

# ENGLISH

**Q 1** Clive had been only a few months in the army when announced that peace had been concluded between great Britain and France. The sentence contains errors of:

- A) Comma
- B) Comma and full stop
- C) Comma and capitalization
- D) Capitalization

**Q 2** According to the scientists, the sun is \_\_\_, and we can find the early discoveries made by scientists in black and white on \_\_\_\_\_. Choose correctly spell homophones to complete the sentence:

- A) Stationery, Stationary
- B) Stationary, Stationery
- C) Stationary, Stationary
- D) Stationory, Stationary

**Q 3** Choose the correct preposition. One hour \_\_\_\_\_ glorious life is worth an age without a name

- A) In
- B) Of
- C) To
- D) With

**Q 4** Which of the following verbs takes the preposition "from" with it?

- A) Abstain
- B) Accused
- C) Desirous
- D) Ignorant

**Q 5** Identify the sentence with correct structure

- A) We noticed the boy, walking down the street
- B) We noticed, the boy walk down the, street
- C) We noticed, that the boy was walking down the street
- D) We noticed the boy, who was walking down the street

**Q 6** Choose the sentence with correct punctuations

- A) "Go then," Said the ant, "And dance winter away."
- B) "Go then" Said the Ant, and "dance winter away."
- C) "Go then," said the ant, "and dance winter away."
- D) "Go then". Said the Ant, "and dance Winter away."

**Q 7** Identify the underlined part of the sentence: I know you have already read this book.

- A) Independent clause
- B) Adjective clause
- C) Adverb clause
- D) Noun clause

**Q 8** Choose the sentence with correct order of adjectives:

- A) I met, young two, beautiful, British girls at the airport
- B) I met two beautiful, young, British girls at the airport
- C) I met two, British, young, beautiful girls at the airport
- D) I met two young, beautiful British girls, at the airport

**Q 9** He circled \_\_\_\_\_ whole world on his ship and on \_\_\_\_\_ island he encountered \_\_\_\_\_ fierce giant.

- A) The, an, the
- B) The, a, a
- C) The, an, a
- D) The, an, an

**Q 10** I suggest that you \_\_\_\_\_ visit a doctor.

- A) Must
- B) Should
- C) Ought to
- D) Have to

**Q 11** Identify following type of sentence. After midnight, the ghost will come out of the haunted attic to scare the people. The sentence is:

- A) Simple
- B) Compound
- C) Complex
- D) Compound-Complex

**Q 12** Choose the correctly structured sentence.

- A) Had he been there, he would see us

- B) Had he been there, he would have seen us
- C) Had he been there, he would have seen us
- D) Had he been there, he would have seen us

**Q 13** Whatever you order for dinner is fine with me. The underlined part is:

- A) Noun clause
- B) Adjective clause
- C) Adverb clause
- D) Independent clause

**Q 14** Fill in the correct articles: Female lion is called \_\_\_\_ lioness. She has no mane.

- A) A, the
- B) The, a
- C) The, the
- D) A, a

**Q 15** Identify the sentence with correct punctuations:

- A) Ali received a Parker pen, Hamza: a watch.
- B) Ali received a Parker pen; Hamza a watch.
- C) Ali received a Parker pen, Hamza; a watch.
- D) Ali received a Parker pen; Hamza, a watch.

## BIOLOGY

**Q 16** Arthropoda are 54% of all animals due to which feature?

- A) Articulation of joints and Diversity among Habitat
- B) Endoskeleton and closed circulatory system
- C) Open circulatory system and Appendages
- D) Jointed appendages

**Q 17** The process in which unwanted structures are engulfed by the cell is called...?

- A) Autophagy
- B) Autolysis
- C) Phagocytosis

D) Endocytosis

**Q 18** Which phylum developed the first true coelom?

- A) Platyhelminthes
- B) Annelida
- C) Arthropoda
- D) Mollusca

**Q 19** Part of brain that controls coordination and stores memory for behaviour is:

- A) Cerebrum
- B) Cerebellum
- C) Pons
- D) Medulla

**Q 20** Which is present in alveoli?

- A) Myoglobin
- B) Haemoglobin
- C) Collagen
- D) Neither

**Q 21** Gene linkage is confirmed by:

- A) Test cross
- B) Dihybrid cross
- C) Monohybrid cross
- D) Back cross

**Q 22** Gene linkage rejects the:

- A) Law of segregation
- B) Law of independent assortment
- C) Polygenic traits
- D) Epistasis

