cerebellum
 - Medulla oblongata
 - Hypothalamus
 - Cerebral cortex
- 65 A chromosome which contain centromere at the ce called:
- mesocentric chromosome
 - metacentric chromosome
 - acrocentric chromosome
 - telocentric chromosome
- 66 Binding site for a substrate on enzyme is:
- Allosteric site
 - Passive site
 - Active site
 - Regulatory site
- 67 The most abundant polysaccharide in plants, widely used in paper and as a source of dietary fibre for human is:
- Chitin
 - Glycogen
 - Starch
 - Cellulose
- 68 This given organelle is involved in the synthesis of oil, phospholipids and steroids:
- Mitochondria
 - Golgi complex
 - Endoplasmic reticulum
 - Ribosomes
- 69 Which type of neurons stimulate the muscles to contract in a reflex arc?
- Efferent neurons
 - Sensory neurons
 - Interneurons
 - Afferent neurons
- 70 Receptors that are located in the retina of eye are called:
- Merkel disc
 - Ruffini endings
 - Pacinian corpuscles
 - Rod and Cone cells
- 71 The bony roof of the oral cavity, which separates it from the nasal cavity, is formed by the:
- soft palate
 - Mandible
 - Hard palate
 - Maxilla
- 72 Which structure in neuron is responsible for receiving information from other neurons?
- Axon
 - Soma
 - Dendrite
 - Axon terminal
- 73 Chemicals that stimulate the olfactory receptors enter the nasal cavity in the form of _____.
- solid
 - liquid
 - gas
 - plasma
- 74 Neurosecretory cells are:
- endocrine cells
 - exocrine cells
 - neuroglial cells
 - neurons that have been adapted to secrete hormones

- Lamarck theory of evolution was rejected experimentally by: 85
- Earnest Hackle
 - Charles Darwin
 - August Wiseman
 - Thomas R Malthas
- 6 Which of the following characteristics is common among sucrose, lactose and maltose? 86
- molecular formula
 - occurrence in living beings
 - chemical nature of their monosaccharide units
 - to act as reducing sugar
- 77 Ribozymes are the only biocatalysts that are made up of: 87
- DNA
 - RNA
 - Protein
 - Fatty acid
- 78 The induced fit model differs from the Lock and Key model because the enzyme in this model: 88
- Has a rigid and fixed active site
 - Changes shape to fit the substrate
 - Is non-specific in its action
 - Is denatured during reaction
- 79 Which competitive inhibitor blocks the enzyme responsible for bacterial cell wall synthesis? 89
- Sulphonamide
 - Streptomycin
 - Tetracycline
 - Penicillin
- 80 Water commonly known as a universal solvent because: 90
- It dissolves polar and ionic substances effectively
 - It supports chemical reactions without reacting itself
 - It has a high specific heat capacity
 - It dissolves many substances due to its small molecule size
- 81 Which of the following structural change in water molecule leads to the low density of ice? 91
- Formation of ionic bonds
 - Expansion due to hydrogen bonding
 - Increased kinetic energy
 - Loss of polarity in molecules
- CHEMISTRY (45 MCQs)**
- 82 Reduction of carboxylic acid by using lithium aluminohydride produce: 92
- Alcohol
 - acid halide
 - ester
 - alkane
- 83 In separate vessel of volume 2000 cm³ and 1500cm³, 6g of hydrogen and 28g of nitrogen are mixed in each vessel at 25°C, ammonia formed is? 93
- $$N_2 + 3H_2 \rightleftharpoons 2NH_3$$
- More in 2 L vessel
 - More in 1500 cm³ vessel
 - Equal in both vessel
 - Cannot be predicted
- 84 The weakest intermolecular force present in liquid is? 94
- dipole dipole forces
 - induce dipole force
 - Instantaneous dipole induced dipole force
 - hydrogen bonding
- Number of sigma bond in acetylene and ethylene are? 85
- 3 & 5
 - 5 & 3
 - 6 & 5
 - 5 & 6
- Which of the following has smallest bond angle? 86
- C₂H₂
 - NH₃
 - H₂S
 - BeCl₂
- Which one of the following has highest ionic character? 87
- AlCl₃
 - BCl₃
 - PCl₃
 - NaH
- Which one has highest bond energy? 88
- sp-s
 - sp³-s
 - sp²-s
 - sp³-p
- The relationship of (+) tartaric acid and (-) Tartaric acid are: 89
- geometric isomers
 - enantiomers
 - diastereomers
 - planar
- IUPAC name of compound C₆H₅COCH₃ is? 90
- methylphenylketone
 - phenylethanone
 - octan-2-one
 - benzylethanone
- During reaction of aldehyde with HCN, the hybridization of carbon atom of carbonyl group changes to: 91
- sp → sp²
 - sp³ → sp²
 - sp² → sp³
 - dsp² → sp³
- Acetone reacts with water in presence of catalyst produces: 92
- propan-2-ol
 - propan-1,2-diol
 - propan-2,2-diol
 - propanol
- Which one show positive test with Fehling solution: 93
- acetophenone
 - metaformaldehyde
 - acetaldehyde
 - benzaldehyde
- Oxidation state of Tungsten in Na₂W₂O₁₁.H₂O is: 94
- +5
 - +6
 - +8
 - Zero

