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SECTION 1 — PHYSICS (Q.1–Q.34)

Q1 **In motion of satellites, necessary centripetal force is provided by**

A Gravitational Force
B Coulomb's force
C Magnetic force
D Nuclear force

Q2 **In ripple tank 40 waves pass through a certain point in one second. If the wavelength of the waves is 5cm, then find the speed of wave.**

A 2.7m/s
B 3m/s
C 200m/s
D 2m/s

Q3 **The product of frequency and time period is equal to**

A 2
B 3
C 0
D 1

Q4 **Trough is wave act as**

A Concave lens
B convex lens
C convex mirror
D Plane mirror

Q5 **In doppler effect if listener move towards a stationary source the**

A Observed frequency is greater than original frequency
B Observed frequency is less than original frequency
C Observed frequency is equal to original frequency
D Observed frequency is independent of original frequency

Q6 **Refrigerator is an example of**

A First law of thermodynamics CE TEST – 2020 d: 150 Minutes Qs = 200
B Second law of thermodynamics
C Newton law of motion
D Entropy

Q7 **In certain process, 400J of heat energy is supplied to a system and at the same time 150J of work is done by the system. The increase in internal energy of the system is**

A 150J
B 300J
C 250J
D 500J

Q8 **The rapid escape of air from a burst tire is an example of**

A Isothermal
B adiabatic
C Isobaric
D Isochoric

Q9 **The bicycle works on the principle of**

A 1st law of thermodynamics
B 2nd law of thermodynamics
C Law of conservation of energy
D Law of entropy

Q10 **Two positive point charges are placed 2m apart. The electric potential at mid-point due to these two charges will be**

A Added to double
B Reduced to half
C Remains same (no effect)
D Cancel each other effect

■ **MDCATGUIDE.COM ANALYSIS | PHYSICS** *Based on 5-Year Topic Overlap Study*

Q11 **Which one of the following is the angle of projection of a projectile if its range is equal to its height?**

A 480 **B** 600
C 900 **D** 760

Q12 **The product of force and time is equal to**

A Angular momentum **B** force
C change in momentum **D** velocity

Q13 **The time rate of change of linear momentum of a body is equal to**

A Force **B** momentum
C power **D** acceleration

Q14 **A 10N force moves a body around a circular path of radius 50cm. what is the work done in completing one revolution?**

A 5J **B** Zero
C 31.42J **D** 500J

Q15 **3kg stone falls from 20m high platform. Find its falling speed at 10m height.**

A 196m/s **B** 14m/s
C 10m/s **D** 100m/s

Q16 **The area under force displacement time graph gives us**

A Displacement **B** power
C work **D** acceleration

Q17 **Kilowatt hour is the unit of**

A Electric energy **B** power
C momentum **D** torque

Q18 **The food we eat in one day has the same energy as**

A 0.33 liter of petrol **B** 1 liter of petrol
C 0.5 liter of petrol **D** 2 liter of petrol

Q19 **One complete circle is equal to**

A 2 radian **B** 3 radian
C 5 radian **D** 6 radian 20 21 22 23 24 25

Q20 **The unit of angular momentum is**

A kg·m/s **B** kg·m²/s
C kg·m/s² **D** J·s/m

Q21 **A concave mirror produces a virtual image when the object is placed**

A beyond C **B** at C
C between F and C **D** between F and pole

Q22 Which of the following is not a unit of energy?

A Joule
B Kilowatt-hour
C Electron volt
D Newton

Q23 The relation between linear and angular velocity is

A $v = r\omega$
B $v = r/\omega$
C $v = \omega/r$
D $v = r^2\omega$

Q24 Which type of wave cannot be polarized?

A Light waves
B Radio waves
C Sound waves
D Microwaves

Q25 In a series RLC circuit at resonance, the impedance is equal to

A Zero
B Maximum
C R only
D XL only

Q26 Red light is used in photographic dark room because of

A More frequency, less wavelength
B Less frequency, less wavelength
C Less frequency, more wavelength
D More frequency, more wavelength

Q27 For gaining an atomic spectra, an evacuated glass tube is filled with

A Neon
B hydrogen
C carbon dioxide
D Sulphur dioxide

Q28 During production of x-rays the cathode and anode are enclosed inside an evacuated glass chamber and high DC voltage of the order of

A 1000V is maintained
B 10,000 V is maintained
C 25,000 V is maintained
D 50,000 V is maintained

Q29 Half life of Iodine-131 is 8 days. If 20mg is present initially, how much iodine is left behind after 2 half lives?

A 10mg
B 5mg
C 2.5mg
D 1.25mg

Q30 4.5 ×109 is the half-life of

A U234
B U235
C U236
D C14

Q31 When a charge “Q” on a capacitor is doubled then energy stored “U” will be

A 2U
B 3U
C U/2
D 4U

Q32	**By increasing are of the plates and decreasing distance between them, the capacitance of capacitor**
A Increases	**B** decreases
C remains unchanged	**D** depending upon temperature
Q33	**If we double the separation between two charges the coulomb's force will become**
A Doubled	**B** half
C 4-times	**D** 1/4th
Q34	**The power of an electric bulb is 100W. it is connected to 110V power supply. The resistance of electric bulb will be**
A 110 ohm	**B** 121 ohm
C 20 ohm	**D** 200 ohm

SECTION 2 — CHEMISTRY (Q.35–Q.70)

Q35	**Terminal Voltage "V1" of the battery is greater than emf of the battery when**
A Battery is charging	**B** battery is discharging
C battery is connected with R	**D** battery is connected with voltmeter
Q36	**The temperature coefficient of the semi-conductor is negative because**
A Resistance increases with increase of temperature	**B** Resistance decreases with increase of temperature
C Resistance decreases with decrease of temperature	**D** Resistance remains same with increase of temperature
Q37	**If length of wire becomes two times of its original value and area becomes one half to its original value then resistance of the wire becomes**
A Doubled	**B** four times
C one half	**D** One fourth
Q38	**The unit of resistivity is**
A Ohm	**B** Ohm meter
C Ohm/meter	**D** Meter/Ohm
Q39	**1 kilowatt hour =**
A 1.6 ×10-19 J	**B** 3.6 ×106 J
C 9.1 ×10-31 J	**D** 1.67 ×10-27J
Q40	**It is a null type resistance device for measuring potential differences**
A Galvanometer	**B** Ohmmeter
C Ammeter	**D** Potentiometer
Q41	**Which statement is true about electron affinity?**
A The value of electron affinity is always positive	**B** The value of electron affinity is always negative
C The value of first electron affinity is always positive	**D** The value of first electron affinity is always negative
Q42	**The bond which is based on attractive forces between oppositely charged ion is**
A Covalent bond	**B** dative bond
C Ionic bond	**D** metallic bond

Q43 Which statement is incorrect regarding a chemical bond?

A Bond is formed by the overlapping of half filled orbitals
B Bond is formed by the attraction of positive and negative ions
C Bond is formed by the overlapping of “s” orbital is strong
D Bond formed by the large size atoms is strong

Q44 The carbonates of alkali metals are soluble in water except

A K CO 2 3
B Li CO 2 3
C Na CO 2 3
D Rb CO 2 3

Q45 The nitrides of alkaline earth metals hydrolyze with water to form

A NH 3
B H 2
C N 2
D NO

Q46 The flame color of Ca in flame test is

A Orange red
B golden yellow
C red
D pink

Q47 Which of the following is the most stable metal carbonate?

A BaCO 3
B MgCO 3
C CaCO 3
D SrCO 3

Q48 The binding energy of transition metal increases upto group

A IIB
B IV B
C IIIB
D VI B

Q49 Isomerism due to shifting of proton from one atom to another in a same molecule is known as

A Metamerism
B tautomerism
C position
D functional

Q50 so-Butyl alcohol has following carbon attached to hydroxy group

A Tertiary
B secondary
C Quaternary
D primary

Q51 Oxidation of alcohol gives

A Amines
B Alkanes
C aldehyde
D alkynes

Q52 Butanone on oxidation with K Cr O /H SO forms 2 2 7 2 4

A Acetic acid
B acetic acid and ethane
C methane and propanoic acid
D propanoic acid and methanoic acid

Q53 Hydrolysis of Nitriles produces

A Carboxylic acid
B aldehydes
C ketones
D esters

Q54 Acetic anhydride is a product of acetic acid, as a result of the following reaction

A Dehydration
B reduction
C oxidation
D esterification

Q55 Which of the following enzyme is raised in rickets?

A Lactic dehydrogenase
B LDH-I
C Phosphatase
D Alkaline phosphatase

Q56 For a gaseous reaction, the increase in pressure will shift the equilibrium in direction

A Decreased concentration
B Increased concentration
C Decreased volume
D Increased volume

Q57 Acidic buffer consists of

A Strong acid and salt of it with a weak base
B Weak acid and salt of it with a strong base
C Strong acid and salt of it with a strong base
D Weak acid and salt of it with a weak base

Q58 The pH of human blood is maintained between

A 7.35 to 7.45
B 7.55 to 7.65
C 7.00 to 7.25
D 7.85 to 7.95

Q59 The buffer solution is not formed for

A NH OH + NH Cl 4 4
B CH COOH + CH COONa 3 3
C C H COOH + C H COONa

Q60 In the reaction H + CO ■H O + CO 2 2 2 The decrease in the concentration of CO2 will shift equilibrium

A Towards left
B towards right
C nothing happens to the equilibrium
D equilibrium will shift towards both directions

Q61 At equilibrium the concentration of reactants and product become

A Zero
B equal
C constant
D infinite

Q62 The effect of temperature on the rate of a reaction is given by

A Handerson's equation
B General gas equation
C Arrhenius equation
D Vander Waal's equation

Q63 In reversible reaction, catalyst lowers the activation energy of the

A Forward reaction
B reverse reaction
C forward as well as reverse reaction
D forward reaction but increases that of the reverse reaction

Q64 The rate of reaction

A Increases as the reaction proceeds
B Decreases as the reaction proceeds
C Remains the same as the reaction proceeds
D Forward reaction but increases that of the reverse reaction

Q65 0.5 molar solution NaOH contains

A 40g NaOH in one dm3
B 80g NaOH in one dm3
C 10g NaOH in one dm3
D 20g NaOH in one dm3

Q66 The breakdown of a substance with current is

A Thermolysis
B catalysis
C electrolysis
D Photolysis

Q67 Which of the following is balanced redox equation?

A Na + Fe3+→ Na1+ + Fe
B Zn + Ag1+→ Zn2+ + Ag
C 3Na + Fe3+→ 3Na1+ + Fe
D 2Zn + Ag1+→ 2Zn2+ + Ag

Q68 Stronger is the oxidizing agent, greater is the

A Oxidation potential
B Reduction potential
C redox potential
D EMF of cell

Q69 The type of bonding in sodium (Na) is

A Metallic
B ionic
C covalent
D Co-ordinate covalent

Q70 Which of the following halogens molecules has maximum bond energy?

A F-F
B Cl-Cl
C Br-Br
D I-I

SECTION 3 — ENGLISH (Q.71–Q.90)

Q71 Half atmospheric pressure is

A 400 torr
B 50622 Pa
C 101.3 Pa
D 8.5 pounds

Q72 The value of S.T.P for one mole of any ideal gas is

A 273.16 K and 1 atm
B 00C & 1mm Hg
C 273.160 C and 1 atm
D 0 K & 1 atm

Q73 The expression PV= nRT represents the

A Dalton's law
B Avogadro's law
C General gas equation
D Vander Waal's equation

Q74 Pressure remaining constant, at which temperature volume of gas will become twice to the volume at 00C?

A 5460C
B 2000C
C 5460K
D 2730C

Q75 A graph between volume and temperature gives a straight line which cuts the temperature axis at

A 00C
B 2730C
C 5460C
D -2730C

Q76 What is not true for effusion of gases?

A Movement of particles through small opening
B Movement of particles from high pressure to low pressure
C Movement of particles due to escaping tendency one by one
D Movement of particles due to collision among themselves

Q77 Upon which factor vapor pressure is independent?

A Temperature
B intermolecular forces
C density of liquid
D surface area of liquid

Q78 Solid water is expanded _____ times when it is compared with same volume of liquid water.

A 9
B 5
C 6
D 2

Q79 Molar heat of vaporization is the amount of heat required to convert one mole of

A A liquid into its vapors at its boiling point
B Liquid into its vapors
C Solids into vapors
D Solid into liquid at its melting point

Q80 At transition temperature of crystalline solid, substance exists

A In most stable geometrical form
B Solid and liquid state
C In dynamic equilibrium between two crystalline form
D In one solid geometrical form only

Q81 Some substances lack definite heats of fusion. These substances are

A Isomorphs
B polymorphs
C amorphous solid
D crystalline solids

Q82 Thermal conductivity of metals is due to

A Layered structure of metals
B Freely moving electrons
C Loosely held metal atoms
D Vibrational movement of metals

Q83 Ice floats on the surface of water due to

A Large body length
B cubic structure of ice
C weak intermolecular forces
D empty spaces in the structure of ice

Q84 When number of moles of reactants and products are equal in reversible D) reactions, which parameter would not affect at equilibrium?

A Temperature
B pressure
C volume
D catalyst

Q85 By which of the following factors equilibrium state is attained earlier?

A Temperature
B pressure
C concentration
D catalyst

Q86 Many elements have fractional atomic masses. This is because

A Mass of atom is itself fractional
B Atomic masses are average masses of isobars
C Atomic masses are average masses of isotopes
D Atomic masses are average masses of isotopes proportional to their abundance

Q87 Mass of 1 molecule of O is 2

A 6.02 × 1023g/ 32
B 32/ 6.02 × 1023g
C 32g
D 0.32gm

Q88 The number of moles of CO2 which contain 8gm of oxygen are

A 1.0
B 4.50
C 0.50
D 0.25

Q89 Identify the correct option with same empirical formula for both compounds

A H O & H O 2 2 2
B C H & C H

Q90 1 mole of any substance contains ____ substances

A 6.02 × 1023
B 6.02 × 1024
C 6.02 × 1022
D 3.01 × 1023

SECTION 4 — BIOLOGY (Q.91–Q.200)

Q91 What are the Avogadro's number of particles in 0.25 moles of CO ? 2

A 6.022 × 107
B 1.505 × 1023
C 2.00 × 1023
D 1.505 × 1015

Q92 The charge on one kg of electron is

A 1.7588 × 1011C
B 1.65 × 1019C
C 9.1095 × 1031C
D 7.9 ×1023 C

Q93	**which of the following fundamental particles have same mass/kg?**
A Electron, neutrino	**B** Electron, proton
C Proton, neutrino	**D** neutron, proton
Q94	**The lightest positive rays obtained is from**
A Hydrogen gas	**B** helium
C Neon	**D** air
Q95	**The amount of energy associated with quantum of radiation is directly proportional to**
A Photon	**B** wavelength
C frequency	**D** velocity
Q96	**X-rays are defined as**
A Electromagnetic radiations of high mass number	**B** Electromagnetic radiations of very high frequency
C Electromagnetic radiations of high mass wavelength	**D** Electromagnetic radiations of high energy
Q97	**Which of the following orbital will be filled first than 4p?**
A 4s	**B** 2p
C 3d	**D** 1s
Q98	**Maximum ____ electrons can be placed in oneorbital.**
A 1	**B** 2
C 3	**D** 4
Q99	**Mass of electron in a.m.u is**
A 1.0073	**B** 1.0087
C 5.485 × 104	**D** 9.11 × 1031
Q100	**Starting point of kelvin scale is**
A 0 K a) 0 K	**B** -400 K
C -210 K	**D** -273.15 K
Q101	**Pick the correct option There are Shella and Irum result cards.**
A There are Shella, and, Irum result cards.	**B** There are Shella and Irum's result cards.
C There are Shella's and Irum's result cards.	**D** There are Shella's, and Irums result cards
Q102	**Pick the correct option.**
A Seven students results are still awaited.	**B** Seven student's results are still awaited.
C Seven students' results are still awaited.	**D** Seven student results are still awaited.
Q103	**Which punctuation marks will be used to separate both the clauses in the following sentence? The gang was rounded up the raid the leader escaped.**
A .	**B** ,
C :	**D** ;
Q104	**Fifteen minutes ____ allowed to each speaker.**
A Is	**B** are
C were	**D** are being
Q105	**Choose the correct passive voice. How did she defraud him of his savings?**
A How had he been defrauded of his savings?	**B** How had he been defrauded by her?
C How was he defrauded of his savings?	**D** How was he defrauded by her of his savings?
Q106	**Identify the error and choose the correct option The rehearsal session started and we have little time to spar for other activities.**
A The rehearsal session started and we have little time to spare for other activities.	**B** The rehearsal session started, and we little time to spare for other activities.
C The rehearsal session starts and we has little time to spare for other activities.	**D** We are little time to spare for other activities, the rehearsals session starts.