**Q 23** Which of the following invertebrate has great capability of intelligence and has large brain ?

- A) Snail
- B) Giant squid
- C) Octopus
- D) None of these

**Q 24** Which of the following is an asymptomatic carrier feature that disappears after few months?

- A) Swollen lymph gland
- B) Night sweat
- C) Loss of memory
- D) None of the above

**Q 25** What is the size of porcelain filter?

- A) 10–100 nm
- B) 100–1000 nm

- C) 10–100 micrometers
- D) 100–1000 micrometers

- Q 26** What is the end product of glycolysis?
- A) Oxalic acid
  - B) Pyruvate
  - C) Acetyl-CoA
  - D) Lactic acid
- Q 27** Which is present in alveolar walls?
- A) Hemoglobin
  - B) Myoglobin
  - C) Myosin
  - D) Collagen
- Q 28** Which virus contains double-stranded RNA (dsRNA)?
- A) Mild rash virus
  - B) Diarrhea virus
  - C) Rubella virus
  - D) Small poxvirus
- Q 29** Which ions are involved in synaptic transmission?
- A)  $K^+$ ,  $Ca^{++}$ ,  $Na^+$
  - B)  $Na^+$ ,  $K^+$
  - C)  $Ca^{++}$ ,  $Na^+$
  - D)  $Ca^{++}$ ,  $K^+$
- Q 30** Function of which organ will be affected in case of impairment of smooth muscles?
- A) Heart
  - B) Lungs
  - C) Stomach
  - D) Tongue
- Q 31** Bacteria which grow in oxygen and also in absence of oxygen environment is known as
- A) facultative anaerobic
  - B) Aerobic
  - C) Anaerobic
  - D) microaerophilic
- Q 32** Which of the following gland would be responsible for the failed ovulation
- A) Pituitary
  - B) Adrenal
  - C) Thymus
  - D) Placenta
- Q 33** What is the function of photosystem II in photophosphorylation

- A) ATP production
- B) Oxidation of water
- C) NADPH production
- D) Oxidation of cytochrome

- Q 34** What is the final electron acceptor in ETC
- A)  $CO_2$
  - B)  $O_2$
  - C) ATP
  - D) NADPH
- Q 35** H zone contains
- A) only myosin filament
  - B) Actin only
  - C) Both thin and thick filament
  - D) Only thin filament
- Q 36** Which of the pairs shows correct homology?
- A) Leaves of pine and cactus
  - B) Forelimb of birds and fins of whales
  - C) Wings of birds and wings of butterfly
  - D) Gills of fishes and lungs of humans
- Q 37** Identify the mismatched pair:
- A) Enterokinase - trypsin
  - B) Chylomicrons - carbohydrates + Cholesterol
  - C) Emulsification - fat droplets
  - D) Acetylcholine - gastrin
- Q 38** A woman cut her hand – which of these causes inflammation?
- A) Histamine
  - B) Interleukin-1
  - C) Interleukin-2
  - D) Heparin
- Q 39** There are 170 types of amino acid discovered in the cell, how many amino acids are involved in the making of protein?
- A) 25 amino acids
  - B) 20 amino acids
  - C) 30 amino acids
  - D) 35 amino acids
- Q 40** which of the following are same substances present in blood and lymph:
- A)  $CO_2$ , water, and larger proteins
  - B) RBC, amino acids, and electrolytes

- C) RBC, CO<sub>2</sub>, and water  
D) Glucose, CO<sub>2</sub>, and water

**Q 41** Type of T lymphocytes which do not directly attack microbes:

- A) B lymphocytes  
B) Neutrophils  
C) NKCs  
D) Macrophages

**Q 42** Which of the following least affects blood flow in blood vessels?

- A) Skeletal muscle contraction  
B) Blood pressure  
C) Heart beat  
D) Area of cross section of vessel

**Q 43** Active enzyme pepsin after removal of additional polypeptide is an example of:

- A) Apoenzyme  
B) Holoenzyme  
C) Regulatory enzyme  
D) Non-regulatory enzyme

**Q 44** Active site forms which bond with substrate?

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

**Q 45** Activator of hexokinase is:

- A) Mg<sup>2+</sup>  
B) Zn<sup>2+</sup>  
C) Fe<sup>2+</sup>  
D) None of these

**Q 46** Sucrose is made up of:

- A) Glucose + Galactose  
B) Glucose + Fructose  
C) Glucose + Glucose  
D) Glucose + Maltose

**Q 47** The mitral valve is present between:

- A) Left atrium and aorta  
B) Right atrium and left ventricle  
C) Left atrium and left ventricle  
D) Right atrium and right ventricle