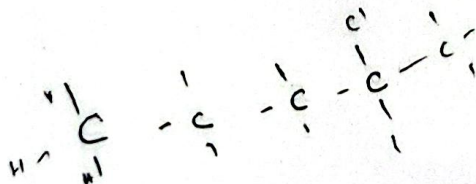


Paper CODE-2

Shaheed Zulfi
The smallest
of in a cryst
A.
B.

- 95/ Orientation of molecule is more important in following cases except:
A. high Pressure
B. complex molecules
C. poly atomic molecules
D. low pressure
- 96/ Keeping temperature constant, if pressure is increased, density of gas will
A. Increases
B. decreases
C. gets doubled
D. remains same
- 97/ IUPAC name of chloroform is:
A. methylchloride
B. methyltrichloride
C. trichloromethane
D. chloromethane
- 98/ Which among the following will react with ammoniacal cuprous chloride;
A. 1-butene
B. 1-butyne
C. 2-butene
D. 2-butyne
- 99/ Which of the following is not a crystalline solid?
A. KCl
B. Fe metal
C. Glass
D. rhombic S
- 100/ Number of electron with $l=2$ in an atom having atomic number 23 is:
A. 2
B. 3
C. 4
D. 5
- 101/ Reaction having high activation energy are:
A. spontaneous
B. fast
C. slow
D. always exothermic
- 102/ Which of the following reagents is used to convert benzene to 2-chloro methyl benzene?
A. $\text{CH}_3\text{Cl}/\text{AlCl}_3$ followed by Cl_2 in the presence of anhydrous FeCl_3 .
B. $\text{CH}_3\text{Cl}/\text{AlCl}_3$ followed by Cl_2 in the presence of diffused sunlight
C. $\text{Cl}_2/\text{FeCl}_3$ followed by CH_3Cl in the presence of diffused sunlight.
D. Cl_2/UV followed by CH_3Cl in the presence of anhydrous FeCl_3 .
- 103/ According to the Kinetic molecular theory, the kinetic energy of gas molecules increases when they are
A. melted from solid to liquid state
B. mixed with other molecules at lower temperature
C. frozen into solids
D. condensed into liquids
- 104/ If the equilibrium expression of a reversible reaction is $[\text{C}]^2/[\text{A}][\text{B}]$
The balanced chemical equation should be
A. $\text{C} \rightleftharpoons \text{A} + \text{B}$
B. $2\text{C} \rightleftharpoons \text{A} + \text{B}$
C. $\text{A} + \text{B} \rightleftharpoons \text{C}$
D. $\text{A} + \text{B} \rightleftharpoons 2\text{C}$
- 105/ Common name of 1,3 benzene diol is:
A. Pyrogallol
B. Cresol
C. Resorcinol
D. Catechol
- 106/ How many sigma and pi bonds are present in maleic anhydride?
A. 5 sigma 3 pi
B. 6 sigma 3 pi
C. 7 sigma 2 pi
D. 9 sigma 3 pi
- 107/ Addition of three molecules of chlorine into benzene prove that benzene has
A. 3 double bonds
B. non polar
C. polar
D. non planner
- 108/ Propyne is allowed to react with hydrochloric acid two times then final product is
A. 1,1-dichloropropane
B. 1,2-dichloropropane
C. 2,2-dichloropropane
D. 1,2-dichloropropene
- 109/ Diethyl ether and Methyl n-propyl ether are
A. position isomers
B. functional group isomers
C. metamers
D. tautomer
- 110/ In the given reaction $\text{CH}_3\text{OH} \rightarrow \text{HCOOH}$, oxidation state of carbon changes from:
A. -2 to 0
B. -2 to +2
C. -3 to +2
D. 0 to +2
- 111/ For endothermic reaction, enthalpy change is:
A. $\Delta H_{\text{reactant}} > \Delta H_{\text{product}}$
B. $\Delta H_{\text{reactant}} < \Delta H_{\text{product}}$
C. $\Delta H_{\text{reactant}} = \Delta H_{\text{product}}$
D. $\Delta H_{\text{reactant}} = \Delta H_{\text{product}} = 0$
- 112/ The structure of four Chloroalkanes W X, Y and Z are shown:
$$\begin{array}{ccc} (\text{CH}_3)_2\text{CHCH}(\text{Cl})\text{CH}_3 & & \text{CH}_2(\text{Cl})\text{CH}_3 \\ \text{W} & & \text{X} \\ (\text{CH}_3)_2\text{CHCH}_2\text{Cl} & & (\text{CH}_3)_2\text{CHC}(\text{CH}_3)_2\text{Cl} \\ \text{Y} & & \text{Z} \end{array}$$