Q107 Fill in the blank with appropriate option Lions, like any other carnivore, ____ on meat.

A Live
B Lives
C does live
D living

Q108 Fill in the blank with appropriate option: The cattle ____ away the crops.

A Has eaten
B is eating
C have eaten
D have been eating

Q109 The word “LABYRINTH” means

A Maze
B heap
C hive
D Knack

Q110 Pick the correct option: These are old those are new

A These, are old, those are new.
B These are old; those are new.
C These are old: those are new.
D These are old --- those are new.

Q111 Ahmad carried out his duty according _____ instructions.

A Too
B to
C under
D an

Q112 Identify the error and choose the correct option: The first space travellr was dennis tito from united states

A The first space traveler was Dennis Tito from the United States.
B The First Space Traveler was Dennis Tito, from, the United states.
C The first space traveler was Dennis Tito-from the United states.
D The first space traveler was Dennis Tito, from the United States.

Q113 Select the right sentence.

A He opened the square red wooden box.
B He opened the red square wooden box.
C He opened the wooden red square box.
D He opened the red wooden square box.

Q114 Fill in the blank. I can’t walk _____

A Farther
B far
C further
D away

Q115 Can you tell this fact ____ his face?

A To
B on
C Upon
D At

Q116 Choose the correct option.

A The Three Musketeers was written by Dumas.
B The Three Musketeers were written by Dumas.
C The Three Musketeers has written by Dumas.
D The Three Musketeers have written by Dumas.

Q117 They have painted their house purple. The sentence is an example of

A Monotransitive
B Ditransitive
C complex transitive
D reflexive transitive

Q118 Select the correct option: He was killed _____ robber _____ a hatchet.

A From, with
B by, at
C through, far
D by, with

Q119 Choose the correct option:

A “Well no, perhaps not sir”
B “Well, no, perhaps not sir”.
C “Well, no perhaps not sir”
D “Well no perhaps, not sir”

Q120 Find out antonym of “Mumbled”.

A Unprovoked
B Quiver
C Loud
D Rarely

Q121 Negative feedback mechanism is the characteristic of which class?

A Class fish
B class amphibia
C Class reptelia
D class Mammalia

Q122 The function of papillary is to

A Move blood from semilunar valve into pulmonary vein.
B Prevent the backward flow of blood from the ventricle.
C Push the blood from right atrium to left atrium
D Push the blood from left atrium to aorta

Q123 Choose the correct pathway for the flow of blood.

A Arterioles ---- metarterioles ---- thoroughfare channel ----capillaries
B Arterioles ---- thoroughfare channel --- - metarterioles ----capillaries
C Thoroughfare channel ----- arterioles -- -- capillaries ----metarterioles
D Metarterioles ----arterioles ---- thoroughfare channel ----capillaries

Q124 Intrinsic factor is secreted by

A Pancreas
B Liver
C stomach
D duodenum

Q125 Gaseous exchange in plants takes place through the

A Stomata
B mesophyll
C endoderm
D Xylem

Q126 Translocation of organic solutes in plants takes place through

A Companion cell
B fibers
C sieve tubes
D vessels

Q127 The only vein in the human body carrying oxygenated blood is

A Femoral
B pulmonary
C renal
D Illiac

Q128 The cells which play very important role developing immunity are

A Monocytes
B neutrophils
C Lymphocytes
D thrombocytes

Q129 Which of the following blood vessels have the highest pressure of blood?

A Aorta
B Pulmonary arteries
C Pulmonary veins
D Vena Cava

Q130 Autoimmune diseases act at the principle of

A Self against antigens
B antigens against self
C self against self
D antigen self-destroyed

Q131 Urine leaves the kidney through a duct called

A Urethra
B pelvis
C Ureter
D Nephron

Q132 Digestion of which food components starts from oral cavity?

A Proteins
B fats
C carbohydrates
D vitamins

Q133 In human gut, chylomicrons are formed by the combination of a) Proteins and carbohydrates

A Fats and proteins
B Fats and carbohydrates
C Vitamins and fats

Q134 Dark reaction of photosynthesis takes place in _____ of chloroplast.

A Thlykoids
B Grana
C Intergrana
D Stomata

Q135 Which of the following occurs in the body in response to the secretion of glucagon?

A Conversion of glucose to glycogen in liver cells
B Decrease in blood glucose concentration
C Increased uptake of glucose by muscle cells
D Production of cyclic AMP in target cells

Q136 Almost all of the fresh water animals and most ofthe marine vertebrates are

A Osmoconformers
B osmoregulators
C Isotonic to environment
D at dynamic equilibrium to environment

Q137 In marine environment, the ion secreted by kidney is

A Na+
B K+
C Mg++
D Cl-

Q138 Which organ is called the body thermostat?

A Pituitary gland
B Kidneys
C Hypothalamus
D Adrenal gland

Q139 The uptake of sodium in the ascending limb of loop of Henle is controlled by

A Aldosterone
B ADH
C Glucosterone
D Thyroxin

Q140 The multinucleated mass of the bone forming cells is called

A Osteoclasts
B osteoblasts
C osteogenics
D osteocytes

Q141 Chief material present in the cell wall of plants, fungal and prokaryotic cells are

A Proteins
B lipids
C Polysaccharides
D Phospholipids

Q142 Which type of leucoplasts store lipids?

A Amyloplast
B Elaioplast
C Proteinoplast
D Etioplast

Q143 Which type of movement through cell membrane is not energy consuming process?

A Endocytosis
B exocytosis
C active transport
D osmosis

Q144 Cholesterol molecules in plasma membrane are present in _____

A Outer membrane of phospholipid
B Inner membrane of phospholipid
C Both layers of phospholipid
D Between bilayers of phospholipid

Q145 Fibers of extracellular matrix are attached to ____ in plasma membrane.

A Phospholipids
B carbohydrates
C glycolipids
D proteins

Q146 _____ organelles involve in the synthesis of plant cell wall.

A Endoplasmic reticulum
B Golgi complex
C lysosomes
D peroxisomes

Q147 Select the pair of organs which contain a large number of mitochondria.

A Stomach and liver
B muscle and stomach
C heart and liver
D liver and muscle

Q148 Which of the following cells does not have nucleus?

A Muscle cell
B nerve cell
C white blood cell
D red blood cell

Q149 Most abundant organic compounds in mammalian cell are

A Water
B lipids
C carbohydrates
D proteins

Q150 Second most abundant bio element in human body is

A Oxygen
B carbon
C hydrogen
D Nitrogen

Q151 Lecithin is formed by combining phosphatidic acid with _____

A Serine
B choline
C Inositol
D ethanolamine

Q152 NAD is an example of _____

A Monosaccharide
B dinucleotide
C tri nucleotide
D tetra nucleotide

Q153 What would be the number of nucleotides for a protein molecule about 142 amino acids?

A 430
B 142
C 426
D 460

Q154 The basic structural framework of all types of membrane are

A Glycolipids
B Glycoproteins
C lipoproteins
D nucleoproteins

Q155 Non protein but inorganic detachable co- factor is called _____

A Activator
B prosthetic group
C Co-enzyme
D Apo-enzyme

Q156 When inhibitor binds to enzyme other than active site and alters its structure, then it is called

A Competitive inhibitor
B Non-competitive inhibitor
C reversible inhibitor
D irreversible inhibitor

Q157 Cyanides are potent poisons of living organism and can kill by inhibiting _____ essential for cellular respiration.

A Cytochromes oxidases
B dehydrogenases
C hydrolases
D Nucleases

Q158 During feedback inhibition, which of the following structural part of enzyme is involved?

A Active site
B binding site
C catalytic site
D allosteric site

Q159 Which of the following enzyme does not need a Co-factor?

A Hexokinase
B pepsin
C Alcohol dehydrogenase
D carbonic anhydrase

Q160 If another molecule, having a shape very similar to the enzyme's substrate, binds to its active site, it would then _____ the enzyme's function.

A Fasten
B inhibit
C reverse
D decrease

Q161 Myofibrils within the muscle fibers contain thick and thin filaments made up of _____ and ____ respectively.

A Myosin and actin
B globulin and albumin
C troponin and tropomyosin
D fibrin and fibrinogen

Q162 Vertebrae of the neck are called

A Coccygeal vertebrae
B cervical vertebrae
C sacral vertebrae
D lumbar vertebrae

Q163 Which vertebrae together are called pelvic vertebrae?

A Coccygeal and lumber
B Sacral and lumber
C Sacral and coccygeal
D Sacral and thoracic

Q164 The correct option about spinal nerve is

A 33 pairs
B mostly mixed nerves
C dorsal root contains sensory neurons
D ventral root contains motor neurons

Q165 _____ is sometimes given by injection as an emergency treatment in cardiac arrest.

A Acetylcholine
B dopamine
C serotonin
D epinephrine

Q166 Which of the following is neurotransmitter?

A Dopamine
B hydrochloric acid
C sodium ions
D calcium ions

Q167 Which hormone is chemically a steroid?

A ADH
B thyroxin
C cortisone
D Insulin

Q168 Which hormone is secreted by variety of cells all over the body?

A Prostaglandin
B endorphin
C secretin
D erythropoietin

Q169 Which brain portion is responsible for controlling body coordination?

A Medulla
B amygdala
C cerebellum
D pons

Q170 The estrogen hormone secretion during the oogenesis is stimulated by

A LH hormone
B inhibition hormone
C FSH hormone
D testosterone hormone

Q171 In human males, inhibition hormone is produced by

A Leyding cells
B Hensen's node cells
C Sertoli cells
D Interstitial cells 172 173 174 175 176 177

Q172 Which of the following is the largest phylum of kingdom Animalia?

A Chordata
B Mollusca
C Echinodermata
D Arthropoda

Q173 The process of breakdown of glucose in the absence of oxygen is called

A Aerobic respiration
B Anaerobic respiration
C Oxidative phosphorylation
D Glycogenesis

Q174 Which hormone stimulates the reabsorption of water in kidney tubules?

A Aldosterone
B ADH
C Cortisol
D Renin

Q175 The number of chromosomes in a human sperm cell is

A 46
B 23
C 92
D 44

Q176 Which of the following is not a function of the liver?

A Production of bile
B Detoxification
C Production of insulin
D Storage of glycogen

Q177 Plasmodium is transmitted through the bite of

A Male Anopheles mosquito
B Female Anopheles mosquito
C Male Culex mosquito
D Female Culex mosquito

Q178 Within the chromosomes, each chromatid contains ____ DNA molecule.

A One
B two
C three
D half

Q179 Modification in the organization of the basic pentadactyl limb structure found in vertebrae provides good evidence for the principle of

A Adaptive radiation
B convergent evaluation
C genetic drift
D inheritance of acquired character

Q180 Which of the following is a genetic disorder in which abnormally thick mucus is produced in the lungs and other parts of the body?

A Lung cancer
B chronic bronchitis
C cystic fibrosis
D emphysema

Q181 Oxygen released into the atmosphere comes from

A CO 2
B H O 2
C C H O 6 12 6
D CO and H O 2 2

Q182 End product of glycolysis in yeast is

A Ethanol and carbon dioxide
B Lactate
C Pyruvate
D Acetyl Co. A

Q183 First infectious disease against which effective method of prevention developed was a _____

A Bacterial disease
B viral disease
C protozoan disease
D viroid disease

Q184 _____ infection is caused by a viroid.

A Hepatitis A
B Hepatitis B
C mad cow disease
D mysterious brain infection

Q185 Numerous opportunistic diseases might attack a person suffering from which of the following disease?

A Measles
B influenza
C Hepatitis A
D AIDS

Q186 A combination of alpha interferon and ribavirin is used for the treatment of hepatitis

A B
B Ac) D
C C

Q187 Cysts are not resistant to _____ but spores are

A Light
B desiccation
C pH
D heat

Q188 In which phase of bacterial growth, they divide at exponential rate?

A Lag phase
B log phase
C stationary phase
D decline phase

Q189 Select a method which causes the oxidation of chemical constituent of a bacterial cell

A Steam
B dry heat
C filtration
D radiation

Q190 How does chemosynthesis differ from photosynthesis?

A Source of energy
B production of organic compound
C reduction of CO2
D carried out by bacteria

Q191 Which one is different with respect to the modes of locomotion?

A Amoeba
B paramecium
C forms
D radiolarians

Q192 Aspergilosis is a fungal infection and occurs only in

A Male
B female
C AIDS patient
D Athletes

Q193 Select a sessile Zooflagellate.

A Trichonympha
B trypanosoma
C Choanoflagellate
D Euglena

Q194 Many _____ expel large amount of water by special structures called contractile vacuoles.

A Protozoa
B porifera
C Echinoderm
D Fish

Q195 Chlorophyta are considered to be the closest to plants but do not resemble plants in having

A Chlorophyll a and b
B Starch as stored food
C Cellulose cell wall
D Multicellular sex organs

Q196 Asexual spores of fungi are called

A Conidispores
B zygospores
C ascospores
D basidiospores

Q197 Which characteristic led to the evolution of seed/

A Heterogamous condition
B Development of heterospory
C Embryo formation
D Protection of reproductive cells

Q198 The term which is not related to the process of evolution of leaf

A Overtopping
B planation
C heterospory
D fusion/webbing

Q199	The most successful land adapting plants are		
A	Mosses	B	ferns
C	gymnosperms	D	angiosperms

Q200	Excretory system consisting of protonephridal tubes are present in phylum		
A	Poridera	B	annelida
C	Platyhelminthes	D	Cnidaria

QUICK ANSWER GRID — Check all answers at a glance

PHYSICS

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
A	D	D	A	A	B	C	B	A	A
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
D	C	A	B	B	C	A	A	D	B
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
D	D	A	C	C	C	B	A	B	C
Q31	Q32	Q33	Q34						
D	A	D	B						

CHEMISTRY

Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44
A	B	B	B	B	D	D	C	D	B
Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
A	A	A	B	B	D	C	A	A	A
Q55	Q56	Q57	Q58	Q59	Q60	Q61	Q62	Q63	Q64
D	A	B	A	C	A	C	C	C	B
Q65	Q66	Q67	Q68	Q69	Q70				
D	C	C	B	A	B				

ENGLISH

Q71	Q72	Q73	Q74	Q75	Q76	Q77	Q78	Q79	Q80
B	A	C	D	D	D	D	A	A	C
Q81	Q82	Q83	Q84	Q85	Q86	Q87	Q88	Q89	Q90
C	B	D	B	D	D	B	D	B	A

BIOLOGY

Q91	Q92	Q93	Q94	Q95	Q96	Q97	Q98	Q99	Q100
B	A	D	A	C	D	C	B	C	A
Q101	Q102	Q103	Q104	Q105	Q106	Q107	Q108	Q109	Q110
C	C	D	B	D	A	A	C	A	B
Q111	Q112	Q113	Q114	Q115	Q116	Q117	Q118	Q119	Q120
B	A	B	A	A	A	C	D	B	C
Q121	Q122	Q123	Q124	Q125	Q126	Q127	Q128	Q129	Q130
D	B	A	C	A	C	B	C	A	C
Q131	Q132	Q133	Q134	Q135	Q136	Q137	Q138	Q139	Q140
C	C	B	D	D	B	C	C	A	B
Q141	Q142	Q143	Q144	Q145	Q146	Q147	Q148	Q149	Q150
C	B	D	B	D	B	D	D	D	B
Q151	Q152	Q153	Q154	Q155	Q156	Q157	Q158	Q159	Q160
B	B	C	C	A	B	A	D	B	B
Q161	Q162	Q163	Q164	Q165	Q166	Q167	Q168	Q169	Q170
A	B	C	B	D	A	C	A	C	C
Q171	Q172	Q173	Q174	Q175	Q176	Q177	Q178	Q179	Q180
C	D	B	B	B	C	B	A	A	C
Q181	Q182	Q183	Q184	Q185	Q186	Q187	Q188	Q189	Q190
B	C	B	B	D	C	D	B	B	D
Q191	Q192	Q193	Q194	Q195	Q196	Q197	Q198	Q199	Q200

B	C	C	A	D	A	B	C	D	C

COMPLETE ANSWER KEY WITH DETAILED EXPLANATIONS

SECTION — PHYSICS

Q1. In motion of satellites, necessary centripetal force is provided by
✓ A. Gravitational Force

Q2. In ripple tank 40 waves pass through a certain point in one second. If the wavelength of the waves is 5cm, then find the speed of wave.
✓ D. 2m/s

Q3. The product of frequency and time period is equal to
✓ D. 1

Q4. Trough is wave act as
✓ A. Concave lens

Q5. In doppler effect if listener move towards a stationary source the
✓ A. Observed frequency is greater than original frequency