**Q 48** If 2 or more flagella are present at one end of bacteria, it is called:

- A) Lophotrichous

- B) Amphitrichous  
C) Peritrichous  
D) Monotrichous

**Q 49** Which of the following statements tells us that Special creation differs from natural selection?

- A) evolution had occurred through many numeral changes  
B) it relies on inspiration and religious beliefs  
C) Natural selection had occurred through adaptations.  
D) Special creation involves gradual evolution

**Q 50** Reduction in genes due to natural disaster is called:

- A) Bottleneck effect  
B) Founder effect  
C) Genetic drift  
D) Mutation

**Q 51** \_\_\_ leads to variation in the gene pool:

- A) gene mutations  
B) Adaptation  
C) Natural selection  
D) All of the above

**Q 52** The amount of Ser and Rer in skeletal muscles

- A) More SER less RER  
B) Less SER and More RER  
C) Equal SER AND RER  
D) Zero SER AND RER

**Q 53** Anti codon loop of the tRNA is known as ?

- A) D-loop  
B) theta-loop  
C) (middle loop)  
D) Variable loop

**Q 54** fluidity of membrane is controlled by

- A) glycoproteins  
B) Saturated fatty acids  
C) Phospholipids  
D) fatty acids

**Q 55** Which of the following acts as an activator in digestive system

- A) Erypsin  
B) Enterokinase

- C) Pepsin  
D) Dipeptidase

**Q 56** Reversible inhibitors affects the enzyme catalyzed reaction by

- A) Forming covalent bond with the active site  
B) Destroying the globular structure  
C) Forming weak linkages with the active site  
D) Activating the active site

**Q 57** Which of the following is part of lamarkism?

- A) Use and disuse of organs  
B) Survival of the fittest  
C) Origin of species  
D) Variation

**Q 58** Which chronological sequence is correct among the classes of vertebrates as evidence of evolution

- A) Birds → fishes → amphibians → reptiles  
B) Reptiles → Birds → fishes → amphibians  
C) Fishes → amphibians → reptiles → birds  
D) Amphibians → fishes → reptiles → birds

**Q 59** Which of the following bacteria is used to make vaccine against tuberculosis?

- A) Mycobacterium tuberculosis  
B) Mycobacterium bovis  
C) E.coli  
D) Salmonella typhi

**Q 60** Which testicular cell of man with high testosterone levels will start their Endocrine activity?

- A) Sertoli cells  
B) Interstitial cells  
C) Spermatogonial cells  
D) Leydig cells

**Q 61** Which layer of uterus consists of contractile muscle?

- A) Myometrium  
B) Endometrium  
C) Perimetrium  
D) Both Endo and Myometrium

**Q 62** One of the endocrine gland is responsible for failed ovulation?

- A) Pituitary  
B) Placenta  
C) Thyroid  
D) Adrenal

**Q 63** Find the exact function of ATP hydrolysis in muscle contraction?

- A) Breaking of cross bridges  
B) Formation of cross bridges  
C) Replacement of tropomyosin  
D) Release of  $\text{Ca}^{2+}$  ions from sarcoplasmic reticulum.

**Q 64** The reason behind the slow healing of cartilage is

- A) Absence of minerals in matrix  
B) Absence of nerve supply  
C) Absence of blood supply  
D) Loose arrangements of cells

**Q 65** Which cell is important to cause bone resorption?

- A) Osteoblasts  
B) Osteoclasts  
C) Osteocytes  
D) Fibroblasts

**Q 66** Which of the following independently reproduces in cells?

- A) Golgi complex  
B) Nucleus  
C) Chloroplast  
D) Endoplasmic reticulum

**Q 67** Which of the following best describes the difference of prokaryotic and eukaryotic cells?

- A) Double membranous organelles in prokaryotes while they are absent in Eukaryotes  
B) Prokaryotes have 50S and 30S subunits of Ribosomes while eukaryotic cells have 60S and 40S subunits of ribosomes  
C) Prokaryotes have double stranded DNA while Eukaryotes have circular DNA  
D) Prokaryotes are multicellular while eukaryotic cells are unicellular.