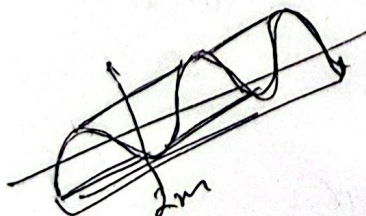
Select the Chloroalkane classified as tertiary,
A. W only
B. X only
C. Y only
D. Z only Correct



- 113 The smallest repeating pattern from which the lattice is built of in a crystalline solid is called
- Crystallite
 - Amorphous region
 - Unit cell
 - Crystal lattice
- 114 Which of following reaction will move backward by decreasing pressure?
- $4Q \rightleftharpoons T + S$
 - $2A \rightleftharpoons 3C$
 - $K \rightleftharpoons L$
 - $H + 2M \rightleftharpoons 2B + 2D$
- 115 According to Le Chatelier's principle, in Haber's process yield of ammonia can be increased by:
- decreasing pressure and increasing temperature
 - increasing pressure and decreasing temperature
 - increasing volume and decreasing temperature.
 - decreasing concentration of H_2
- 116 Hyperbola isotherm is obtained when graph is plotted between:
- P and $1/V$
 - PV and V
 - P and V
 - V and $1/P$
- 117 Highest energy for one quantum among radiation is:
- microwave
 - infrared
 - ultra violet
 - visible
- 118 Which of the following reagent is commonly used to prepare alkyne from vicinal dihalide?
- H_2 and catalyst
 - $KOH/NaNH_2$
 - $KMnO_4$
 - $LiAlH_4$
- 119 In a standard hydrogen electrode, the platinum electrode:
- Reacts with hydrogen
 - Provide a surface for oxidation and reduction.
 - Acts as a salt bridge.
 - Provide voltage to the circuit.
- 120 Which of the following compound has lower Lattice Energy?
- $LiCl$
 - KCl
 - $CaCl_2$
 - CaH_2O_6
- 121 Reaction of 2-Bromobutane with alcoholic KOH yields:
- 2-Butanol
 - 2-Butene
 - 2-Butyne
 - 1-Butanol
- 122 Which species contain an element with an oxidation number of +4?
- CrO_4^{2-}
 - MnO_4^{2-}
 - H_2SO_4
 - Na_2CO_3
- 123 The rate of reaction
- Increases as the reaction proceeds
 - Decreases as the reaction proceeds
 - Remains the same as the reaction proceeds
 - May decrease or increase as the reaction proceeds
- 124 The order of chemical reaction is defined as:
- The number of reactants involved in balanced equation
 - The number of products formed in balanced equation
 - The power to which the concentration of a reactant is raised in the rate equation
 - The rate constant of the reaction
- 125 Real gases show more positive deviation as pressure increases because of
- ionic nature
 - repulsive forces
 - attractive forces
 - non polar nature
- 126 Which statement applies to both ideal and real gases
- collision between molecules are elastic
 - molecules are in constant random motion
 - molecules attract each other
 - molecules have zero size
- PHYSICS (36 MCQs)**
- 127 If voltage across a resistor is doubled then its resistance will become: (temperature and physical state of the conductor remains constant).
- Doubled
 - Half
 - Four times
 - Remains constant
- 128 A particle is moving in a uniform circular path whose projection is executing simple harmonic motion on horizontal diameter. The ratio of instantaneous velocity to the maximum velocity of the projection while passing through the center is:
- 1 : 1
 - 1 : 2
 - 2 : 1
 - 1 : 4
- 129 The option that shows the conditions used by Laplace for connecting the velocity of sound is options medium used thermodynamics process
- solid adiabatic
 - liquids isobaric
 - gas adiabatic
 - gas isothermal
- 1
 - 2
 - 3
 - 4