Q6. Refrigerator is an example of
✓ B. Second law of thermodynamics

Q7. In certain process, 400J of heat energy is supplied to a system and at the same time 150J of work is done by the system. The increase in internal energy of the system is
✓ C. 250J

Q8. The rapid escape of air from a burst tire is an example of
✓ B. adiabatic

Q9. The bicycle works on the principle of
✓ A. 1st law of thermodynamics

Q10. Two positive point charges are placed 2m apart. The electric potential at mid-point due to these two charges will be
✓ A. Added to double

Q11. Which one of the following is the angle of projection of a projectile if its range is equal to its height?
✓ D. 760

Q12. The product of force and time is equal to
✓ C. change in momentum

Q13. The time rate of change of linear momentum of a body is equal to
✓ A. Force

Q14. A 10N force moves a body around a circular path of radius 50cm. what is the work done in completing one revolution?
✓ B. Zero

Q15. 3kg stone falls from 20m high platform. Find its falling speed at 10m height.
✓ B. 14m/s

Q16. The area under force displacement time graph gives us
✓ C. work

Q17. Kilowatt hour is the unit of
✓ A. Electric energy

Q18. The food we eat in one day has the same energy as
✓ A. 0.33 liter of petrol

Q19. One complete circle is equal to
✓ D. 6 radian 20 21 22 23 24 25

Q20. The unit of angular momentum is
✓ B. $kg \cdot m^2/s$

Q21. A concave mirror produces a virtual image when the object is placed
✓ D. between F and pole

Q22. Which of the following is not a unit of energy?
✓ D. Newton

Q23. The relation between linear and angular velocity is
✓ A. $v = r\omega$

Q24. Which type of wave cannot be polarized?
✓ C. Sound waves

Q25. In a series RLC circuit at resonance, the impedance is equal to
✓ C. R only

Q26. Red light is used in photographic dark room because of
✓ C. Less frequency, more wavelength

Q27. For gaining an atomic spectra, an evacuated glass tube is filled with
✓ B. hydrogen

Q28. During production of x-rays the cathode and anode are enclosed inside an evacuated glass chamber and high DC voltage of the order of
✓ A. 1000V is maintained

Q29. Half life of Iodine-131 is 8 days. If 20mg is present initially, how much iodine is left behind after 2 half lives?
✓ B. 5mg

Q30. 4.5 ×109 is the half-life of
✓ C. U236

Q31. When a charge "Q" on a capacitor is doubled then energy stored "U" will be
✓ D. 4U

Q32. By increasing are of the plates and decreasing distance between them, the capacitance of capacitor
✓ A. Increases

Q33. If we double the separation between two charges the coulomb's force will become
✓ D. 1/4th

Q34. The power of an electric bulb is 100W. it is connected to 110V power supply. The resistance of electric bulb will be
✓ B. 121 ohm

SECTION — CHEMISTRY

Q35. Terminal Voltage “V1” of the battery is greater than emf of the battery when
✓ A. Battery is charging

Q36. The temperature coefficient of the semi-conductor is negative because
✓ B. Resistance decreases with increase of temperature

Q37. If length of wire becomes two times of its original value and area becomes one half to its original value then resistance of the wire becomes
✓ B. four times

Q38. The unit of resistivity is
✓ B. Ohm meter

Q39. 1 kilowatt hour =
✓ B. 3.6 ×106 J

Q40. It is a null type resistance device for measuring potential differences
✓ D. Potentiometer

Q41. Which statement is true about electron affinity?
✓ D. The value of first electron affinity is always negative

Q42. The bond which is based on attractive forces between oppositely charged ion is
✓ C. Ionic bond

Q43. Which statement is incorrect regarding a chemical bond?
✓ D. Bond formed by the large size atoms is strong

Q44. The carbonates of alkali metals are soluble in water except
✓ B. Li CO 2 3

Q45. The nitrides of alkaline earth metals hydrolyze with water to form
✓ A. NH 3

Q46. The flame color of Ca in flame test is
✓ A. Orange red

Q47. Which of the following is the most stable metal carbonate?
✓ A. BaCO 3

Q48. The binding energy of transition metal increases upto group
✓ B. IV B

Q49. Isomerism due to shifting of proton from one atom to another in a same molecule is known as
✓ B. tautomerism

Q50. so-Butyl alcohol has following carbon attached to hydroxy group
✓ D. primary

Q51. Oxidation of alcohol gives
✓ C. aldehyde

Q52. Butanone on oxidation with K Cr O /H SO forms 2 2 7 2 4
✓ A. Acetic acid

Q53. Hydrolysis of Nitriles produces
✓ A. Carboxylic acid

Q54. Acetic anhydride is a product of acetic acid, as a result of the following reaction
✓ A. Dehydration

Q55. Which of the following enzyme is raised in rickets?
✓ D. Alkaline phosphatase

Q56. For a gaseous reaction, the increase in pressure will shift the equilibrium in direction
✓ A. Decreased concentration

Q57. Acidic buffer consists of
✓ B. Weak acid and salt of it with a strong base

Q58. The pH of human blood is maintained between
✓ A. 7.35 to 7.45

Q59. The buffer solution is not formed for
✓ C. C H COOH + C H COONa

Q60. In the reaction H + CO ■H O + CO 2 2 2 The decrease in the concentration of CO2 will shift equilibrium
✓ A. Towards left

Q61. At equilibrium the concentration of reactants and product become
✓ C. constant

Q62. The effect of temperature on the rate of a reaction is given by
✓ C. Arrhenius equation

Q63. In reversible reaction, catalyst lowers the activation energy of the
✓ C. forward as well as reverse reaction

Q64. The rate of reaction
✓ B. Decreases as the reaction proceeds

Q65. 0.5 molar solution NaOH contains
✓ D. 20g NaOH in one dm3

Q66. The breakdown of a substance with current is
✓ C. electrolysis

Q67. Which of the following is balanced redox equation?
✓ C. 3Na + Fe3+→ 3Na1+ + Fe

Q68. Stronger is the oxidizing agent, greater is the
✓ B. Reduction potential

Q69. The type of bonding in sodium (Na) is
✓ A. Metallic

Q70. Which of the following halogens molecules has maximum bond energy?
✓ B. Cl-Cl

SECTION — ENGLISH

Q71. Half atmospheric pressure is
✓ B. 50622 Pa

Q72. The value of S.T.P for one mole of any ideal gas is
✓ A. 273.16 K and 1 atm

Q73. The expression PV= nRT represents the
✓ C. General gas equation

Q74. Pressure remaining constant, at which temperature volume of gas will become twice to the volume at 00C?
✓ D. 2730C

Q75. A graph between volume and temperature gives a straight line which cuts the temperature axis at
✓ D. -2730C

Q76. What is not true for effusion of gases?
✓ D. Movement of particles due to collision among themselves

Q77. Upon which factor vapor pressure is independent?
✓ D. surface area of liquid

Q78. Solid water is expanded _____ times when it is compared with same volume of liquid water.
✓ A. 9

Q79. Molar heat of vaporization is the amount of heat required to convert one mole of
✓ A. A liquid into its vapors at its boiling point

Q80. At transition temperature of crystalline solid, substance exists
✓ C. In dynamic equilibrium between two crystalline form

Q81. Some substances lack definite heats of fusion. These substances are
✓ C. amorphous solid

Q82. Thermal conductivity of metals is due to
✓ B. Freely moving electrons

Q83. Ice floats on the surface of water due to
✓ D. empty spaces in the structure of ice

Q84. When number of moles of reactants and products are equal in reversible D) reactions, which parameter would not affect at equilibrium?
✓ B. pressure

Q85. By which of the following factors equilibrium state is attained earlier?
✓ D. catalyst

Q86. Many elements have fractional atomic masses. This is because
✓ D. Atomic masses are average masses of isotopes proportional to their abundance

Q87. Mass of 1 molecule of O is 2
✓ B. 32/ 6.02 × 1023g

Q88. The number of moles of CO2 which contain 8gm of oxygen are
✓ D. 0.25

Q89. Identify the correct option with same empirical formula for both compounds
✓ B. C H & C H

Q90. 1 mole of any substance contains ____ substances
✓ A. 6.02 × 1023

SECTION — BIOLOGY

Q91. What are the Avogadro's number of particles in 0.25 moles of CO ? 2
✓ B. 1.505 × 1023

Q92. The charge on one kg of electron is
✓ A. 1.7588 × 1011C

Q93. which of the following fundamental particles have same mass/kg?
✓ D. neutron, proton

Q94. The lightest positive rays obtained is from
✓ A. Hydrogen gas

Q95. The amount of energy associated with quantum of radiation is directly proportional to
✓ C. frequency

Q96. X-rays are defined as
✓ D. Electromagnetic radiations of high energy

Q97. Which of the following orbital will be filled first than 4p?
✓ C. 3d

Q98. Maximum ____ electrons can be placed in oneorbital.
✓ B. 2

Q99. Mass of electron in a.m.u is
✓ C. 5.485 × 104

Q100. Starting point of kelvin scale is
✓ A. 0 K a) 0 K

Q101. Pick the correct option There are Shella and Irum result cards.
✓ C. There are Shella's and Irum's result cards.

Q102. Pick the correct option.
✓ C. Seven students' results are still awaited.

Q103. Which punctuation marks will be used to separate both the clauses in the following sentence? The gang was rounded up the raid the leader escaped.
✓ D. ;

Q104. Fifteen minutes ____ allowed to each speaker.
✓ B. are

Q105. Choose the correct passive voice. How did she defraud him of his savings?
✓ D. How was he defrauded by her of his savings?

Q106. Identify the error and choose the correct option The rehearsal session started and we have little time to spar for other activities.
✓ A. The rehearsal session started and we have little time to spare for other activities.

Q107. Fill in the blank with appropriate option Lions, like any other carnivore, ____ on meat.
✓ A. Live

Q108. Fill in the blank with appropriate option: The cattle ____ away the crops.
✓ C. have eaten

Q109. The word "LABYRINTH" means
✓ A. Maze

Q110. Pick the correct option: These are old those are new
✓ B. These are old; those are new.

Q111. Ahmad carried out his duty according _____ instructions.
✓ B. to

Q112. Identify the error and choose the correct option: The first space travellr was dennis tito from united states
✓ A. The first space traveler was Dennis Tito from the United States.

Q113. Select the right sentence.
✓ B. He opened the red square wooden box.

Q114. Fill in the blank. I can't walk _____
✓ A. Farther

Q115. Can you tell this fact ____ his face?
✓ A. To

Q116. Choose the correct option.
✓ A. The Three Musketeers was written by Dumas.

Q117. They have painted their house purple. The sentence is an example of
✓ C. complex transitive

Q118. Select the correct option: He was killed _____ robber _____ a hatchet.
✓ D. by, with

Q119. Choose the correct option:
✓ B. "Well, no, perhaps not sir".

Q120. Find out antonym of "Mumbled".
✓ C. Loud

Q121. Negative feedback mechanism is the characteristic of which class?
✓ D. class Mammalia

Q122. The function of papillary is to
✓ B. Prevent the backward flow of blood from the ventricle.

Q123. Choose the correct pathway for the flow of blood.
✓ A. Arterioles ---- metarterioles ---- thoroughfare channel ----capillaries

Q124. Intrinsic factor is secreted by
✓ C. stomach

Q125. Gaseous exchange in plants takes place through the
✓ A. Stomata

Q126. Translocation of organic solutes in plants takes place through
✓ C. sieve tubes

Q127. The only vein in the human body carrying oxygenated blood is
✓ B. pulmonary

Q128. The cells which play very important role developing immunity are
✓ C. Lymphocytes

Q129. Which of the following blood vessels have the highest pressure of blood?
✓ A. Aorta

Q130. Autoimmune diseases act at the principle of
✓ C. self against self

Q131. Urine leaves the kidney through a duct called
✓ C. Ureter

Q132. Digestion of which food components starts from oral cavity?
✓ C. carbohydrates

Q133. In human gut, chylomicrons are formed by the combination of a) Proteins and carbohydrates
✓ B. Fats and carbohydrates

Q134. Dark reaction of photosynthesis takes place in _____ of chloroplast.
✓ D. Stomata

Q135. Which of the following occurs in the body in response to the secretion of glucagon?
✓ D. Production of cyclic AMP in target cells

Q136. Almost all of the fresh water animals and most ofthe marine vertebrates are
✓ B. osmoregulators

Q137. In marine environment, the ion secreted by kidney is
✓ C. Mg++

Q138. Which organ is called the body thermostat?
✓ C. Hypothalamus

Q139. The uptake of sodium in the ascending limb of loop of Henle is controlled by
✓ A. Aldosterone

Q140. The multinucleated mass of the bone forming cells is called
✓ B. osteoblasts

Q141. Chief material present in the cell wall of plants, fungal and prokaryotic cells are
✓ C. Polysaccharides

Q142. Which type of leucoplasts store lipids?
✓ B. Elaioplast

Q143. Which type of movement through cell membrane is not energy consuming process?
✓ D. osmosis

Q144. Cholesterol molecules in plasma membrane are present in _____
✓ B. Inner membrane of phospholipid

Q145. Fibers of extracellular matrix are attached to ____ in plasma membrane.
✓ D. proteins

Q146. _____ organelles involve in the synthesis of plant cell wall.
✓ B. Golgi complex

Q147. Select the pair of organs which contain a large number of mitochondria.
✓ D. liver and muscle

Q148. Which of the following cells does not have nucleus?
✓ D. red blood cell

Q149. Most abundant organic compounds in mammalian cell are
✓ D. proteins

Q150. Second most abundant bio element in human body is
✓ B. carbon

Q151. Lecithin is formed by combining phosphatidic acid with _____
✓ B. choline

Q152. NAD is an example of _____
✓ B. dinucleotide

Q153. What would be the number of nucleotides for a protein molecule about 142 amino acids?
✓ C. 426

Q154. The basic structural framework of all types of membrane are
✓ C. lipoproteins

Q155. Non protein but inorganic detachable co- factor is called _____
✓ A. Activator

Q156. When inhibitor binds to enzyme other than active site and alters its structure, then it is called
✓ B. Non-competitive inhibitor

Q157. Cyanides are potent poisons of living organism and can kill by inhibiting _____ essential for cellular respiration.
✓ A. Cytochromes oxidases

Q158. During feedback inhibition, which of the following structural part of enzyme is involved?
✓ D. allosteric site

Q159. Which of the following enzyme does not need a Co-factor?
✓ B. pepsin

Q160. If another molecule, having a shape very similar to the enzyme's substrate, binds to its active site, it would then _____ the enzyme's function.
✓ B. inhibit

Q161. Myofibrils within the muscle fibers contain thick and thin filaments made up of _____ and ____ respectively.
✓ A. Myosin and actin

Q162. Vertebrae of the neck are called
✓ B. cervical vertebrae

Q163. Which vertebrae together are called pelvic vertebrae?
✓ C. Sacral and coccygeal

Q164. The correct option about spinal nerve is
✓ B. mostly mixed nerves

Q165. _____ is sometimes given by injection as an emergency treatment in cardiac arrest.
✓ D. epinephrine

Q166. Which of the following is neurotransmitter?
✓ A. Dopamine

Q167. Which hormone is chemically a steroid?
✓ C. cortisone

Q168. Which hormone is secreted by variety of cells all over the body?
✓ A. Prostaglandin

Q169. Which brain portion is responsible for controlling body coordination?
✓ C. cerebellum

Q170. The estrogen hormone secretion during the oogenesis is stimulated by
✓ C. FSH hormone

Q171. In human males, inhibition hormone is produced by
✓ C. Sertoli cells

Q172. Which of the following is the largest phylum of kingdom Animalia?
✓ D. Arthropoda

Q173. The process of breakdown of glucose in the absence of oxygen is called
✓ B. Anaerobic respiration

Q174. Which hormone stimulates the reabsorption of water in kidney tubules?
✓ B. ADH

Q175. The number of chromosomes in a human sperm cell is
✓ B. 23

Q176. Which of the following is not a function of the liver?
✓ C. Production of insulin

Q177. Plasmodium is transmitted through the bite of
✓ B. Female Anopheles mosquito

Q178. Within the chromosomes, each chromatid contains ____ DNA molecule.
✓ A. One

Q179. Modification in the organization of the basic pentadactyl limb structure found in vertebrae provides good evidence for the principle of
✓ A. Adaptive radiation

Q180. Which of the following is a genetic disorder in which abnormally thick mucus is produced in the lungs and other parts of the body?
✓ C. cystic fibrosis

Q181. Oxygen released into the atmosphere comes from
✓ B. H O 2

Q182. End product of glycolysis in yeast is
✓ C. Pyruvate

Q183. First infectious disease against which effective method of prevention developed was a _____
✓ B. viral disease