# CHEMISTRY

**Q 68** What is the correct direction of action potential along the neuron

- A) Axon -----> Pre synaptic Terminal
- B) Schwann cells ---> post synaptic terminal
- C) Cell body -----> presynaptic terminal
- D) Dendrites -----> presynaptic terminal

**Q 69** Concentration of  $K^+$  and  $Na^+$  inside and outside of neuron membrane is given as

- A)  $K^+$  30 times inside,  $Na^+$  10 times outside
- B)  $K^+$  10 times inside,  $Na^+$  30 times outside
- C)  $Na^+$  10 times inside,  $K^+$  10 times outside
- D)  $Na^+$  30 times inside,  $K^+$  30 times outside

**Q 70** A brief phase in which neuron regains it's original ionic distribution and polarity?

- A) Repolarization
- B) Synaptic cleft
- C) Saltatory period
- D) Refractory period

**Q 71** Part of brain that comprises of Limbic system?

- A) Thalamus, amygdala, hippocampus
- B) Hypothalamus, amygdala, hippocampus
- C) Hypothalamus, corpus callosum, hippocampus
- D) Thalamus, hypothalamus, pons

**Q 72** Correct sequence of the four elements of a neural pathways in a simple reflex circuit?

- A) Sensory neuron ---- associative neuron ---- motor neuron --- muscle
- B) Motor neuron ---- associative neuron - --- sensory neuron ---- muscles
- C) Muscle ---- sensory neuron ---- associative neuron ---- motor
- D) Associative ---- sensory ----- motor --- - muscles

**Q 73** Water is present in all the living organisms as universal solvent due to

- A) It's cohesive force
- B) It's polar nature
- C) High specific heat
- D) High evaporation rate

**Q 74** The integral property of lipids bilayer in cell membranes is due to

- A) Reduction of contact area between lipids and water
- B) Increase of contact area between water and lipids
- C) Polar nature of lipids
- D) Ionization of lipids

**Q 75** Identify the organic compound which combines with phosphatadic acid to form lecithin

- A) Glycine
- B) Choline
- C) Cholesterol
- D) Fructose

**Q 76** The biopolymer which makes up the fungal cell wall?

- A) Chitin
- B) Pectin
- C) Peptidoglycan
- D) Lignin

**Q 77** The main function of golgi complex is

- A) Lipogenesis
- B) Protein synthesis
- C) Processing and packing of cell secretions
- D) Detoxification

**Q 78** The main function of reverse transcriptase is

- A) ss RNA  $\rightarrow$  ds DNA
- B) ssRNA  $\rightarrow$  dsRNA
- C) ssRNA  $\rightarrow$  ssDNA
- D) dsDNA  $\rightarrow$  ddDNA

**Q 79** Select the correct medium for Pepsin and Lipase

- A) Basic – Acidic
- B) Acidic – Basic
- C) Acidic – Acidic
- D) Basic – Basic

**Q 80** Which of following pairs are correctly matched

- A) Proteins - insulin – Pancreas

- B) Estrogen - Adrenal medulla  
C) Cortisone - pituitary  
D) None of these

**Q 81** Which of the following alcohols will give oily layer upon heating?

- A) 3-Methyl-2-butanol  
B) 2-Methyl-2-butanol  
C) 2-Butanol  
D) Ethyl alcohol

**Q 82** Formalin is a mixture of:

- A) 40% HCHO, 8% CH<sub>3</sub>OH, 52% H<sub>2</sub>O  
B) 40% CH<sub>3</sub>CHO, 8% CH<sub>3</sub>OH, 50% H<sub>2</sub>O  
C) 40% CH<sub>3</sub>CHO, 8% C<sub>2</sub>H<sub>5</sub>OH, 50% H<sub>2</sub>O  
D) 45% HCHO, 8% C<sub>2</sub>H<sub>5</sub>OH, 50% H<sub>2</sub>O

**Q 83** Polymerization of HCHO and CH<sub>3</sub>CHO occurs in the presence of:

- A) Conc. H<sub>2</sub>SO<sub>4</sub>  
B) DIL. H<sub>2</sub>SO<sub>4</sub>  
C) Conc. H<sub>2</sub>CO<sub>3</sub>  
D) DIL. H<sub>2</sub>CO<sub>3</sub>

**Q 84** The boiling point of carboxylic acids are relatively high due to:

- A) Increased molecular mass  
B) Intermolecular carbon bonding  
C) Intermolecular oxygen bonding  
D) Intermolecular hydrogen bonding