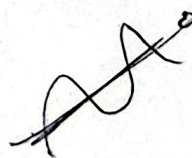
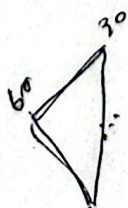


- 130 If different colored light beams have same total energy, which color beam will contain the smallest number of photons?
- A. Violet
B. Blue
C. Green
D. Red
- 131 A patient is injected with a radioactive isotope to trace blood flow and detect circulation issues. The isotope used is more likely to be:
- A. Iodine-131
B. Phosphorus-32
C. Cobalt-60
D. Sodium-24
- 132 Water flows through a pipe of 0.02 m^2 with a speed of 3 m/s . The pipe narrows to 0.01 m^2 . The speed in narrower section is:
- A. 1.5 m/s
B. 3 m/s
C. 6 m/s
D. 9 m/s
- 133 In the human circulatory system, turbulent blood flow is most likely to occur when the:
- A. Vessel diameter is very small
B. Velocity of blood is very low
C. Blood flows through a clogged vessel
D. Blood viscosity increases
- 134 A conducting ring is placed near a current-carrying coil. As the current in the coil increases, the induced current in the ring flows:
- A. In the direction of magnetic field
B. To increase the magnetic flux
C. To oppose increasing magnetic flux
D. Randomly without a definite direction
- 135 In progressive waves, energy is transferred from one point to another through:
- A. Circular motion of particles
B. Oscillatory motion of particles
C. Rotation of particles
D. Translation of particles
- 136 A capacitor is connected to an ac source. If the frequency of the AC source is doubled the current in a purely capacitive circuit will
- A. Be doubled
B. Remains Unchanged
C. Become Half
D. Becomes zero
- 137 When thermal energy is transferred from a hot object to a cold one, the change occurs in the hot object as:
- A. Increases in internal energy
B. Decrease in internal energy
C. Increase in temperature
D. Increase in heat content
- 138 Two spectral lines in the Hydrogen atom spectrum are close together. This likely means:
- A. The energy difference is zero
B. The energy difference is small
C. The light intensity is low
D. The atom become unstable
- 139 When two identical waves arrive in phase at same point a region at the same time the resultant displacement is equal to
- A. Displacement of a single wave
B. Difference of their displacements
C. Sum of their displacements
D. Product of their displacements
- 140 High slope of Ohm's law graph means
- A. Low resistance
B. High resistance
C. Open circuit
D. Low current
- 141 The electric potential at a point due to a point charge is 100 J/C . If a test charge of magnitude 1 C placed at that point is replaced with a 2 C charge, then the physical quantity that will change is
- A. Electric Field at that point
B. Electric potential at that point
C. Electric Potential Energy of the system
D. Temperature
- 142 The waves among the following which require a material medium for their propagation are:
- A. Gamma rays
B. X-rays
C. Infrared waves
D. Infrasonic waves
- 143 Unequal changes occurring in velocity of a body is called
- A. Uniform acceleration
B. Uniform velocity
C. Instantaneous acceleration
D. Variable acceleration
- 144 What will potential difference, if a wire has resistance of 10Ω and current 2 A flow through it :
- A. 5 V
B. 10 V
C. 20 V Correct
D. 40 V
- 145 According to the particle model of light, a photon is:
- A. A Particle with mass and charge
B. A quantum of energy with zero rest mass and zero charge
C. A continuous energy wave
D. A particle that travels slower than light
- 146 The current in forward biased PN junction is mainly due to:
- A. Majority carriers
B. Minority carriers
C. leakage carrier
D. Thermionic emission
- 147 Stationary waves are formed in a stretched string of 2 m length, such that two vibrating loops are formed. The distance between consecutive nodes formed is:
- A. 0.5 m
B. 1 m
C. 2 m
D. 3 m