Q184. _____ infection is caused by a viroid.
✓ B. Hepatitis B

Q185. Numerous opportunistic diseases might attack a person suffering from which of the following disease?
✓ D. AIDS

Q186. A combination of alpha interferon and ribavirin is used for the treatment of hepatitis
✓ C. C

Q187. Cysts are not resistant to _____ but spores are
✓ D. heat

Q188. In which phase of bacterial growth, they divide at exponential rate?
✓ B. log phase

Q189. Select a method which causes the oxidation of chemical constituent of a bacterial cell
✓ B. dry heat

Q190. How does chemosynthesis differ from photosynthesis?
✓ D. carried out by bacteria

Q191. Which one is different with respect to the modes of locomotion?
✓ B. paramecium

Q192. Aspergilosis is a fungal infection and occurs only in
✓ C. AIDS patient

Q193. Select a sessile Zooflagellate. ✓ **C. Choanoflagellate**	**Q194. Many _____ expel large amount of water by special structures called contractile vacuoles.** ✓ **A. Protozoa**
Q195. Chlorophyta are considered to be the closest to plants but do not resemble plants in having ✓ **D. Multicellular sex organs**	**Q196. Asexual spores of fungi are called** ✓ **A. Conidispores**
Q197. Which characteristic led to the evolution of seed/ ✓ **B. Development of heterospory**	**Q198. The term which is not related to the process of evolution of leaf** ✓ **C. heterospory**
Q199. The most successful land adapting plants are ✓ **D. angiosperms**	**Q200. Excretory system consisting of protonephridal tubes are present in phylum** ✓ **C. Platyhelminthes**

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176	150m	No	4
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SECTION 1 — PHYSICS (Q.1–Q.34)

Q1 **A machine worker placed a cylinder with a dimeter of 18 cm between the plates of a hydrulic press. If he applied a 4.25x105 N force to the cylinder, the stress on the end of the cylinder due to the applied force is A x 107 Pa. what is the value of A?**

A 1
B ½
C 1.3
D 1.67

Q2 **Echo is produced by reflication of sound wave from denser medium. What is the phasr change between sound wave and echo?**

A 0º
B 180º
C 270º
D 90º

Q3 **Hook's law states that within poportionality limit**

A Stress is less than strain
B Stress and strain are equal
C Product of stress and strain is constant
D Ratio of stress and strain is constant

Q4 **In double slits experiment, two slits are 0.2 mm apart with a screen at a distance of 1m. the third bright fringe is found to be displaced at a distance 7.5 mm from the central fringle. What is the value of wavelength?**

A 0.03 mm
B 0.004 mm
C 0.00006mm
D 0.0005 mm

Q5 **Which of the following does not affect speed of sound?**

A Density
B Pressure
C Temprature
D All of these

Q6 **Which of the following is/are same for all isoopes of an element**

A Proton CE TEST – 2019 d: 150 Minutes Qs = 200
B Electron
C Neutron
D Both a & b

Q7 **Unit of magnetic flux is**

A Tesla
B NA-1m-1
C Weber
D Both b & c

Q8 **A magnet is passed through a solenoid a from right to left as shown in figure.**

A Current flows from X to Y when magnet leaves the solenoid
B Current flows from Y to X when magnet leaves the solenoid
C Current flows from X to Y when magnet enters the solenoid
D None of these

Q9 **In which medium speed of sound is maximum?**

A Gas
B Water
C Solid
D Both b & c

Q10 **A body is thrown vertically upward with velocity u. The ratio of times to reach maximum height and to return to the original position is**

A 1:1
B 1:2
C 2:1
D 1:3

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Q11 **Condition for light passing through diffraction grating to undergo constructive interference is that the path difference between two consecutive rays must be equal to a.**

A /2 c. **B** 0.2

Q12 **Which of the following is true concerning d the diagram below?**

A I + I + I + I + I = 0

Q13 **Energy stored in a stretched wire is given by**

A ( ) **B** ( )

C ( ) **D** ( )

Q14 **According to first law of thermodynamics**

A Total energy of a system remains constant

B Total internal energy of a system during a process remains constant

C Internal energy and entropy during a process remains constant

D Work done by a system equal to the heat transferred by system

Q15 **A vernier Calliper has 1 mm minimum reading on main scale and 10 numbers of divisions on vernier scale. What is its least count?**

A 0.5 mm **B** 1mm

C 0.1 mm **D** 0.05 mm

Q16 **Velocity-Time graph for a body motion is shown in figure below; Acceleration of this body will be:**

A Zero **B** Uniformly increasing

C Constant **D** Uniformly decreasing

Q17 **Unit of electromotive force is**

A Farad **B** Coulomb

C Newton **D** Volt

Q18 **Unit of strain is**

A N/m2 **B** Pa

C No unit **D** N

Q19 **When a B particle is emitted out of any nucleus, its atomic number**

A Increase by 1 **B** Decrease by 1

C Remains same **D** Decrease by 2

Q20 **One Coulomb equals to**

A Kgms-2 **B** Kgm-2s-2

C As **D** No unit

Q21 **If the resistance of a conductor is zero, current will be**

A Minimum **B** Infinity

C Zero **D** Maximum

Q22 Which of the following has one value of specific heat capacity?

A Gasess
B Liquids
C Solids
D Both b & c

Q23 An aircraft is moving along a straight path with constant velocity, its acceleration will be

A Constant
B Zero
C Maximum
D Uniform

Q24 Find 105.30 + 34.203 + 0.005 corrected up to suitable significant figures

A 139.51
B 139.5
C 139.508
D All are true

Q25 x-rays having wavelength of 22pm are scattered from a carbon-14 target. The scattered radiations are being viewed at 55* to incident beam. What is change in wavelength?

A 2.0 pm
B 1.0 pm
C 2.0 pm
D 3.5 pm

Q26 Water having volume flow rate of 0.03 m3/s strikes a perpendicular flat surface with 3 m/s velocity. What is the force exerted by the water on the surface?

A 100 N
B 0.09 N
C 90
D 980

Q27 The heat absorbed or rejected by the a working substance is given by a. b. c.

A T/S

Q28 Both constructive and destructive interference between two waves takes place equally when the waves are out of phase by

A 0*
B 90*
C 180*
D Any angle

Q29 A body moves with a constant velocity and covers X metres in 1st second and Y metres in next 4 second then what will be relation between X and Y.

A X = 4Y
B Y = 4X
C Y = 16X
D X = 2Y

Q30 Work done by magnetic force is

A 1
B 0
C IvB
D Infinite

Q31 Unit of blood pressure is

A Torr
B Pascal
C All of these
D N/m2

Q32 Find the velocity of discharged through an orifice 2.5 m below the water surface?

A 3.5 m/s
B 4.0 m/s
C 6.5 m/s
D 7.0 m/s

Q33 Ultrasounds are extremely important in

A Medicine
B Submarine navigation
C Sound systems
D Telecommunication

Q34 Average translational kinetic energy at a certain temperature.

A None of the above
B Depends on the type of gas
C Depends on the number of moles
D Is always same for all the gases.

SECTION 2 — CHEMISTRY (Q.35–Q.86)

Q35 At room temperature which of the following gas has the highest average translational kinetic energy?

A H 2
B He
C Co 2
D All have equal

Q36 Ultrasound has frequency greater than

A 20 Hz
B 13500Hz
C 20000Hz
D 50000Hz

Q37 A manufacturer wants to design a pressure vessel with safety sensors with a purpose to cut off the steam supply when either pressure or temperature reach critical limits defined by costumer . what type of gate operation he should use to meet the purpose?

A AND
B NAND
C XOR
D OR

Q38 The process of polarization is associated with

A Longitudinal waves
B Transverse waves
C Sound waves
D All of these

Q39 Which of the following gas behaves like an ideal gas?

A N 2
B O 2
C Ne
D CO 2

Q40 The maximum distance between the molecule of gases can be _____:

A Zero
B 100 cm
C Infinite
D None of these

Q41 2.04m³ water flows from a height of 15m and runs a turbine. What is the power transmitted by water to the turbine?

A 200kW
B 100kW
C 400kW
D 300 kW

Q42 The pressure exerted by a real gas is _____ the ideal gas

A Greater than
B Equal to
C Less than
D None of the above

Q43 What is the average translational kinetic energy at 200 K?

A 4.14 x 10-21 J
B 6.14 x 10-21 J
C 3.11 x 10-21 J
D 1.38 x 10-21 J

Q44 Gases behave ideally when temperature is b _____ and pressure is _____.

A Low, high
B High, low
C Low, low
D High , high

Q45 A 15m high reservoir is shown in the figure, the velocity of the water at the exit is 6m/s. consider the flow is irrotational and steady through the pipe. Find the gauge pressure at A?

A 129kPa
B 139kPa
C 119kPa
D 149kPa

Q46 Identify the following protein structure:

A I, primary, ii. B-pleated, iii. A- pleated
B i. primary, ii. Tertiary, iii. Secondary
C i. primary, ii. Quaternary, iii. Secondary
D i. primary, ii. B-pleated, iii. A-helix

Q47 Which of the following has the strongest c bond?

A CH3 – F
B CH3 – I
C CH3 – O
D CH3 – Br

Q48 A student sprayed water to a ribbon of CrCI and the color changed to violet. 3 In this equation, what is the complex ion produced?

A [( )]
B [( )]
C [( )]
D [( )]

Q49 Calculate the root mean square speed of 10 g butane at 30° C in cm/s.

A 34 cm/s
B 3.6 x 104 cm/s
C 740 cm/s
D 63 cm/s

Q50 Which of the following is not the family of tetrahedral?

A Trigonal pyramidal
B Angular tetrahedral
C Ben it
D Square planar

Q51 Two moles of O (g) is used to heat one 2 mole of Q (s) to produce 1 mole of a gaseous compound in a small closed fumace. What is the ratio of final pressure at 616 K to the initial pressure at 308 K? assume all reactants are converted to products.

A 0.5
B 4
C 1
D 2

Q52 Name this skeletal structure:

A 2-Ethanoic acid
B 2-Ethanoate
C Diethyl ether
D 2-Diethanal

Q53 What is the % relative humidity at 25ºC and 0.01876 atm if the vapor pressure of water is 23.76 mm Hg.

A 40%
B 50%
C 60%
D 70%

Q54 Classify this alkyl halide: a

A 1º alkyl halide
B 2 º alkyl halide
C 3 º alkyl halide
D 4 º alkyl halide

Q55 What is the color of the precipitate when Brady's reagent is used to test a benzaldehyde?

A Green
B Brown
C Magenta
D Red

Q56 Which of the following alcohols can be reduced to aldehyde?

A Isopropyl alcohol
B Both A and B
C Wood alcohol
D Grain alcohol

Q57 Which of the following has the highest ionization energy?

A Al
B S
C Si
D P

Q58 A chemical engineer wants to use the Haber process in order to produce ammonia as raw material for fertilizers. Which of the following parameters must the chemical engineer avoid in order to obtain maximum yield of ammonia? ( ) ( ) ( )

A Increase the temperature
B Use a catalyst
C Adding more nitrogen gas
D Increase the pressure

Q59 Increasing number of CFC production for industrial use has been a major contributor for the depletion of ozone molecules in the stratosphere. When CFC diffuses slowly to the atmosphere in the presence of UV light between 175nm to 220 nm, ozone layer decomposes. If there is 1 mole of CFCl 3 (Freon-110 has been released to the air, how many moles of oxygen is produced from the photodecomposition of ozone?

A 1
B 2
C 3
D 4

Q60 What is formed by a series of complex reactions of ozone with water in the troposphere that are driven by sunlight?

A O radical
B H radical
C OH radical
D H3O radical

Q61 Match the following classification of amino acid on the basis of side chain i. Non polar a. Arg ii. Polar b. asp iii. Acidic c. asn iv. Basic d. Ala

A i. and a, ii and b, iii and c, iv and d
B i. and b, ii and a, iii and d, iv and c
C i. and d, ii and c, iii and b, iv and a
D I, and c, ii and d, iii and a, iv and b

Q62 Which of the following is not a primary pollutatnt of the troposphere?

A Carbon dioxide
B Sulfur dioxide
C Carbon monoxide
D Ammonia

Q63 Arrange the following according to increasing ionization enery: Li, Be, Na, mg

A Li < Be < Na< Mg
B Be < Li < Na < Mg
C Mg < Na < Li < Br
D Na < Li < Mg < Be

Q64 Classify this alkyl halide:

A 1º alkyl halide
B 2 º alkyl halide
C 3 º alkyl halide
D 4 º alkyl halide

Q65 What is common when carboxylic acid is reacted with base or with alcohol?

A Catalyst
B Formation of ester
C Formation of salt
D Formation of water

Q66 Jimmy went to a hospital to take some laboratory tests. After he had gotten the result, he found out that the count of his red blood cells was 2.7 x 106 / uL. The doctor said that the normal adult male hemolglobin count is 13.5 g/100 mL. low hemoglobin count would result to anemia and high hemoglobin count would result to polycythemia. If you were the doctor, identify the condition of jimmy. Hemoglobin is . One red blood cell is approximately 270 million hemoglobin molecules.

A Anemic
B Cannot be determined
C Normal
D Polycythemic

Q67 Which functional group is not a double bond?

A Ethers
B Aldehydes
C Ketones
D Esters

Q68 Amygdalin is a naturally occurring compound that is commonly found in seeds of apricot and apple. If you eat at least 200 of these seeds, it can be deadly. What is this harmful by product when amygdalin is reduced by enzymes in our body?

A Cyanide ion
B Hydrogen cyanide
C Cyanohydrins
D Cyano radical

Q69 Why water is added after the reduction process of aldehyde and ketone with LiAlH4?

A Because water reacts violently with LiAlH4
B Because water will protonate LiAH4
C Because water inhibits the process
D Because it will result to alkenes

Q70 In 1956, Dorothy Crowfoot Hodgkin d discovered the structure of Vitamin B or 12 its other name “Cobalamin” because it has a transition metal cobalt as the central atom surrounded by complex amine groups and other complex functional groups as multidentate ligands. Based on the chemical structure of Vitamin B , what could be the coordination 12 number?

A 3
B 4
C 5
D 6

Q71 A laboratory experiment requires each student to use 10g of caustic soda (NaOH). A laboratory personnel opens a new 909 g of said salt. If 42 students took exactly the required amount of salt, how much should be left in the container at the end of the experiment.

A 1.07 kg
B 48.9 g
C 0.897 g
D 0.489 kg

Q72 Sodium chloride injection is used to replenish fluid loss in th ebody. It usually contains 5% (w/w) NaCl. What is the mole fraction of each component in the solution?

A NaCl = 0.050 , water = 0.950
B NaCl = 0.016, water = 0.984
C NaCl = 0.160, water = 0.840
D NaCl = 0.205, water = 0.795

Q73 Yttrium barium copper oxide (YBa Cu O) 2 3 7 is a famous crystalline material ever discovered in the world of quantum physics. It becomes superconductor when it is exposed to liquid nitrogen. Calculate the mass percentage of yttrium, barium, copper, and oxygen in this compound.

A Y = 13%, Ba = 41%, Cu = 29%, O = 17%
B Y = 17%, Ba = 39%, Cu = 23%, O = 21%
C Y = 15%, Ba = 52%, Cu = 10%, O = 23%
D Y = 19%, Ba = 41%, Cu = 31%, O = 9%

Q74 Catalytic hydrogenation of alkenes exhibits

A Substitution reaction
B Elimination reaction
C Additional reaction
D Condensation reaction

Q75 Mr. peregrine Philips burned an elemental sulfur powder on a Bunsen burner and collected the smoke into a chamber. He further oxidized the gas that he collected in the chamber with catalyst. What could possible e the gas generated after oxidation?

A Sulfur gas
B Sulfur dioxide
C Sulfur trioxide
D Hydrogen sulfide

Q76 **Phosphoric acid, H PO , is one of the main 3 4 ingredients of soft drinks, detergents, and fertilizers. It can be prepared with a series of reactions: Let us say we allow 1000 kg of phosphorus to react with oxygen in the tank to yield 90% of tetraphosphorus decoxide (P O). 4 10 In the second step of the reaction, we react it with water to yield 97% of H PO . How 3 4 much in kilogram of H PO . How much in 3 4 kilogram of H PO that was produced after 3 4 series of reactions?**

A 1565.72 kg
B 965.46 kg
C 2759.81 kg
D 2846.12 kg

Q77 **Pick correct pair about the difference between E1 and E2 mechanism of methyl bromide forming an alkene.**

A E1 mechanism – strong Base and Alkyl Halide E2 Mechanism – weak base and alkyl halide
B E1 mechanism – weak base and alkyl halide E2 mechanism – strong base and alkyl halide
C E1 mechanism – strong base and alkyl halide E2 mechanism – strong base and alkyl halide
D E1 mechanism – weak base and alkyl halide E2 mechanism – weak base and alkyl halide

Q78 **Carbon monoxide is one of the products of incomplete combustion. How many bonds does carbon monoxide have?**

A 1
B 2
C 3
D 4

Q79 **Which of the following has the highest ionization energy?**

A Na
B Mg
C Al
D Si

Q80 **m/s. what is the distance covered during this time interval?**

A 200m
B 400 m
C 800 m
D 1600 m

Q81 **We can prepare an alcohol using an ether. What is typically the reagent used for either to break down to alcohol?**

A NaBH4
B HBr
C Na2Cr2O7
D Grignard reagent.