**Q 85** Carboxylic acid reacts with metal carbonate. The colorless gas evolved is:

- A) H<sub>2</sub>  
B) O<sub>2</sub>  
C) CO<sub>2</sub>  
D) CO

**Q 86** Which of the following compound will react with 2,2-dimethyl propanoic acid to produce ester?

- A) Ethanoic acid  
B) Propane  
C) Ethanol  
D) Propanone

**Q 87** The most abundant protein in animal kingdom forming 25-35% of body proteins is:

- A) Derived proteins  
B) Simple proteins

- C) Compound proteins  
D) Conjugated proteins

**Q 88** Protein presents in connective tissues of human body is:

- A) Phosphoprotein  
B) Collagen  
C) Lecithin  
D) Cholesterol

**Q 89** In human body Ferritin is used to store

- A) P  
B) Ca  
C) Fe  
D) Zn

**Q 90** In Human body Ceruloplasmin acts as a carrier of:

- A) O<sub>2</sub>  
B) Zn  
C) Cu  
D) Fe

**Q 91** Select the group II elements which has the highest atomic radius?

- A) Be  
B) Ca  
C) Ba  
D) Sr

**Q 92** 2-pentanone and 3-pentanone are examples of:

- A) Metamers  
B) Functional group isomers  
C) Tautomerism  
D) Position isomers

**Q 93** Which of the following will show optical isomerism?

- A) 2,2-Dihydroxy propanoic acid  
B) Hydroxy butanedioic acid  
C) Butanoic acid  
D) 2-Hydroxy propanoic acid

**Q 94** Which of the following is an electrophile in sulphonation?

- A) SO<sub>3</sub>H  
B) SO<sub>3</sub>  
C) SO<sub>2</sub>  
D) SO<sub>3</sub><sup>+</sup>

**Q 95** Acetylene reacts with hydrogen bromide to form:

- A) 2,2-Dibromoethane

- B) 1,1-Dibromoethane
- C) 1,2-Dibromoethane
- D) 1,1,2,2-Tetrabromoethane

**Q 96** Racemic mixture formed in  $SN_1$  reaction is due to presence of empty:

- A) s orbital
- B) p orbital
- C)  $sp^3$  orbital
- D)  $sp^2$  orbital

**Q 97** The fourth state of matter is:

- A) Solid
- B) Liquid
- C) Gaseous Liquid
- D) Plasma

**Q 98** Predict the element with lowest ionization energy:

- A) Mg
- B) Ar
- C) Si
- D) P

**Q 99** Which of the following element has least boiling point?

- A) Li
- B) K
- C) Na
- D) Cs

**Q 100** Most molecular crystals melt below:

- A)  $200^\circ\text{C}$
- B)  $280^\circ\text{C}$
- C)  $330^\circ\text{C}$
- D)  $480^\circ\text{C}$

**Q 101** How much heavier is the H-atom as compared to electron?

- A) 1937
- B) 1737
- C) 1837
- D) 1637

**Q 102** The value of equilibrium constant for the decomposition of ozone at  $25^\circ\text{C}$ :

- A)  $10^{55}$
- B)  $10^{65}$
- C)  $10^{25}$
- D)  $10^{50}$

**Q 103** A reaction is first order with respect to A and third order with respect to B, the rate equation is:

- A)  $\text{Rate} = K[A][B]^2$
- B)  $\text{Rate} = K[A]^2[B]$
- C)  $\text{Rate} = K[A][B]^3$
- D)  $\text{Rate} = K[A]$

**Q 104** For a reaction  $A \rightarrow \text{Product}$ , if concentration of A is doubled, product increases 4 times. The order of reaction will be:

- A) Zero
- B)  $1^{\text{st}}$
- C)  $2^{\text{nd}}$
- D)  $3^{\text{rd}}$

**Q 105** Select the spontaneous reaction from the following:

- A) Reaction of nitrogen and oxygen
- B) Emission of  $\alpha$ -particles from polonium
- C) Thermal decomposition of marble
- D) Burning of paper

**Q 106** Select the exothermic reaction among the following:

- A) Thermal composition of  $P_2O_5$
- B) Formation of atmospheric nitric oxide
- C) Burning of methane
- D) Sublimation of dry ice

**Q 107** The oxidation number of Cl in  $HClO_2$  is:

- A) +1
- B) +3
- C) +5
- D) +7

**Q 108** Bond order is equal to:

- A) Difference between number of bonding electrons and antibonding electrons
- B) The sum of number of bonding electrons and antibonding electrons
- C) Half of the difference between number of bonding electrons and antibonding electrons
- D) Quarter of the difference between number of bonding electrons and antibonding electrons

**Q 109** Which of the following molecule has non-polar covalent bond?

- A) Methyl chloride
- B) Methanol
- C) Carbon dioxide
- D) Tetrachloromethane

**Q 110** Generally the decreasing order of reactivity is:

- A) Alkane > Alkynes > Alkene
- B) Alkene > Alkynes > Alkanes
- C) Alkyne > Alkenes > Alkanes
- D) Alkynes < Alkanes < Alkene