$$V = \frac{R}{L} \quad R = \frac{V}{I}$$

- 148 A football is kicked with a speed of 20 m/s at an angle of 30° with the horizontal, the maximum height it attains is:
- 5 m
 - 10 m
 - 15 m
 - 20 m
- 149 A high internal resistance battery is not suitable for heavy loads due to:
- Excess voltage drop
 - High terminal voltage
 - Infinite emf
 - Constant current
- 150 Two equal charges experience a certain force when placed in vacuum. When the charges are placed in a medium, the force becomes $\frac{1}{4}$ th. The dielectric constant of the medium is:
- 0.25
 - 2
 - 4
 - 16
- 151 If a test charge of magnitude $2C$ experience forces of 100N and 200N at two points A and B in an electric field respectively. The ratio of electric fields at A to that of B is
- 1:1
 - 1:2
 - 1:4
 - 4:1
- 152 A body of mass 2 kg moving with velocity 3 m/s collides with a body of mass 1 kg at rest. If they stick together, their common velocity after collision is:
- 1 m/s
 - 2 m/s
 - 3 m/s
 - 4 m/s
- 153 Two balls thrown with equal speeds but at different angles cover equal horizontal distance. If one is thrown at an angle of 40° , then the angle of projection of the other is:
- 20°
 - 30°
 - 45°
 - 50°
- 154 The work done on a body is stored in it in the form of:
- Power
 - Energy
 - Momentum
 - Impulse
- 155 If 20 waves pass a point in 2 seconds and with a speed of 5m/s, then the wavelength of wave is:
- 0.5 m
 - 1 m
 - 1.5 m
 - 2 m
- 156 The unit of RC in case of charging a capacitor is
- Farad
 - Seconds
 - Ohm
 - Volt
- 157 A longitudinal wave has a frequency of 500 Hz and wavelength of 0.6 m, its speed is:
- 30 m/s
 - 83 m/s
 - 300 m/s
 - 1200 m/s
- 158 The true statement about angular displacement is:
- It always increases with time
 - It is treated as vector for small rotations
 - It is always a scalar quantity
 - It is measured in meters
- 159 π radians are equivalent to
- 30°
 - 270°
 - 90°
 - 180°
- 160 A person moves 600 m towards north then 300 m towards south. Its displacement to distance ratio is:
- 1:2
 - 1:3
 - 2:1
 - 3:1
- 161 In a stationary wave the point that undergoes zero acceleration is:
- Node
 - Antinode
 - Midpoint between node and antinode
 - Every point along the wave
- 162 If the speed of sound is measured at sea level and at the top of a mountain, both at the same temperature. It will be:
- Greater at sea level
 - Greater at the mountain top
 - The same at both places
 - Greater where the air is denser
- ENGLISH (09 MCQs)**
- 163 The book was written by Rashid Khan. Identify the correct usage of voice.
- Rashid Khan writes the book.
 - Rashid Khan wrote the book.
 - Rashid Khan written the book.
 - Rashid Khan has write the book.
- 164 Identify the example of complex sentence.
- I both thanked him and rewarded him.
 - Life is what we make it.
 - He owed his success to his father.
 - Jumping up, he ran away.
- 165 Pick out the sentence which illustrates the use of infinitive.
- He refused to obey the orders.
 - He refused obeying the orders.
 - He refused obey the orders.
 - He refused obeyed the orders.