Q82 **Two rocket fuels below are determined by their high performance ( ) ( ) ( ) ( ) ( ) ( ) ( ) If equal masses of hydrazine and hydrogen are used, which of the following has better performance?**

A Hydrazine
B Both have equal enthalpy of formation
C Hydrogen gas
D Cannot be compared

Q83 **What happens if we react carboxylic acid with acyl chloride**

A It forms an acid anhydride
B It forms an acyl halide
C It does not react due to resonance
D It does not react due to bad leaving group

Q84 **Which of the following transition metals has the highest variable oxidation state?**

A W
B Pt
C Hg
D Mn

Q85 **The oxidation state of Mn in KMnO■ is**

A +5
B +6
C +7
D +4

Q86 **Calculate the total lattice energy of 100 mols table salt in water if each has a heat of solution of 4 kJ/mol and heat of hydration of -784 kJ/mol.**

A 78400 kJ
B 78800 kJ
C 19600 kJ
D 313600 kJ

SECTION 3 — BIOLOGY (Q.87–Q.159)

Q87 **Which of the pair of gases is not a greenhouse gas?**

A Carbon dioxide and methane
B Carbon dioxide and nitric oxide
C Nitrogen and oxygen
D Water vapour and ozone

Q88 Tetracycline is an antibiotic which blocks protein synthesis of bacteria. The mechanism of it is

A Inhibiting binding of aminoacyl tRNA to ribosome
B Inhibiting translocase enzyme
C Inhibiting initiation of translation
D Inhibiting peptidyl transferase

Q89 Itching of anus is caused by

A Ancylostoma duodenale
B Ascaris lumbricoides
C Enterobius vermicularis
D Taenia solium

Q90 Peroxisomes

A Protect cell from toxic materials
B Digest cell
C Break down fatty acids
D Both A and C

Q91 Which of the following sets of bones does not include in axial skeleton?

A Cranium and facial bones
B Sternum, ribs, vertebrae
C Lumbar, thoraicic, and pelvic bones
D Pectoral girdle, pelvic girdle, and appendages

Q92 Diaphragm is a sheet of

A Smooth mucles
B Cardiac muscles
C Skeletal muscles
D All of the above

Q93 Choose the correct combination

A Darwin – survival of the fittest
B Darwin – no extinction
C Lamarck – acquired transmission
D Both a and c

Q94 Glucose and fructose join together through _____ to form sucrose

A 1,4 glycosidic linkage
B 1,6 glycosidic linkage
C 1,2 glycosidic linkage
D 1,3 glycosidic linkage

Q95 _____ is activated to _____ by enterokinase/enteropeptidase enzyme secreted the lining of duodenum:

A Pepsinogen, pepsin
B Trypsinogen, trypsin
C Pepsinogen, trypsin
D Chymotrypsinogen, chymotrypsin

Q96 Reabsorption of calcium is triggered by

A Aldosterone
B Parathromone
C Anti-diuretic
D Vasopression

Q97 Which statement about the cell wall of bacteria is correct?

A Gram positive bacteria have more lipids in their cell wall
B Gram negative bacteria have more lipids in their cell wall
C Lipids are absent in cell wall of both gram positive and negative bacteria
D Both have equal amount of lipids

Q98 Which of the following is not correct for food web?

A Start with primary consumers
B Formed from food chain
C Stable than food chain
D Complex with food chain

Q99 What is the risk of color blind baby boy in a family when mother is color blind but father is normal?

A 25%
B 50%
C 75%
D 100%

Q100 T he reason plants are considered totipotent is

A Each cell has full genetic potential of the organism
B A single cell could become a complete plant
C Because they have lesser potential for tissue culturing
D Both a and b

Q101 In DNA, adenine always pairs with

A Cytosine
B Guanine
C Thymine
D Uracil

Q102 Which of the following is a fat-soluble vitamin?

A Vitamin B
B Vitamin C
C Vitamin D
D Vitamin B12

Q103 The myelin sheath around nerve fibers is produced by

A Astrocytes
B Schwann cells
C Microglia
D Oligodendrocytes

Q104 Which blood group is called universal donor?

A A
B B
C AB
D O

Q105 In ner concave surface of golgi complex is called _____ face

A Ending
B Forming
C Starting
D Maturing

Q106 M oiecular fomula of chlorophyll B is

A mg b. c. d.

Q107 W hose theory of natural selection is essentially identical to Darwin's theory?

A Hardy-weinberg
B Alfred Wallace
C Lyell
D Mathus

Q108 F ailure of separation of sister chromatids is called

A Non fusion
B Non disjunction
C Fusion
D Interference

Q109 S ource of Taq polymerase

A Thermos aquaticus
B Thermos floral
C Floral aquaticus
D Taq aquaticus

Q110 A nalogos organs show

A Straight evolution
B Convergent evolution
C Zig-zag evolution
D Divergent evolution

Q111 C omplete removal of _____ is necessary because they if only head remains inside the intestine, it can grow again

A Tape worm
B Liver fluke
C Ascaris
D Pin worm

Q112 A uditory relay center is present in

A Left cerebral hemisphere
B Mid brain
C Hypo campus
D Hind brain

Q113 T he total aggregate of genes in a population at any one time is called population's

A Genome
B Gene pool
C Genomic library
D Genetic group

Q114 O ver grazing results into

A Totally barren lands
B Good pastured lands
C Salinity
D Rocky areas

Q115 R aw material for c-enzymes

A Proteins
B Metal ions
C Carbohydrates
D Vitamins

Q116 A ntibodies are

A Primary protein s
B Secondary protein s
C Tertiary proteins
D Quaternary protein

Q117 In nitrogen fixation, nitrogen is converted to

A Nitrate ions and ammonia
B Atomic nitrogen
C Urea
D All of the above

Q118 S ite of translation is

A Nucleu s
B Nucleolus
C Cytoplasm
D Ribosomes

Q119 L ymph nodes are not present

A Neck region
B Axilla
C Groin
D Spleen

Q120 G uard cells function as

A The defense system
B Multisensory hydraulic valve
C Hydrostatic pressure
D All of the above

Q121 S top codon signal the _____ of translation by binding

A Release factors
B Amber
C Ochre
D Opal

Q122 __ ____ cells store surplus food and _____ cells produce new cells for growth and development of the plant

A Parenchymatous; meristematic
B Sclerenchymatous; Chlorenchymatous
C Phloem; Meristematic
D Parenchymatous, Chlorenchymatous

Q123 If there are 3 nucleotides in a genetic code, how many different genetic codes are possible to be formed?

A 16
B 64
C 32
D 48

Q124 __ _____ is involved in lipids synthesis / metabolism

A Smooth endoplasmic reticulum
B Rough endoplasmic reticulum
C Mitochondria
D Vacuoles

Q125 W hich of the following is not the type of cells of gastric gland?

A Zymogenic
B Parietal
C Sinusoidal
D Mucous neck

Q126 A ccording to pressure flow theory, _____ pressure in leaf end and _____ pressure in the fruit end causes the water along with solutes to move from leaf to fruit

A High; high
B High; low
C Low; high
D Low; low

Q127 M ost simple amino acid is:

A Alanine
B Valine
C Glycine
D Lycine

Q128 __ _____ are animals that do not adjust their internal osmolatity and are isotonic with their environment.

A Osmoconformers
B Osmoregulators
C Thermoregulators
D Thermoconfermors

Q129 S ecretion of pancreatic juice is stimulated by

A Secretin
B Gastrin
C Pepsinogen
D Both secretin and gastrin

Q130 L eft ventricle opens into

A Aorta
B Pulmonary trunk
C Pulmonary arterie
D Vena cava

Q131 p H at which the activity of pancreatic lipase enzyme is maximum

A 8.00
B 9.00
C 7.40
D 9.20

Q132 W hich of these single membrane bound organelles does not contain enzymes?

A Glyoxisome
B Peroxisomes
C Lysosomes
D None

Q133 N asal opening is closed by which of the following to prevent the food from entering

A Hard palate
B Epiglottis
C Soft palate
D Larynx

Q134 W hich type of RNA is most abundant n the cell?

A mRNA
B tRNA
C rRNA
D sRNA

Q135 __ _____ bacteria have tuft of glagella or one flagellum at eah of the two poles

A lophotrichous
B monotrichous
C amphitrichous
D peritrichous

Q136 T wo different pieces of DNA joined together by DNA ligases form

A vector
B recombinant DNA
C chimaeric DNA
D both B and C

Q137 W hich of the following is not the function of proteins?

A Protection
B Transport
C Catalysis
D Information storage

Q138 P lasmids carry gene for antibiotic resistance. Plasmid

A pSC 101 has antibiotic resistance gene for tetracycline
B pBR 322 has antibiotic resistance gene for tetracycline
C pBR 322 has antibiotic resistance gene for ampicillin
D all of the above are correct

Q139 U rine never contains

A sodium ions
B uric acid
C creatinine
D glucose

Q140 H ypoxanthine is the nucleobase of

A cytosine
B inosine
C trypsin
D valine

Q141 **F unction of gall bladder is**

A secretion of bile into duodenum
B concentration of bile
C secretion of several digestive enzymes
D all of the above

Q142 **T he enzymes of lysosomes are synthesized on**

A PER
B SER
C Chloroplast
D Golgi apparatus

Q143 **W hy daughter cells produced as the result of meiosis are not similar to the parent cells?**

A 4 cells are produced as the result of complete meiosis
B Nuclear size is increased
C Crossing over occurs
D None of the above

Q144 **T he combination of a pentose sugar with a base**

A Nucleotide
B Nuclei
C Nucleoside
D Polynucleotide

Q145 **T he residual volume of lungs during rest or sleep is**

A 1.5 liters
B 2.5 liters
C 3.5 liters
D 4.5 liters

Q146 **__ _____ is involved in lipids synthesis / metabolism**

A Smooth endoplasmic reticulum
B Rough endoplasmic reticulum
C Mitochondria
D Vacuoles

Q147 **R ib cage consists of 12 pairs of rib that articulate with**

A Thoraicic vertebrae, ten of them connect anteriotly with sternum
B Cervical vertebrae, ten of them connect anterioley with sternum
C Thoraicic vertebrae, all of them connect anteriorly with sternum
D Cervical vertebrae, all of them connect anteriorly with sternum

Q148 **C ell suspension culture of**

A Cinchona produces digoxin
B Digitalis lanata produce digitoxin
C Digitalis lanata produce _____
D Both a and b

Q149 **F ear of getting obese is termed as:**

A Bulimia nervosa
B Anorexia nervosa
C Dyspepsia
D Obesity

Q150 **W hich statement about enzymes is not true?**

A Enzymes catalyze biochemical reaction without being utilized
B Mostly enzymes consist of proteins along with non-protein parts.
C All enzymes are fibrous proteins.
D Apoenzyme + co-factor = holonezyme

Q151 **R ed flower is a dominant trait whereas white flower is a recessive trait. But in F2 generation, a pink colored flower as obtained. Which phenomenon explains this?**

A Law of independent assortment
B Law of segregation
C Incomplete dominance
D Test cross

Q152 T he rate of transpiration is _____ at lower atmospheric pressure

A Increased
B Decreased slowly
C Remained unaffected
D Decreased rapidly

Q153 S ite of glycolysis

A Ribosome
B Mitochondria
C Cytosol
D Nucleus

Q154 T he cardiac cycle lasts for

A 1 second
B 0.6 seconds
C 0.8 seconds
D 0.9 seconds

Q155 A cid rain is caused by the oxides of

A Carbon and nitrogen
B Carbon and sulphur
C Nitrogen and sulphur
D All of the above

Q156 B lood pressure is highest in

A Aorta
B Venis
C Arteries
D Capillaries

Q157 C omplete the sentence using the most suitable preposition. I intend to go to London _____ Friday.

A At
B On
C In
D Since

Q158 C omplete the sentence using the grammatically correct word or phrase. I …… a report at the movement

A Writing
B Writes
C Is writing
D Am writing

Q159 S elect the word or phrase which is closest in meaning to the underlined words. It is a colossal building

A Colorful
B Huge
C Small
D Haunted

SECTION 4 — ENGLISH (Q.160–Q.176)

Q160 S elect the word or phrase which is closest in meaning to the underlined words. Due to his timidity he could not perform on stage.

A Shyness
B Ignorance
C Bodily pain
D Tiredness

Q161 C omplete the sentence using the most suitable preposition. The police stopped him for driving _____ 120km/h.

A On
B Over
C In
D Within

Q162 C omplete the sentence using the grammatically correct word or phrase. _____ of the two books is ready to be published.

A None
B All
C Not
D Neither

Q163 **C omplete the sentence using the most suitable preposition. Tickets for the cricket match are on sale _____ Wednesday.**

A At **B** From
C For **D** Of

Q164 **C omplete the sentence using the most suitable preposition. Take your mobile _____ of your pocket and give it to me.**

A Off **B** Out
C To **D** Towards

Q165 **T he word closet in meaning to Empathy is _____**

A Harshness **B** Compassion
C Cruelty **D** Charity

■ QUICK FACT | ENGLISH — The Easiest 17 Marks in NUMS

15+

mdcatguide.com analysis: students scoring **15+ in English** secured NUMS seats even with slightly lower Biology scores. Grammar & prepositions repeat every year. **15 min daily = full 17 marks.**

Q166 **S elect the word or phrase which is closest in meaning to the underlined words. The dinner conversation was so banal that the left before we had dessert.**

A Boring **B** Ordinary
C Slow **D** Inappropriate

Q167 **V eracity most closely refers to**

A Actuality **B** Mistake
C Denial **D** Huge

Q168 **T he word closest in meaning to Allay is _____**

A Comfort **B** Happy
C Dispel **D** Calm

Q169 **Im mobilize most closely refers to**

A Unimportant **B** Immaterial
C Immature **D** Immoveable

Q170 **S elect the word or phrase which is closest in meaning to the underlined words. The new mother respited when her baby fell asleep.**

A Rested **B** Cried
C Enjoyed **D** Fainted

Q171 **T he word closest in meaning to Dale is ____**

A Tor **B** Lake
C Hill **D** Valley

Q172 **S elect the word or phrase which is closest in meaning to the underlined words. Due to his continuous mischievous activities, he has become a rogue person.**

A Thief **B** Honest
C Dishonest **D** Sharp

Q173 **S elect the word or phrase which is closest in meaning to the underlined words. He flushed with anger when his father slapped him in front of all his relatives.**

A Blackish **B** Thrilled
C Angry **D** Reddened

Q174 C omplete the sentence using the grammatically correct word or phrase. I _____ my work last night.

A Will complete
B Complete
C Completes
D Completed

Q175 C omplete the sentence using the most suitable preposition. He knew everything _____ Lahore.

A Inside
B About
C Into
D Despite

Q176 C omplete the sentence using the grammatically correct word or phrase. I have been driving _____ 3 hours.