**Q 111** The order of reactivity of alcohol with respect to cleavage of C-O bond:

- A) Tertiary alcohol > Secondary alcohol > Primary alcohol
- B) Primary alcohol > Tertiary alcohol > Secondary alcohol
- C) Secondary alcohol > Tertiary alcohol > Primary alcohol
- D) Tertiary alcohol < Secondary alcohol < Primary alcohol

**Q 112** Consider the following reaction  
 $\text{NaOH} + \text{H}_2\text{SO}_4 \rightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{O}$   
 When 40g of NaOH reacts with 49g of  $\text{H}_2\text{SO}_4$ . The number of water molecules produced are:

- A)  $6.02 \times 10^{23}$
- B)  $6.02 \times 10^{24}$
- C)  $1.2044 \times 10^{23}$
- D)  $1.204 \times 10^{24}$

## PHYSICS

**Q 113** The number of electrons in a subshell can be calculated by the formula:

- A)  $2l+1$
- B)  $2l+2$
- C)  $2(2l+1)$
- D)  $2(2l+1)$

**Q 114** When 5d orbital is complete, the entering electron goes into:

- A) 6s
- B) 6p
- C) 6d
- D) 6f

**Q 115** Which of the following relationship is correct for kinetic energy of gases?

- A)  $\text{K.E} = 2RT/3N_A$
- B)  $\text{K.E} = 3RT/2N_A$
- C)  $\text{K.E} = 3m N T/2R$
- D)  $\text{K.E} = 2N_A/RT$

**Q 116** The fourth state of matter is:

- A) Solid
- B) Liquid
- C) Gaseous liquid
- D) Plasma

**Q 117** Which factor does not effect the rate of evaporation?

- A) Amount of liquid
- B) Surface area
- C) Temperature
- D) Inter-molecular forces

**Q 118** Which of the following is responsible for the low boiling point of diethyl ether as compared to water?

- A) Weak intermolecular forces
- B) High surface tension
- C) Low vapour pressure
- D) High vapour pressure

**Q 119** The factor that affects the lattice energy is:

- A) Charge to size ratio
- B) Shielding effect
- C) Crystal structure
- D) Atomic radius

**Q 120** The shape of the crystal lattice depends upon:

- A) Size of particles
- B) Nature of particles
- C) Arrangement of particles
- D) Size of unit cell

**Q 121** If velocity is doubled what happens to the kinetic energy:

- A) Remains the same
- B) Doubles
- C) Quadruples
- D) Halves

**Q 122** The product of force and time is equal to:

- A) Change in force
- B) Change in momentum
- C) Change in velocity
- D) Change in acceleration

- Q 123** The electric potential at a distance  $r$  is given by the formula:
- A)  $kq/r$
  - B)  $Ed$
  - C)  $1/4\pi\epsilon_0 q$
  - D)  $Ir$
- Q 124** Conductance is the reciprocal of resistance, its unit is:
- A) Siemen
  - B) Ohm
  - C) Ampere
  - D) Watt
- Q 125** Bursting of tyre is an example of which process?
- A) Adiabatic
  - B) Isochoric
  - C) Isotonic
  - D) Isobaric
- Q 126** Direction of angular velocity can be found by:
- A) Right hand rule
  - B) Fleming's Left hand rule
  - C) Lenz's Law
  - D) Faraday's Law
- Q 127** If mass of a charged particle is doubled, cyclotron frequency becomes:
- A) Remains same
  - B) Doubled
  - C) Halved
  - D) Quadrupled
- Q 128**  $1\text{kWh} =$
- A)  $3.6\text{ MW}$
  - B)  $3.6\text{ MJ}$
  - C)  $3.6\text{ kJ}$
  - D)  $3.6\text{ W}$
- Q 129** Resistivity of copper is \_\_\_\_\_
- A)  $1.54 \times 10^{-8} \Omega \cdot \text{m}$
  - B)  $1.34 \times 10^{-8} \Omega \cdot \text{m}$
  - C)  $1.45 \times 10^{-8} \Omega \cdot \text{m}$
  - D)  $1.64 \times 10^{-8} \Omega \cdot \text{m}$
- Q 130** The relationship between the acceleration, radius and angular acceleration is given as  $\vec{a} = r \times \vec{\alpha}$ . The angle between  $r$  and  $a$  is