- 166 What is the effect of using synonyms with different shades of meaning in satire?
 A. To create a serious tone
 B. To highlight the absurdity or irony of a situation
 C. To confuse the reader
 D. To add complexity to the language
- 167 People approach the situation differently depending on who they are. The word 'approach' in this sentence means
 A. relate
 B. coordinate
 C. comprehend
 D. verify
- 168 The team won the match. ____, they broke the school record.
 A. Similarly
 B. Nevertheless
 C. Furthermore
 D. Instead
- 169 Identify the sentence with no spelling error:
 A. Rabia completes homework assignments well in time.
 B. Rabia complete homework assignments well in time.
 C. Rabia completes homework assignments well in time.
 D. Rabia completes homework assignments well in time.
- 170 Travelling in a hot dusty train gives me no pleasure. The underlined part of the sentence is:
 A. Adverb phrase
 B. Adjective phrase
 C. Noun phrase
 D. Infinitive phrase
- 171 What does "I've told you a million times" means?
 A. To provide an exact count
 B. To emphasize frustration or impatience
 C. To confuse the listener
 D. To make the character sound foolish
- 172 An outbreak of a corona disease is reported in the city. What should be the first course of action?
 A. Develop a vaccination plan.
 B. Conduct research on the disease.
 C. Implement quarantine measures.
 D. Inform the public by using all means.
- 173 Find the next number: 5, 11, 23, 47, 95, ____?
 A. 190
 B. 191
 C. 192
 D. 193
- 174 Which number comes in the missing place?
 1, 3, 7, 15, 31, ____
 A. 61
 B. 63
 C. 65
 D. 67
- 175 Every alphabet in the word "SURGEON" represent a fixed numerical value and the numbers when added, sum up to 99. Based on this, what will the sum of the word "FORGIVEN".
 A. 102
 B. 78
 C. 99
 D. 56
- 176 What is the primary difference between hypothesis and a theory?
 A. A hypothesis is a proven fact, while a theory is an unproven data
 B. A hypothesis is a specific prediction, while a theory is a broad explanation
 C. A hypothesis is a qualitative statement, while a theory is quantitative statement
 D. A hypothesis is a tentative explanation, while a theory is a well-substantiated explanation
- 177 What comes next? ZX, WU, TR, QO, ____
 A. NL
 B. LN
 C. NM
 D. KH
- 178 In a row of students, a student is at 13th position from the left end and at 20th position from the right end. How many students are there in the row?
 A. 30
 B. 31
 C. 32
 D. 33
- 179 A is older than B but younger than F. C is younger than B but older than D. Who is the youngest of them?
 A. A
 B. B
 C. C
 D. D

LOGICAL REASONING (09 MCQs)

- 172 An outbreak of a corona disease is reported in the city. What should be the first course of action?
 A. Develop a vaccination plan.
 B. Conduct research on the disease.
 C. Implement quarantine measures.
 D. Inform the public by using all means.
- 180 A hiker climbed to a higher altitude, where he felt the air pressure was lower as compared to the lower altitude. What is the likely effect?
 A. The hiker felt more energetic.
 B. The hiker felt no difficulty in breathing.
 C. The hiker might experience altitude sickness.
 D. The hiker felt healthier and fresh.

173 Find the next number: 5, 11, 23, 47, 95, ____?

- A. 190
 B. 191
 C. 192
 D. 193

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
 A B C D E F
 01 01 01 01 01 01

$$5 \times 6 = 30$$

$$11 \times 2 = 22$$

$$2 \times 23 = 46$$

$$23 \times 24 = 552$$

$$47 \times 48 = 2256$$

$$95 \times 96 = 9120$$

A → B
 A ← F
 C ← B

C → D

19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
 A B C D E F G H I J
 1 2 3 4 5 6 7 8 9 10
 K L M N O P Q R
 11 12 13 14 15 16 17 18
 S T U V W X Y Z
 19 20 21 22 23 24 25

26 27 28 29 30 31 32 33
 26 27 28 29 30 31 32 33
 WU, TR, QO, NM



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Sr. #	CODE-1	CODE-2	CODE-3	CODE-4
1.	A	D	B	C
2.	C	C	C	B
3.	C	B	C	A
4.	C	B	A	A
5.	B	D	C	B
6.	C	D	C	B
7.	D	C	C	A
8.	C	B	B	D
9.	A	B	B	D
10.	D	B	A	C
11.	C	B	B	B
12.	C	B	A	A
13.	C	A	C	C
14.	D	B	A	B
15.	A	C	C	B
16.	B	A	C	C
17.	B	A	C	B
18.	D	C	C	B
19.	A	C	B	D
20.	B	B	C	C
21.	D	D	B	A
22.	C	B	A	A
23.	B	C	A	C
24.	B	C	B	C
25.	D	A	B	C
26.	D	C	A	B
27.	C	C	D	C
28.	B	C	D	D
29.	B	B	C	C
30.	B	B	B	A
31.	B	A	A	D
32.	B	B	C	C
33.	A	A	B	C
34.	B	C	B	C
35.	C	A	C	D
36.	A	C	B	B
37.	A	C	B	A
38.	C	C	D	B
39.	C	C	C	B
40.	B	B	A	D
41.	D	C	A	A
42.	B	B	C	B
43.	C	A	C	D
44.	C	A	C	C
45.	A	B	B	B
46.	C	A	C	B
47.	C	D	D	D
48.	C	D	C	D
49.	B	C	A	C
50.	B	B	D	B
51.	A	A	C	B
52.	B	C	C	B