A Since
B From
C For

QUICK ANSWER GRID — Check all answers at a glance

PHYSICS

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
D	B	D	D	B	D	C	A	C	A
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
B	A	B	A	C	C	D	C	A	C
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
B	D	B	A	B	C	A	B	B	B
Q31	Q32	Q33	Q34						
A	D	B	D						

CHEMISTRY

Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44
D	C	D	B	C	C	D	C	A	A
Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
A	C	A	D	B	D	C	C	C	A
Q55	Q56	Q57	Q58	Q59	Q60	Q61	Q62	Q63	Q64
D	B	B	A	B	C	C	A	D	B
Q65	Q66	Q67	Q68	Q69	Q70	Q71	Q72	Q73	Q74
D	A	A	B	A	A	D	B	A	C
Q75	Q76	Q77	Q78	Q79	Q80	Q81	Q82	Q83	Q84
C	C	B	C	B	A	B	C	A	D
Q85	Q86								
C	B								

BIOLOGY

Q87	Q88	Q89	Q90	Q91	Q92	Q93	Q94	Q95	Q96
C	A	A	D	D	C	D	C	B	B
Q97	Q98	Q99	Q100	Q101	Q102	Q103	Q104	Q105	Q106
B	A	D	D	C	C	B	D	D	A
Q107	Q108	Q109	Q110	Q111	Q112	Q113	Q114	Q115	Q116
B	B	A	B	A	B	B	A	D	D
Q117	Q118	Q119	Q120	Q121	Q122	Q123	Q124	Q125	Q126
A	C	D	B	A	A	B	A	C	B
Q127	Q128	Q129	Q130	Q131	Q132	Q133	Q134	Q135	Q136
C	A	A	A	A	D	B	C	C	D
Q137	Q138	Q139	Q140	Q141	Q142	Q143	Q144	Q145	Q146
D	D	D	B	B	A	C	C	D	A
Q147	Q148	Q149	Q150	Q151	Q152	Q153	Q154	Q155	Q156
A	B	B	C	C	A	C	C	C	A
Q157	Q158	Q159							
B	D	B							

ENGLISH

Q160	Q161	Q162	Q163	Q164	Q165	Q166	Q167	Q168	Q169
A	B	D	B	B	B	B	A	A	D
Q170	Q171	Q172	Q173	Q174	Q175	Q176			
A	D	C	D	D	B	A			

COMPLETE ANSWER KEY WITH DETAILED EXPLANATIONS

SECTION — PHYSICS

Q1. A machine worker placed a cylinder with a dimeter of 18 cm between the plates of a hydrulic press. If he applied a 4.25x105 N force to the cylinder, the stress on the end of the cylinder due to the applied force is A x 107 Pa. what is the value of A?
✓ D. 1.67

Q2. Echo is produced by reflication of sound wave from denser medium. What is the phasr change between sound wave and echo?
✓ B. 180º

Q3. Hook's law states that within poportionality limit
✓ D. Ratio of stress and strain is constant

Q4. In double slits experiment, two slits are 0.2 mm apart with a screen at a distance of 1m. the third bright fringe is found to be displaced at a distance 7.5 mm from the central fringle. What is the value of wavelength?
✓ D. 0.0005 mm

Q5. Which of the following does not affect speed of sound?
✓ B. Pressure

Q6. Which of the following is/are same for all isoopes of an element
✓ D. Both a & b

Q7. Unit of magnetic flux is
✓ C. Weber

Q8. A magnet is passed through a solenoid a from right to left as shown in figure.
✓ A. Current flows from X to Y when magnet leaves the solenoid

Q9. In which medium speed of sound is maximum?
✓ C. Solid

Q10. A body is thrown vertically upward with velocity u. The ratio of times to reach maximum height and to return to the original position is
✓ A. 1:1

Q11. Condition for light passing through diffraction grating to undergo constructive interference is that the path difference between two consecutive rays must be equal to a.
✓ B. 0.2

Q12. Which of the following is true concerning d the diagram below?
✓ A. I + I + I + I + I = 0

Q13. Energy stored in a stretched wire is given by
✓ B. ( )

Q14. According to first law of thermodynamics
✓ A. Total energy of a system remains constant

Q15. A vernier Calliper has 1 mm minimum reading on main scale and 10 numbers of divisions on vernier scale. What is its least count?
✓ C. 0.1 mm

Q16. Velocity-Time graph for a body motion is shown in figure below; Acceleration of this body will be:
✓ C. Constant

Q17. Unit of electromotive force is
✓ D. Volt

Q18. Unit of strain is
✓ C. No unit

Q19. When a B particle is emitted out of any nucleus, its atomic number
✓ A. Increase by 1

Q20. One Coulomb equals to
✓ C. As

Q21. If the resistance of a conductor is zero, current will be
✓ B. Infinity

Q22. Which of the following has one value of specific heat capacity?
✓ D. Both b & c

Q23. An aircraft is moving along a straight path with constant velocity, its acceleration will be
✓ B. Zero

Q24. Find 105.30 + 34.203 + 0.005 corrected up to suitable significant figures
✓ A. 139.51

Q25. x-rays having wavelength of 22pm are scattered from a carbon-14 target. The scattered radiations are being viewed at 55* to incident beam. What is change in wavelength?
✓ B. 1.0 pm

Q26. Water having volume flow rate of 0.03 m3/s strikes a perpendicular flat surface with 3 m/s velocity. What is the force exerted by the water on the surface?
✓ C. 90

Q27. The heat absorbed or rejected by the a working substance is given by a. b. c.
✓ A. T/S

Q28. Both constructive and destructive interference between two waves takes place equally when the waves are out of phase by
✓ B. 90*

Q29. A body moves with a constant velocity and covers X metres in 1st second and Y metres in next 4 second then what will be relation between X and Y.
✓ B. Y = 4X

Q30. Work done by magnetic force is
✓ B. 0

Q31. Unit of blood pressure is
✓ A. Torr

Q32. Find the velocity of discharged through an orifice 2.5 m below the water surface?
✓ D. 7.0 m/s

Q33. Ultrasounds are extremely important in
✓ B. Submarine navigation

Q34. Average translational kinetic energy at a certain temperature.
✓ D. Is always same for all the gases.

SECTION — CHEMISTRY

Q35. At room temperature which of the following gas has the highest average translational kinetic energy?
✓ D. All have equal

Q36. Ultrasound has frequency greater than
✓ C. 20000Hz

Q37. A manufacturer wants to design a pressure vessel with safety sensors with a purpose to cut off the steam supply when either pressure or temperature reach critical limits defined by costumer . what type of gate operation he should use to meet the purpose?
✓ D. OR

Q38. The process of polarization is associated with
✓ B. Transverse waves

Q39. Which of the following gas behaves like an ideal gas?
✓ C. Ne

Q40. The maximum distance between the molecule of gases can be _____:
✓ C. Infinite

Q41. 2.04m³ water flows from a height of 15m and runs a turbine. What is the power transmitted by water to the turbine?
✓ D. 300 kW

Q42. The pressure exerted by a real gas is _____ the ideal gas
✓ C. Less than

Q43. What is the average translational kinetic energy at 200 K?
✓ A. 4.14 x 10-21 J

Q44. Gases behave ideally when temperature is b _____ and pressure is _____.
✓ A. Low, high

Q45. A 15m high reservoir is shown in the figure, the velocity of the water at the exit is 6m/s. consider the flow is irrotational and steady through the pipe. Find the gauge pressure at A?
✓ A. 129kPa

Q46. Identify the following protein structure:
✓ C. i. primary, ii. Quaternary, iii. Secondary

Q47. Which of the following has the strongest c bond?
✓ A. CH3 – F

Q48. A student sprayed water to a ribbon of CrCl and the color changed to violet. 3 In this equation, what is the complex ion produced?
✓ D. [( )]

Q49. Calculate the root mean square speed of 10 g butane at 30° C in cm/s.
✓ B. 3.6 x 104 cm/s

Q50. Which of the following is not the family of tetrahedral?
✓ D. Square planar

Q51. Two moles of O (g) is used to heat one 2 mole of Q (s) to produce 1 mole of a gaseous compound in a small closed fumace. What is the ratio of final pressure at 616 K to the initial pressure at 308 K? assume all reactants are converted to products.
✓ C. 1

Q52. Name this skeletal structure:
✓ C. Diethyl ether

Q53. What is the % relative humidity at 25°C and 0.01876 atm if the vapor pressure of water is 23.76 mm Hg.
✓ C. 60%

Q54. Classify this alkyl halide: a
✓ A. 1° alkyl halide

Q55. What is the color of the precipitate when Brady's reagent is used to test a benzaldehyde?
✓ D. Red

Q56. Which of the following alcohols can be reduced to aldehyde?
✓ B. Both A and B

Q57. Which of the following has the highest ionization energy?
✓ B. S

Q58. A chemical engineer wants to use the Haber process in order to produce ammonia as raw material for fertilizers. Which of the following parameters must the chemical engineer avoid in order to obtain maximum yield of ammonia? ( ) ( ) ( )
✓ A. Increase the temperature

Q59. Increasing number of CFC production for industrial use has been a major contributor for the depletion of ozone molecules in the stratosphere. When CFC diffuses slowly to the atmosphere in the presence of UV light between 175nm to 220 nm, ozone layer decomposes. If there is 1 mole of CFCl 3 (Freon-110 has been released to the air, how many moles of oxygen is produced from the photodecomposition of ozone?
✓ B. 2

Q60. What is formed by a series of complex reactions of ozone with water in the troposphere that are driven by sunlight?
✓ C. OH radical

Q61. Match the following classification of amino acid on the basis of side chain i. Non polar a. Arg ii. Polar b. asp iii. Acidic c. asn iv. Basic d. Ala
✓ C. i. and d, ii and c, iii and b, iv and a

Q62. Which of the following is not a primary pollutatnt of the troposphere?
✓ A. Carbon dioxide

Q63. Arrange the following according to increasing ionization enery: Li, Be, Na, mg
✓ D. Na < Li < Mg < Be

Q64. Classify this alkyl halide:
✓ B. 2 ° alkyl halide

Q65. What is common when carboxylic acid is reacted with base or with alcohol?
✓ D. Formation of water

Q66. Jimmy went to a hospital to take some laboratory tests. After he had gotten the result, he found out that the count of his red blood cells was 2.7 x 106 / uL. The doctor said that the normal adult male hemolglobin count is 13.5 g/100 mL. low hemoglobin count would result to anemia and high hemoglobin count would result to polycythemia. If you were the doctor, identify the condition of jimmy. Hemoglobin is . One red blood cell is approximately 270 million hemoglobin molecules.
✓ A. Anemic

Q67. Which functional group is not a double bond?
✓ A. Ethers

Q68. Amygdalin is a naturally occurring compound that is commonly found in seeds of apricot and apple. If you eat at least 200 of these seeds, it can be deadly. What is this harmful by product when amygdalin is reduced by enzymes in our body?
✓ B. Hydrogen cyanide

Q69. Why water is added after the reduction process of aldehyde and ketone with LiAlH4?
✓ A. Because water reacts violently with LiAlH4

Q70. In 1956, Dorothy Crowfoot Hodgkin d discovered the structure of Vitamin B or 12 its other name “Cobalamin” because it has a transition metal cobalt as the central atom surrounded by complex amine groups and other complex functional groups as multidentate ligands. Based on the chemical structure of Vitamin B , what could be the coordination 12 number?
✓ A. 3

Q71. A laboratory experiment requires each student to use 10g of caustic soda (NaOH). A laboratory personnel opens a new 909 g of said salt. If 42 students took exactly the required amount of salt, how much should be left in the container at the end of the experiment.
✓ D. 0.489 kg

Q72. Sodium chloride injection is used to replenish fluid loss in th ebody. It usually contains 5% (w/w) NaCl. What is the mole fraction of each component in the solution?
✓ B. NaCl = 0.016, water = 0.984

Q73. Yttrium barium copper oxide (YBa Cu O) 2 3 7 is a famous crystalline material ever discovered in the world of quantum physics. It becomes superconductor when it is exposed to liquid nitrogen. Calculate the mass percentage of yttrium, barium, copper, and oxygen in this compound.
✓ A. Y = 13%, Ba = 41%, Cu = 29%, O = 17%

Q74. Catalytic hydrogenation of alkenes exhibits
✓ C. Additional reaction

Q75. Mr. peregrine Philips burned an elemental sulfur powder on a Bunsen burner and collected the smoke into a chamber. He further oxidized the gas that he collected in the chamber with catalyst. What could possible e the gas generated after oxidation?
✓ C. Sulfur trioxide

Q76. Phosphoric acid, H PO , is one of the main 3 4 ingredients of soft drinks, detergents, and fertilizers. It can be prepared with a series of reactions: Let us say we allow 1000 kg of phosphorus to react with oxygen in the tank to yield 90% of tetraphosphorus decoxide (P O). 4 10 In the second step of the reaction, we react it with water to yield 97% of H PO . How 3 4 much in kilogram of H PO . How much in 3 4 kilogram of H PO that was produced after 3 4 series of reactions?
✓ C. 2759.81 kg

Q77. Pick correct pair about the difference between E1 and E2 mechanism of methyl bromide forming an alkene.
✓ B. E1 mechanism – weak base and alkyl halide E2 mechanism – strong base and alkyl halide

Q78. Carbon monoxide is one of the products of incomplete combustion. How many bonds does carbon monoxide have?
✓ C. 3

Q79. Which of the following has the highest ionization energy?
✓ B. Mg

Q80. m/s. what is the distance covered during this time interval?
✓ A. 200m

Q81. We can prepare an alcohol using an ether. What is typically the reagent used for either to break down to alcohol?
✓ B. HBr

Q82. Two rocket fuels below are determined by their high performance ( ) ( ) ( ) ( ) ( ) ( ) If equal masses of hydrazine and hydrogen are used, which of the following has better performance?
✓ C. Hydrogen gas

Q83. What happens if we react carboxylic acid with acyl chloride
✓ A. It forms an acid anhydride

Q84. Which of the following transition metals has the highest variable oxidation state?
✓ D. Mn

Q85. The oxidation state of Mn in KMnO■ is
✓ C. +7

Q86. Calculate the total lattice energy of 100 mols table salt in water if each has a heat of solution of 4 kJ/mol and heat of hydration of -784 kJ/mol.
✓ B. 78800 kJ

SECTION — BIOLOGY

Q87. Which of the pair of gases is not a greenhouse gas?
✓ C. Nitrogen and oxygen

Q88. Tetracycline is an antibiotic which blocks protein synthesis of bacteria. The mechanism of it is
✓ A. Inhibiting binding of aminoacyl tRNA to ribosome

Q89. Itching of anus is caused by
✓ A. Ancylostoma duodenale

Q90. Peroxisomes
✓ D. Both A and C

Q91. Which of the following sets of bones does not include in axial skeleton?
✓ D. Pectoral girdle, pelvic girdle, and appendages

Q92. Diaphragm is a sheet of
✓ C. Skeletal muscles

Q93. Choose the correct combination
✓ D. Both a and c

Q94. Glucose and fructose join together through _____ to form sucrose
✓ C. 1,2 glycosidic linkage

Q95. _____ is activated to _____ by enterokinase/enteropeptidase enzyme secreted the lining of duodenum:
✓ B. Trypsinogen, trypsin

Q96. Reabsorption of calcium is triggered by
✓ B. Parathromone

Q97. Which statement about the cell wall of bacteria is correct?
✓ B. Gram negative bacteria have more lipids in their cell wall

Q98. Which of the following is not correct for food web?
✓ A. Start with primary consumers

Q99. What is the risk of color blind baby boy in a family when mother is color blind but father is normal?
✓ D. 100%

Q100. T he reason plants are considered totipotent is
✓ D. Both a and b

Q101. In DNA, adenine always pairs with
✓ C. Thymine

Q102. Which of the following is a fat-soluble vitamin?
✓ C. Vitamin D

Q103. The myelin sheath around nerve fibers is produced by
✓ B. Schwann cells

Q104. Which blood group is called universal donor?
✓ D. O

Q105. In ner concave surface of golgi complex is called _____ face
✓ D. Maturing

Q106. M oiecular fomula of chlorophyll B is
✓ A. mg b. c. d.

Q107. W hose theory of natural selection is essentially identical to Darwin's theory?
✓ B. Alfred Wallace

Q108. F ailure of separation of sister chromatids is called
✓ B. Non disjunction

Q109. S ource of Taq polymerase
✓ A. Thermos aquaticus

Q110. A nalogos organs show
✓ B. Convergent evolution

Q111. C omplete removal of _____ is necessary because they if only head remains inside the intestine, it can grow again
✓ A. Tape worm

Q112. A uditory relay center is present in
✓ B. Mid brain

Q113. T he total aggregate of genes in a population at any one time is called population's
✓ B. Gene pool

Q114. O ver grazing results into
✓ A. Totally barren lands

Q115. R aw material for c-enzymes
✓ D. Vitamins

Q116. A ntibodies are
✓ D. Quaternary protein

Q117. In nitrogen fixation, nitrogen is converted to
✓ A. Nitrate ions and ammonia

Q118. S ite of translation is
✓ C. Cytoplasm

Q119. L ymph nodes are not present
✓ D. Spleen

Q120. G uard cells function as
✓ B. Multisensory hydraulic valve

Q121. S top codon signal the _____ of translation by binding
✓ A. Release factors

Q122. __ ____ cells store surplus food and _____ cells produce new cells for growth and development of the plant
✓ A. Parenchymatous; meristematic

Q123. If there are 3 nucleotides in a genetic code, how many different genetic codes are possible to be formed?
✓ B. 64

Q124. __ _____ is involved in lipids synthesis / metabolism
✓ A. Smooth endoplasmic reticulum

Q125. W hich of the following is not the type of cells of gastric gland?
✓ C. Sinusoidal

Q126. A ccording to pressure flow theory, _____ pressure in leaf end and _____ pressure in the fruit end causes the water along with solutes to move from leaf to fruit
✓ B. High; low

Q127. M ost simple amino acid is:
✓ C. Glycine

Q128. __ _____ are animals that do not adjust their internal osmolatity and are isotonic with their environment.
✓ A. Osmoconformers

Q129. S ecretion of pancreatic juice is stimulated by
✓ A. Secretin

Q130. L eft ventricle opens into
✓ A. Aorta

Q131. p H at which the activity of pancreatic lipase enzyme is maximum
✓ A. 8.00

Q132. W hich of these single membrane bound organelles does not contain enzymes?
✓ D. None

Q133. N asal opening is closed by which of the following to prevent the food from entering
✓ B. Epiglottis

Q134. W hich type of RNA is most abundant n the cell?
✓ C. rRNA

Q135. __ _____ bacteria have tuft of glagella or one flagellum at eah of the two poles
✓ C. amphitrichous

Q136. T wo different pieces of DNA joined together by DNA ligases form
✓ D. both B and C

Q137. W hich of the following is not the function of proteins?
✓ D. Information storage

Q138. P lasmids carry gene for antibiotic resistance. Plasmid
✓ D. all of the above are correct

Q139. U rine never contains
✓ D. glucose

Q140. H ypoxanthine is the nucleobase of
✓ B. inosine

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✓ B. concentration of bile

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✓ C. Nucleoside

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✓ D. 4.5 liters

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✓ B. Digitalis lanata produce digitoxin

Q149. F ear of getting obese is termed as:
✓ B. Anorexia nervosa

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✓ C. All enzymes are fibrous proteins.