- A)  $90^\circ$
  - B)  $180^\circ$
  - C)  $0^\circ$
  - D)  $120^\circ$
- Q 131** Work done by a force is positive when the angle  $\theta$  between force and displacement is:
- A)  $0^\circ \leq \theta < 90^\circ$
  - B)  $0^\circ > \theta > 90^\circ$
  - C)  $90^\circ \leq \theta \leq 180^\circ$
  - D)  $\theta = 180^\circ$
- Q 132** Angle at which maximum range of projectile is achieved?
- A)  $0^\circ$
  - B)  $90^\circ$
  - C)  $45^\circ$
  - D)  $60^\circ$
- Q 133** The induced EMF in a coil will be zero when the plane of the coil is:
- A) Perpendicular to the magnetic field
  - B) Parallel to the magnetic field
  - C) Anti parallel to the magnetic field
  - D) At  $60^\circ$  with the field
- Q 134** Magnetic force acting on a charge at rest is
- A) Zero
  - B) Variable
  - C) Maximum
  - D) Minimum
- Q 135** A rectifier converts
- A) Alternating voltage to direct voltage
  - B) Alternating current to direct current
  - C) Direct current to alternating current
  - D) Direct voltage to alternating voltage
- Q 136** Which semiconductor is used the most in electronics
- A) Al
  - B) C
  - C) Si
  - D) S
- Q 137** Which of the following is a non-conservative force?
- A) Electric force
  - B) Gravitational force
  - C) Frictional force
  - D) Elastic Spring force

- Q 138** The spectrum which is obtained due to the emission and absorption of radiation by the atoms of gas is:
- A) Line
  - B) Continuous
  - C) Band
  - D) Molecular
- Q 139** Quantization of angular momentum is explained by:
- A) de-Broglie
  - B) Bohr
  - C) Einstein
  - D) Maxwell
- Q 140** Electric field intensity of infinite sheet of charge is:
- A)  $V/d$
  - B)  $F/q$
  - C)  $\sigma / 2\epsilon$
  - D)  $\sigma / \epsilon$
- Q 141** When star moves toward the Earth, then the shift is known as:
- A) Blue Shift
  - B) Red Shift
  - C) Yellow shift
  - D) Green shift
- Q 142** In uniform circular motion, average velocity is equal to:
- A) Linear Velocity
  - B) Instantaneous Velocity
  - C) Average Velocity
  - D) Angular Velocity
- Q 143** Resistance measured per unit Kelvin is
- A) Thermal conductivity
  - B) Temperature coefficient of resistance
  - C) Temperature coefficient of resistivity
  - D) Coefficient of conductance
- Q 144** By rubbing your hand, Internal Energy
- A) Increases
  - B) Decreases
  - C) Remains the same
  - D) None of these
- Q 145** The necessary condition to produce EMF is
- A) Link flux to the coil
  - B) Link flux to the open coil
  - C) Link change in the flux to the closed coil
  - D) No Link of flux in the closed coil
- Q 146** On clear day at noon, intensity of solar energy is
- A)  $1.4 \text{ kW/m}^2$
  - B)  $1.2 \text{ kW/m}^2$
  - C)  $1.1 \text{ kW/m}^2$
  - D)  $1.0 \text{ kW/m}^2$
- Q 147** Stability of radioactive element is given by
- A) Decay constant
  - B) Time period
  - C) Number of radioactive atoms decayed
  - D) Half life
- Q 148** Two identical waves with same amplitude and same waves superpose. The phenomenon is called\_\_\_\_\_
- A) Interference
  - B) Diffraction
  - C) Refraction
  - D) Reflection
- Q 149** Which electromagnetic waves is used to kill the bacteria and insects in food
- A) Gamma Rays
  - B) UV rays
  - C) Beta rays
  - D) Alpha rays
- Q 150** The path of the charged particle in a plane perpendicular to a uniform magnetic field is:
- A) Circular
  - B) Helical
  - C) No motion
  - D) Spiral