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Sr. #	CODE-1	CODE-2	CODE-3	CODE-4
53.	A	B	C	B
54.	C	B	D	A
55.	A	B	A	B
56.	C	C	B	C
57.	C	B	B	A
58.	C	B	D	A
59.	C	D	A	C
60.	B	C	B	C
61.	C	A	D	B
62.	B	A	C	D
63.	A	C	B	B
64.	A	C	B	C
65.	B	B	D	C
66.	B	C	D	A
67.	A	D	C	C
68.	D	C	B	C
69.	D	A	B	C
70.	C	D	B	B
71.	B	C	B	B
72.	A	C	B	A
73.	C	C	A	B
74.	B	D	B	A
75.	B	C	C	C
76.	C	A	A	A
77.	B	B	A	C
78.	B	B	C	C
79.	D	D	C	C
80.	C	A	B	C
81.	A	B	D	B
82.	C	A	C	D
83.	C	B	B	A
84.	B	C	D	C
85.	B	A	A	C
86.	D	C	C	B
87.	B	D	B	D
88.	C	A	C	B
89.	C	B	B	B
90.	B	B	C	A
91.	A	C	A	B
92.	B	C	C	C
93.	C	C	A	C
94.	A	B	C	B
95.	C	D	D	B
96.	D	A	C	C
97.	A	C	D	D
98.	B	B	A	A
99.	B	C	C	B
100.	C	B	C	B
101.	C	C	B	C
102.	C	A	D	C
103.	B	A	B	C
104.	D	D	B	B



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Sr. #	CODE-1	CODE-2	CODE-3	CODE-4
105.	A	C	A	B
106.	C	D	B	D
107.	B	A	C	B
108.	C	C	C	C
109.	B	C	B	C
110.	C	B	B	B
111.	A	B	B	A
112.	A	D	D	B
113.	C	C	B	C
114.	D	A	C	A
115.	C	B	C	D
116.	D	C	B	A
117.	A	C	A	C
118.	C	B	B	B
119.	C	B	C	C
120.	B	B	A	B
121.	B	B	C	C
122.	D	D	D	A
123.	B	B	A	A
124.	B	C	B	C
125.	A	C	B	D
126.	B	B	C	C
127.	B	D	B	D
128.	A	A	B	D
129.	B	C	C	C
130.	C	A	A	B
131.	B	D	C	A
132.	D	C	D	B
133.	B	C	D	A
134.	A	C	C	A
135.	C	B	B	C
136.	D	A	A	B
137.	A	B	B	B
138.	C	B	A	D
139.	A	C	A	B
140.	D	A	C	A
141.	C	C	B	B
142.	C	D	B	C
143.	C	D	D	D
144.	B	C	B	B
145.	A	B	A	A
146.	B	A	B	C
147.	B	B	C	D
148.	C	A	B	A
149.	A	A	D	C
150.	C	C	B	B
151.	D	B	A	A
152.	D	B	C	D
153.	C	D	D	C
154.	B	B	A	C
155.	A	A	C	C
156.	B	B	A	B



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Sr. #	CODE-1	CODE-2	CODE-3	CODE-4
157.	A	C	D	A
158.	A	B	C	B
159.	C	D	C	B
160.	B	B	C	C
161.	B	A	B	A
162.	D	C	A	C
163.	A	B	A	B
164.	C	B	B	B
165.	B	A	C	B
166.	B	B	C	A
167.	B	C	A	B
168.	A	C	C	C
169.	B	A	B	C
170.	C	C	B	A
171.	C	B	B	C
172.	C	D	C	C
173.	D	B	D	D
174.	C	B	A	B
175.	D	C	C	B
176.	B	D	D	C
177.	B	A	C	D
178.	C	C	D	A
179.	D	D	B	C
180.	A	C	B	D