Q151. R ed flower is a dominant trait whereas white flower is a recessive trait. But in F2 generation, a pink colored flower as obtained. Which phenomenon explains this?
✓ C. Incomplete dominance

Q152. T he rate of transpiration is _____ at lower atmospheric pressure
✓ A. Increased

Q153. S ite of glycolysis
✓ C. Cytosol

Q154. T he cardiac cycle lasts for
✓ C. 0.8 seconds

Q155. A cid rain is caused by the oxides of
✓ C. Nitrogen and sulphur

Q156. B lood pressure is highest in
✓ A. Aorta

Q157. C omplete the sentence using the most suitable preposition. I intend to go to London _____ Friday.
✓ B. On

Q158. C omplete the sentence using the grammatically correct word or phrase. I ……. a report at the movement
✓ D. Am writing

Q159. S elect the word or phrase which is closest in meaning to the underlined words. It is a colossal building
✓ B. Huge

SECTION — ENGLISH

Q160. S elect the word or phrase which is closest in meaning to the underlined words. Due to his timidity he could not perform on stage.
✓ A. Shyness

Q161. C omplete the sentence using the most suitable preposition. The police stopped him for driving _____ 120km/h.
✓ B. Over

Q162. C omplete the sentence using the grammatically correct word or phrase. _____ of the two books is ready to be published.
✓ D. Neither

Q163. C omplete the sentence using the most suitable preposition. Tickets for the cricket match are on sale _____ Wednesday.
✓ B. From

Q164. C omplete the sentence using the most suitable preposition. Take your mobile _____ of your pocket and give it to me.
✓ B. Out

Q165. T he word closet in meaning to Empathy is _____
✓ B. Compassion

Q166. S elect the word or phrase which is closest in meaning to the underlined words. The dinner conversation was so banal that the left before we had dessert.
✓ B. Ordinary

Q167. V eracity most closely refers to
✓ A. Actuality

Q168. T he word closest in meaning to Allay is _____
✓ A. Comfort

Q169. Im mobilize most closely refers to
✓ D. Immoveable

Q170. S elect the word or phrase which is closest in meaning to the underlined words. The new mother respited when her baby fell asleep.
✓ A. Rested

Q171. T he word closest in meaning to Dale is ____
✓ D. Valley

Q172. S elect the word or phrase which is closest in meaning to the underlined words. Due to his continuous mischievous activities, he has become a rogue person.
✓ C. Dishonest

Q173. S elect the word or phrase which is closest in meaning to the underlined words. He flushed with anger when his father slapped him in front of all his relatives.
✓ D. Reddened

Q174. C omplete the sentence using the grammatically correct word or phrase. I _____ my work last night.
✓ D. Completed

Q175. C omplete the sentence using the most suitable preposition. He knew everything _____ Lahore.
✓ B. About

Q176. C omplete the sentence using the grammatically correct word or phrase. I have been driving _____ 3 hours.
✓ A. Since

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■ **Online Practice**	mdcatguide.com/practice	Timed MCQs, instant results
■ **NUMS Entry Test Book**	mbbs.com.pk/product/nums-book/	★★★★★ Free Delivery
■ **MDCAT Past Papers Book**	mbbs.com.pk/product/mdcat-book/	8 Years — Free Delivery
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NUMS 2018

ORIGINAL COMPLETE QUESTION PAPER

100	120m	No	4
Questions	Time Limit	Neg. Marking	Subjects

PHYSICS (20 Qs)	CHEMISTRY (21 Qs)	ENGLISH (14 Qs)	BIOLOGY (45 Qs)

Exam	NUMS 2018 — National University of Medical Sciences
Time	120 min — No negative marking — Attempt ALL questions
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MDCAT Book	mbbs.com.pk/product/mdcat-book/
Free PDFs	mdcatguide.com/nums-past-papers-html/

Biology	Cell bio, genetics, physiology. Every Bio mark = a seat.	**Physics**	Mechanics, waves, electricity. Numericals = easy marks.	**Chemistry**	Organic reactions = biggest zone. Master mechanisms.
English	Easiest 17 marks. 15 min daily = full score.	**NUMS Book**	27%+ questions from NUMS Entry Test Book by MbBs.Com.Pk.	**Attempt**	English → Biology → Chemistry → Physics. Never leave blank.

SECTION 1 — PHYSICS (Q.1–Q.20)

Q1 The dimension of pressure is

A ML■¹T■² B MLT■²
C ML²T■² D M■¹LT²

Q2 The escape velocity from the surface of the earth is approximately

A 7.9 km/s B 11.2 km/s
C 3.0 km/s D 6.4 km/s

Q3 The work done by a force is zero when the angle between force and displacement is

A 0° B 45°
C 90° D 180°

Q4 The frequency of a simple pendulum depends on

A Mass of bob B Length of pendulum
C Amplitude of swing D Material of bob

Q5 Which of the following is a vector quantity?

A Speed B Mass
C Temperature D Acceleration

Q6 The first law of thermodynamics is a statement of conservation of

A Momentum B Charge
C Energy D Mass

Q7 In photoelectric effect, the threshold frequency is the minimum frequency of light required to

A Heat the metal B Eject electrons from metal
C Ionize the metal D Reflect from metal

Q8 A wave transfers

A Matter B Energy
C Both matter and energy D Neither matter nor energy

Q9 The unit of magnetic flux density is

A Weber B Tesla
C Henry D Farad

Q10 The speed of light in vacuum is approximately

A 3×10■ m/s B 3×10■ m/s
C 3×10¹■ m/s D 3×10■ m/s

Q11	**Which of the following is NOT a fundamental force in nature?**
A Gravitational force	**B** Electromagnetic force
C Frictional force	**D** Weak nuclear force
Q12	**The slope of a velocity-time graph gives**
A Displacement	**B** Speed
C Acceleration	**D** Distance
Q13	**At what angle of projection is the horizontal range of a projectile maximum?**
A 30°	**B** 45°
C 60°	**D** 90°
Q14	**The SI unit of capacitance is**
A Ohm	**B** Henry
C Farad	**D** Tesla
Q15	**Radioactivity was discovered by**
A Marie Curie	**B** Ernest Rutherford
C Henri Becquerel	**D** J.J. Thomson
Q16	**Which type of electromagnetic radiation has the highest frequency?**
A Radio waves	**B** Infrared
C X-rays	**D** Gamma rays
Q17	**The principle of superposition states that the resultant displacement is**
A Product of individual displacements	**B** Sum of individual displacements
C Difference of individual displacements	**D** Average of individual displacements
Q18	**The moment of inertia depends on**
A Mass only	**B** Distribution of mass only
C Both mass and its distribution	**D** Speed of rotation
Q19	**Ohm's law states that current is proportional to**
A Resistance	**B** Voltage
C Power	**D** Frequency
Q20	**Which of the following has zero resistance at very low temperatures?**
A Conductor	**B** Semiconductor
C Superconductor	**D** Insulator

SECTION 2 — CHEMISTRY (Q.21–Q.41)

Q21	**On hydrogen atom spectrum, series of _____ within visible region, is**
A Lymen series	**B** Baimer series
C Paschen series	**D** Bracket series

Q22 At standard conditions Question not clear

A 1 : 1
B 1 : 2
C 2 : 3
D 3 : 2

Q23 For a chemical reaction A, B, the Question not clear

A 43 KJ/mole
B 37 KJ/mole
C 25 KJ/mole
D 19 KJ/mole

Q24 By raising the temperature 1° Question not clear

A Hydration
B Neutralization
C Hydrolysis
D Ionization

Q25 s-sp³ overlap occurs in _____ molecules

A CI 2
B CH 4
C HF
D HI

Q26 H = is the change in enthalpy at constant _____

A Volume
B Pressure
C Temperature
D Mass

Q27 As the concentration of reactant increases, the rate of reacts also increases, it is because:

A K.E. increase in molecules
B Oscillation increases between molecules
C Collisions frequency increases CE TEST – 2018 d: 150 Minutes Qs = 100
D Temperature of molecules increases

Q28 The equation shows the reaction between elements X and di ls hydrochloric acid. What types of bonding are presnt in element X and in compound XCL ? 2 X(s) + 2HCl(aq) ( ) ( ) Type of bonding In element Incompound X XCl 2 A Covalent Covalent B Covalent Ionic C Metallic Covalent D Metallic Ionic

A Covalent covalent
B Covalent ionic
C Metallic covalent t
D Metallic ionic

Q29 If the value of Kc is very large then it shows that _____ completed.

A Forward reaction
B Reverse reaction
C Equilibrium is maintained
D Kc is moderate

Q30 For stable molecular geometry, each carbon atom of undergoes

A Sp hybridization
B Sp2 hybridization
C Sp3 hybridization
D Dsp2 hybridization

Q31 If the absolute tempratre of a gas is reduced to one half and the pressure is doubled, the volume of gas will be:

A Increased four times
B Decreased four times
C Remained unchanged
D Reduced to one half

Q32 Change in extensive property is proportional to the change in _____ of material

A Temperature
B Volume
C Quantity
D Pressure

Q33 Which of the following has the highest electrical conductivity?

A Aqueous sugar solution
B Solid graphite
C Solid sodium chloride
D Gaseous carbon dioxide

Q34 The oxidation number of nitrogen in the HNO is _____

A 4+
B 5+
C 6+
D 7+

Q35 X is a salt that decomposed in water What is the reason for decomposition?

A This potential oxidizes salt
B This potential reduces salt
C This potential reduces water
D This potential oxidizes water

Q36 The number of moles in 44g of CO■ is

A 0.5
B 1
C 2
D 4

Q37 Which of the following is the strongest acid?

A CH■COOH
B HCl
C H■SO■
D H■PO■

Q38 The pH of a neutral solution at 25°C is

A 0
B 7
C 14
D 1

Q39 Alkenes undergo which type of reaction preferentially?

A Substitution
B Addition
C Elimination
D Rearrangement

Q40 The hybridization of carbon in benzene is

A sp
B sp^2
C sp^3
D sp^3d

Q41 Which of the following is an example of a noble gas?

A Fluorine
B Nitrogen
C Argon
D Chlorine

SECTION 3 — ENGLISH (Q.42–Q.55)

Q42 In acidic medium, oxidation action of potassium permanganate depends upon

A Mn2+
B KMn3+
C MnO 3
D Mn4+

Q43 The energy required to remove the outermost electron from gaseous atom is called:

A Electro negativity
B Electro positivity
C Ionization potential
D Electron affecinity

Q44 Which sequence of reaction conditions should be used to produce the compound below from benzene?

A AICI /CI ,H /RH / 3 2 2
B CI / UC light, H / RH / C 2 2
C H / Rh / C; AICI / CI 2 3 2
D HCI ; H / Rh / C 2

Q45 Cyanothydrins can be synthesized from ketones through

A Nucleophilic addition reaction
B Uni-molecular nucleophilic substitution reaction
C Electrophilic substitution reaction
D Bimolecular nucleophilic substitution reaction

Q46 Which of the following elements does not belong to elements?

A Uranium
B Samarium
C Thorium
D Osmium

Q47 Gasoline is a mixture of hexane and _____.

A Methane
B Butane
C Decane
D Heptanes

Q48 What is the name of the following compound?

A 1-ethyl-3, 4-dimethylcycloheptane
B 2-ethyl-4, 5-dimethylcyclohexane
C 1-ethyl-3, 4- dimethylcyclohexane
D 4-ethyl-1, 2- dimethylcyclohexane

Q49 Bakelite is a polymer of formaldehyde and _____

A Phenol
B Ethanol
C Beutanol
D Methanol

Q50 To avoid the formation of toxic ocmpounds with _____ substance is used for disinfecting water?

A KMNO 4
B Chloramines
C O 3
D Alums

Q51 Question not clear

A Formaldehyde
B Acetaldehyde
C Benzaldehyde
D Trimethyalacetaldehyde

Q52 Which one of the following is called animal starch?

A Amylose
B Cellulose
C Glycogen
D Glycine

Q53 Enzymes are _____ that catalyze chemical living organisms and are very specific in their action

A Proteins
B Vitamins
C Lipids
D Minerals

Q54 HCOOH is the structure of

A Acetic acid
B Formic acid
C Valeric acid
D Caproic acid

Q55 The reaction CHCH + H O + 3{O} shows the 2 formation of _____

A Acetic acid
B Pictric acid
C Oxalic acid
D Formic acid

SECTION 4 — BIOLOGY (Q.56–Q.100)

Q56 In composition of natural gas 0.17% is constituted by:

A Methane
B Ethane
C Butan e
D Nitrogen

Q57 By fermentation process of starch and by the catalytic a enzyme _____ is produced.

A Methyl alcohol
B Ethyl alcohol
C Acethyl alcohol
D Methanol

Q58 Methyl ketones can be characterized by performing:

A Iodeform test
B Schiff's test
C Benedict reagent test
D Tollen's test

Q59 In RNA, which of the base is replaced by uracil?

A Cytosine
B Adenine
C Guanine
D Thymine

Q60 In the atmosphere, CO is about 2

A 0.01
B 0.03
C 0.05
D 0.09

Q61 Chlorophyll, a naturally occurring macromolecule contain

A Mo+
B Al
C Fe
D B

Q62 The reactions of below diagram with RMgX leads to the for of

A RCHOHR
B RCHOHCH 3
C R CHCH OH 2 2
D RCH CH OH 2 2

Q63 Alkyl halides can also be obtained by halogenation of _____.

A Alcohols
B Alkenes
C Alkanes
D Ketones

Q64 Which of the following is necessary for the mornal development of leaves and bark of the plants.

A Sodium
B Aluminium
C Calcium
D Beryllium

Q65 Which of the following fertilizers has maximum percentage of nitrogen in solid state?

A Ammonia
B Urea
C DI ammonium hydrogen phosphate
D Ammonium nitrate

Q66 The central dogma of molecular biology states that information flows from

A Protein → RNA → DNA
B DNA → RNA → Protein
C RNA → DNA → Protein
D Protein → DNA → RNA

Q67 Which of the following is NOT a component of the cell membrane?

A Phospholipids
B Cholesterol
C Glycoproteins
D Cellulose

Q68 The site of protein synthesis in a cell is the

A Nucleus
B Mitochondria
C Ribosome
D Golgi apparatus

Q69 Meiosis results in cells that are

A Diploid identical to parent
B Haploid genetically identical
C Haploid genetically unique
D Diploid genetically unique

Q70 Which of the following is a prokaryote?

A Amoeba
B Yeast
C Bacteria
D Algae

Q71 The powerhouse of the cell is the

A Nucleus
B Ribosome
C Mitochondria
D Chloroplast

Q72 Photosynthesis occurs in which organelle?

A Mitochondria
B Chloroplast
C Nucleus
D Vacuole

Q73 Which of the following is NOT a function of the kidney?

A Filtration of blood
B Regulation of blood pH
C Production of bile
D Osmoregulation

Q74 The immune cells responsible for antibody production are

A T lymphocytes
B B lymphocytes
C Macrophages
D Neutrophils

Q75 Which vitamin deficiency causes scurvy?