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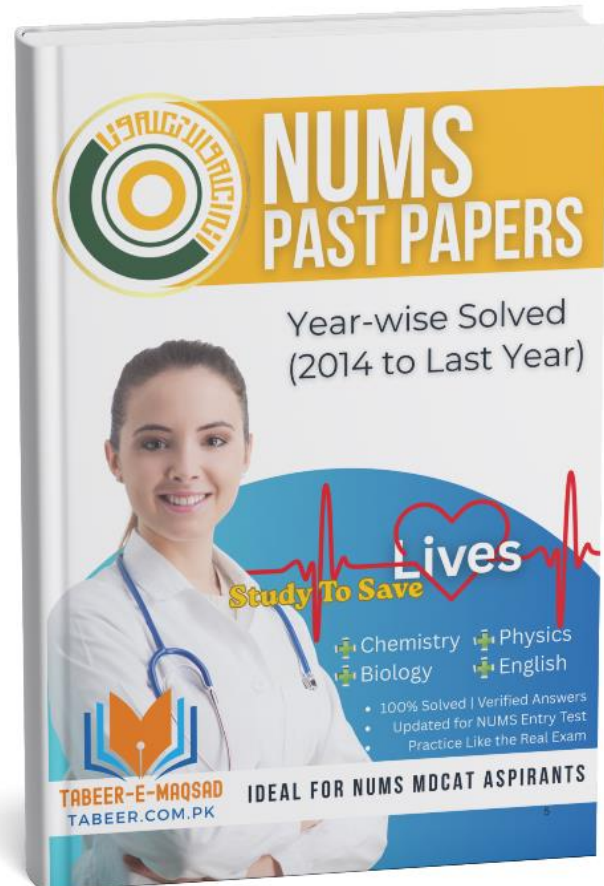
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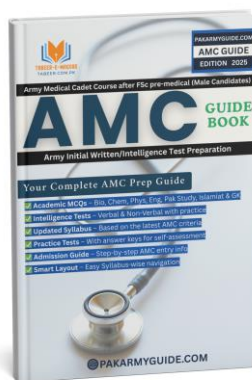
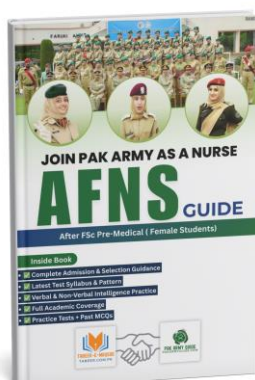
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## ANSWER KEY

PAPER CODE: 2025

|      |   |      |   |      |   |      |   |      |   |      |   |      |   |      |   |
|------|---|------|---|------|---|------|---|------|---|------|---|------|---|------|---|
| Q1   | D | Q2   | A | Q3   | B | Q4   | A | Q5   | D | Q6   | C | Q7   | D | Q8   | B |
| Q9   | C | Q10  | B | Q11  | C | Q12  | C | Q13  | A | Q14  | B | Q15  | D | Q16  | D |
| Q17  | A | Q18  | B | Q19  | B | Q20  | C | Q21  | A | Q22  | B | Q23  | C | Q24  | A |
| Q25  | B | Q26  | B | Q27  | D | Q28  | B | Q29  | A | Q30  | C | Q31  | A | Q32  | A |
| Q33  | B | Q34  | B | Q35  | A | Q36  | B | Q37  | B | Q38  | B | Q39  | B | Q40  | D |
| Q41  | C | Q42  | A | Q43  | B | Q44  | A | Q45  | A | Q46  | B | Q47  | C | Q48  | A |
| Q49  | B | Q50  | A | Q51  | A | Q52  | A | Q53  | C | Q54  | D | Q55  | B | Q56  | C |
| Q57  | A | Q58  | C | Q59  | B | Q60  | A | Q61  | A | Q62  | B | Q63  | A | Q64  | C |
| Q65  | B | Q66  | C | Q67  | B | Q68  | A | Q69  | A | Q70  | D | Q71  | B | Q72  | A |
| Q73  | B | Q74  | A | Q75  | B | Q76  | A | Q77  | C | Q78  | A | Q79  | B | Q80  | A |
| Q81  | D | Q82  | A | Q83  | B | Q84  | D | Q85  | C | Q86  | C | Q87  | B | Q88  | B |
| Q89  | C | Q90  | C | Q91  | C | Q92  | D | Q93  | D | Q94  | B | Q95  | B | Q96  | B |
| Q97  | D | Q98  | A | Q99  | D | Q100 | A | Q101 | C | Q102 | A | Q103 | C | Q104 | C |
| Q105 | B | Q106 | C | Q107 | B | Q108 | C | Q109 | D | Q110 | B | Q111 | A | Q112 | A |
| Q113 | D | Q114 | B | Q115 | B | Q116 | D | Q117 | A | Q118 | A | Q119 | A | Q120 | C |
| Q121 | C | Q122 | B | Q123 | C | Q124 | A | Q125 | A | Q126 | A | Q127 | C | Q128 | B |
| Q129 | A | Q130 | A | Q131 | A | Q132 | C | Q133 | A | Q134 | A | Q135 | B | Q136 | C |
| Q137 | C | Q138 | A | Q139 | B | Q140 | C | Q141 | A | Q142 | B | Q143 | B | Q144 | A |
| Q145 | C | Q146 | A | Q147 | A | Q148 | A | Q149 | A | Q150 | A |      |   |      |   |