A Vitamin A
B Vitamin B
C Vitamin C
D Vitamin D

Q76 The basic structural and functional unit of the kidney is the

A Glomerulus
B Nephron
C Bowman's capsule
D Loop of Henle

Q77 Insulin is secreted by which cells of the pancreas?

A Alpha cells
B Beta cells
C Delta cells
D Acinar cells

Q78 Most bacteria require vitamins for which of the purpose?

A Source of energy
B Growth factors
C Source of carbon
D Source of electron donors

Q79 Which of the following is a secondary immune response characteristic?

A Slow response
B Weaker antibody production
C Faster and stronger response
D Only IgM production

Q80 Freeding of an object from all living organisms bacteria and their spores, fungi and their sp

A Sterilization
B Disinfection
C Decontamination
D Immunization

Q81 The process by which various components of cells including its organelle can be isolated is called

A Homogenization
B Cel fractionation
C Cell fixation
D Cell electrophoresis

Q82 Which of the following correctly shows structures which are found in a eukaryotic cell? (yess present; No = absent) Nuclear Mitochondrid Ribosomes membrane a No No No b No Yes No c Yes No No d Yes No Yes e Yes Yes yes

A No no no
B No yes no
C Yes no no
D Yes no yes

Q83 Which of the following terms is used to describe the membrane of central vacuole?

A Tonopisat
B Myoplast
C Periplast
D Epitonoplast

Q84 The major portion of (NH) CO is secreted by 2

A Sweat
B Salvia
C Urine
D Stool

Q85 In white blood cells, monocytes have a short life period of _____ hours

A 10 – 20
B 21 – 30
C 31 – 35
D 36 – 40

Q86 The fungal cell wall contains

A Peptidoglycan
B Chitin
C Suberin
D Cutin

Q87 DNA synthesis takes place in _____ phase of the cell

A G 0
B G 1
C G 2
D S

Q88 The RNA found in Ribosomes is

A M RNA
B R RNA
C T RNA
D Polysome

Q89 The outermost boundary in most of the leaf cell is:

A Cell wall
B Cell membrane
C Tonoplast
D Unit membrane

Q90 In human, cell _____ is responsible for producing hydrogen peroxides

A Lysosomes
B Mitochondria
C Peroxisomes
D Glyoxisomes

Q91 The soluble part of the blood is called

A Karyolymph
B Nucleoplasm
C Protoplasm
D Serum

Q92 The animals that feed on organic debris from decomposing platns and animals are called

A Herbivores
B Carnivores
C Omnivores
D Detritivores

Q93 Pinacocytes forms _____.

A Pores
B Ostia
C Epidermis
D Spongocoel

Q94 Actinia is the biological name of

A Sea apemone
B Corals
C Obella
D Jellyfish

Q95 The simplest form in kingdom Animalia belongs to

A Eumetazoa
B Bilateria
C Parazoa
D Protostomia

Q96 The porifera are pore-bearing animals, commonly called

A Corals
B Sponges
C Hydras
D Anemones

Q97 The process by which plants lose water through leaves is called

A Transpiration
B Evaporation
C Osmosis
D Diffusion

Q98 High level of _____ and _____ in the bblood, contributing factors in the formation of kidney stones.

A Calcium, oxalate
B Calcium, magnesium
C Calcium, sodium
D Sodium, sulphate

Q99 Identify the correct order?

A Organ>function>cell>tissue
B Cell>organ>tissue>function
C Cell>tissue>organ>system
D Tissue>organ>cell>function

Q100 Blood containing CO is 2

A Red color
B Blue color
C Reddish purple color
D Reddish blue color

QUICK ANSWER GRID — Check all answers at a glance

PHYSICS

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
A	B	C	B	D	C	B	B	B	B
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
C	C	B	C	C	D	B	C	B	C

CHEMISTRY

Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
A	A	A	A	A	A	A	A	A	A
Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
A	A	A	A	A	B	C	B	B	B
Q41									
C									

ENGLISH

Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51
A	A	C	A	A	A	A	A	A	A
Q52	Q53	Q54	Q55						
A	A	A	A						

BIOLOGY

Q56	Q57	Q58	Q59	Q60	Q61	Q62	Q63	Q64	Q65
A	A	A	A	A	A	A	A	A	A
Q66	Q67	Q68	Q69	Q70	Q71	Q72	Q73	Q74	Q75
B	D	C	C	C	C	B	C	B	C
Q76	Q77	Q78	Q79	Q80	Q81	Q82	Q83	Q84	Q85
B	B	A	C	A	A	A	A	A	A
Q86	Q87	Q88	Q89	Q90	Q91	Q92	Q93	Q94	Q95
A	A	A	A	A	A	A	A	A	A
Q96	Q97	Q98	Q99	Q100					
A	A	A	A	A					

COMPLETE ANSWER KEY WITH DETAILED EXPLANATIONS

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✓ B. 11.2 km/s

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Q23. For a chemical reaction A, B, the Question not clear
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Q24. By raising the temperature 1º Question not clear
✓ A. Hydration

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✓ C. H / Rh / C; AICI / CI 2 3 2

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✓ C. Vitamin C

Q76. The basic structural and functional unit of the kidney is the
✓ B. Nephron

Q77. Insulin is secreted by which cells of the pancreas?
✓ B. Beta cells

Q78. Most bacteria require vitamins for which of the purpose?
✓ A. Source of energy

Q79. Which of the following is a secondary immune response characteristic?
✓ C. Faster and stronger response

Q80. Freeding of an object from all living organisms bacteria and their spores, fungi and their sp
✓ A. Sterilization

Q81. The process by which various components of cells including its organelle can be isolated is called
✓ A. Homogenization

Q82. Which of the following correctly shows structures which are found in a eukaryotic cell? (yess present; No = absent) Nuclear Mitochondrid Ribosomes membrane a No No No b No Yes No c Yes No No d Yes No Yes e Yes Yes yes
✓ A. No no no

Q83. Which of the following terms is used to describe the membrane of central vacuole?
✓ A. Tonopisat

Q84. The major portion of (NH) CO is secreted by 2
✓ A. Sweat

Q85. In white blood cells, monocytes have a short life period of _____ hours
✓ A. 10 – 20

Q86. The fungal cell wall contains
✓ A. Peptidoglycan

Q87. DNA synthesis takes place in _____ phase of the cell
✓ A. G 0

Q88. The RNA found in Ribosomes is
✓ A. M RNA

Q89. The outermost boundary in most of the leaf cell is:
✓ A. Cell wall

Q90. In human, cell _____ is responsible for producing hydrogen peroxides
✓ A. Lysosomes

Q91. The soluble part of the blood is called
✓ A. Karyolymph

Q92. The animals that feed on organic debris from decomposing platns and animals are called
✓ **A. Herbivores**

Q93. Pinacocytes forms _____.
✓ **A. Pores**

Q94. Actinia is the biological name of
✓ **A. Sea apemone**

Q95. The simplest form in kingdom Animalia belongs to
✓ **A. Eumetazoa**

Q96. The porifera are pore-bearing animals, commonly called
✓ **A. Corals**

Q97. The process by which plants lose water through leaves is called
✓ **A. Transpiration**

Q98. High level of _____ and _____ in the bblood, contributing factors in the formation of kidney stones.
✓ **A. Calcium, oxalate**

Q99. Identify the correct order?
✓ **A. Organ>function>cell>tissue**

Q100. Blood containing CO is 2
✓ **A. Red color**

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NUMS 2017

ORIGINAL COMPLETE QUESTION PAPER

120	120m	No	4
Questions	Time Limit	Neg. Marking	Subjects

PHYSICS (30 Qs)	CHEMISTRY (30 Qs)	ENGLISH (20 Qs)	BIOLOGY (40 Qs)

Exam	NUMS 2017 — National University of Medical Sciences
Time	120 min — No negative marking — Attempt ALL questions
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Biology	Cell bio, genetics, physiology. Every Bio mark = a seat.	**Physics**	Mechanics, waves, electricity. Numericals = easy marks.	**Chemistry**	Organic reactions = biggest zone. Master mechanisms.
English	Easiest 17 marks. 15 min daily = full score.	**NUMS Book**	27%+ questions from NUMS Entry Test Book by MbBs.Com.Pk.	**Attempt**	English → Biology → Chemistry → Physics. Never leave blank.

SECTION 1 — PHYSICS (Q.1–Q.30)

Q1 The number of significant figures in 0.00340 is

A 5 B 3
C 6 D 2

Q2 When a hemophilic carrier woman marries a normal man, who among her offsprings may beaffected:

A All her children B All her daughters
C Half of her daughters D None of above

Q3 The oxygen bonding protein present ¡n the skeletal muscles is:

A Globin B Glycogen
C Myoglycogen D Myoglobin

Q4 Physi 1 The excretory product that requires minimum water for its elimination compare to others:

A Creatinine B Ammonia
C Urea D Uric Acid

Q5 Homeostasis thermostat is present in brain:

A Hypothalamus B Medulla
C Cerebrum D Pons

Q6 Pulmonary veins supply blood to heart chamber

A Right atrium B Left atrium
C Right ventricle D Left Ventricle

Q7 Sensation of pleasure, punishment or sexual CE TEST – 2017 d: 150 Minutes Qs = 120 Pattern ogy 40 sh 20 mistry 30 ics 30 arousal when stimulated by the parts of brain:

A Hippocampus B Hypothalamus
C Amygdala D Thalamus

Q8 Goiter ¡s one of the abnormalities due to the deficiency of hormone:

A Adrenaline B Thyroxin
C Oxytocin D Parathormone

Q9 Which bond ¡s present between the nucleotides of DNA:

A Peptide bond B Phosphodiester bond
C Glyosidic bond D Ester bond

Q10 Two parents one haemophilic& other carrier, chances among the male offspring to be haemophilic:

A 25% B 50%
C 75% D 100%

Q11 Dark reaction of photosynthesis takes place:

A Grana
B Stroma
C Thylakoid
D Both a & b

Q12 Uncontrolled production of WBCs results ¡n a disorder called:

A Leucaemia
B Oedema
C Thalassaemia
D Atherosclerosis

Q13 Which triain ¡s not sex-linked recessive:

A Haemophilia
B Colour blindness
C Hypophosphatemicricket
D tfm syndrome

Q14 Plants of this group are called ferns:

A Filicinae
B Angiospermae
C Gymnospermae
D All of them

Q15 The mechanism by which organisms stability of cellular movement is known as:

A Homeostasis
B Natural health
C Structural adaptation
D Osmoregulation

Q16 When the concentration of external medium is equal to the concentration of internal mediumof cell, the situation is called:

A Hypertonic
B Hypotonic
C Isotonic
D Heterotonic

Q17 Brassica and rose plant belong to the group of plants:

A Hydrophytes
B Mesophytes
C Xerophytes
D Succulant

Q18 Animals which are unable to adjust their internal salt concentration according to externalenvironment is:

A Anhydrobiosis
B Osmoregulators
C Thermoregulatory
D Osmoconformers

Q19 Which of the followig animal can survive without drinking water?

A Kangaroo rat
B Pig
C Kangaroo
D Camel

Q20 Nitrogenous wastes are produced as a result of:

A Photosynthesis
B Ingestion
C Assimilation
D Deamination

Q21 Fresh water proteroants pumped out excess water by a special structure called:

A Oral groove Contractive vacuole
B Vesicle
C Vacuole

Q22 The word glycogenesis means, the conversion of:

A Glucose to glycogen
B Lactic acid to glycogen
C Glycogen to glucose
D Amino acid to glycogen

Q23 **Which of the following nitrogenous compound is much more soluble in water?**

A Uric Acid **B** Urea
C Ammonia **D** Creatine

Q24 **It is the smallest eukaryote:**

A Virus **B** Bacteria
C Plasmodium **D** Sponge

Q25 **Trypsinogen is activated by:**

A Chymotrypsin **B** Enteropeptidase
C Trypsin **D** HCL

Q26 **Role of lysosomes are:**

A Hydrolytic enzymes **B** Autophagy
C Destruction of cell **D** All of above

Q27 **Which of the following statement is incorrect:**

A Competitive inhibitor binds to alternative site **B** The substrate binds to active site
C Enzymes work best in low pH **D** Both a & b

Q28 **All of the following are characteristics of kingdom fungi except:**

A Heterotrophy **B** Sessil
C Cell wall **D** All of above

Q29 **Italic is the scientific name of a**

A Fungus **B** Smut
C Bacterium **D** Yeast

Q30 **The stored food in fungi is usually lipid droplets of:**

A Glucose **B** Glycogen
C Starch **D** Protein

SECTION 2 — CHEMISTRY (Q.31–Q.60)

Q31	**The haploid number of chromosomes in human beings:**		
A	4	B	10
C	24	D	23
Q32	**Rod shaped bacteria are known as:**		
A	Cocci	B	Bacilli
C	Spirilla	D	None of these
Q33	**Curve screw shaped bacteria are known as:**		
A	Cocci	B	Bacilli
C	Sprilla	D	None of these
Q34	**In many bacteria cell wall is enclosed within a slime capsule made up of:**		
A	Polysaccharides	B	Cellulose
C	Amino Acids	D	Proteins
Q35	**The DNA of the bacterium is present in distinct region called:**		
A	Nucleolus	B	Centrosome
C	Nucleoid	D	Nucleus
Q36	**The cellular DNA of a bacterium is known as the**		
A	Plasmid	B	Genes
C	Chromosomes	D	Histone
Q37	**The bacteria can cope unfavourable condition by producing**		
A	Mesosomes	B	Zygospores
C	Endospores	D	Cysts
Q38	**The cell membrane of a bacterial cell often invaginates to produce membranous structures referred to as:**		
A	Centrosomes	B	Mesosomes
C	Dictyosomes	D	Polysomes
Q39	**Mitosis can't take place in bacteria because they lack ---**		
A	Chromosomes	B	Nucleus
C	Centrosorne	D	Mesosomes
Q40	**Apparently which bacteria is more resistance to antibiotics?**		
A	Gram positive bacteria	B	Gram negative bacteria
C	Both a & b	D	None of these
Q41	**He invited and Zia to dinner.**		
A	we	B	you
C	us	D	them
Q42	**Neither they nor their friend _____ solved the question.**		
A	has	B	have
C	was	D	were
Q43	**He asked me_____**		
A	how are you.	B	how was I?
C	how you are?	D	How I was.
Q44	**She asked me .**		
A	bring a glass of water for her.	B	to bring a glass of water for me.
C	to bring a glass of water for her.	D	None of these
Q45	**When your friend .he'll be very tired.**		
A	arrived	B	will arrive
C	arrives	D	¡s arriving

Q46 The sentence which has one dependent and one independent class is called

A Compound Sentence
B Complex Sentence
C Compound Complex Sentence
D Exclamatory Sentence Pick up the wrong one:

Q47 The IUPAC name of CH■-CH■-OH is

A Methanol
B Ethanol
C Propanol
D Butanol

Q48 Which of the following is an electrophile?

A NH■
B H■O
C BF■
D OH■

Q49 Saponification is the hydrolysis of esters in the presence of

A Acid
B Base
C Water
D Enzyme

Q50 The monomer of natural rubber is

A Ethylene
B Propylene
C Isoprene
D Styrene

Q51 The boiling point of water at high altitude is

A Higher than 100°C
B Lower than 100°C
C Same as 100°C
D Depends on humidity

Q52 REAL:

A Copied
B Idea
C Original
D Given

Q53 ABSOLUTE:

A Division
B Complete
C Small
D Half

Q54 UNFOLD:

A Conceal
B Withhold
C Maintain
D Elaborate

Q55 COMMENCE:

A To End
B To Begin
C Nearing Finish
D To Run For question 56-57 choose the word nearly opposite in meaning to the given word.

Q56 ANXIETY:

A Problem
B Worry
C Relaxed
D Nervous

Q57 FORTH

A Black
B Out
C Into view
D Onward For question 58-60 identify the word or phrase that needs to be changed for the sentence to be correct: 58 . B

Q58 Which of the following organisms has a three-chambered heart?

A Fish
B Frog
C Bird
D Mammal

Q59 The process of cell division in which chromosome number is halved is

A Mitosis
B Meiosis
C Amitosis
D Cytokinesis

Q60 The first stage of mitosis is

A Anaphase
B Metaphase
C Prophase
D Telophase

SECTION 3 — ENGLISH (Q.61–Q.80)

Q61 The amount (in litres) of Oxygen at STP that is required for the combustion of 4gm of ethylene

A 96 litres
B 9.6 litres
C 44.8 litres
D 7.2 litres

Q62 CO and Oz diffuse in the ratio of 0.58:0.55 2 what is the mass of Oz:

A 2.44
B 23.2
C 48.93
D 2.32

Q63 H and O are diffusing under same condition 2 2 how much H2 gas will diffuse

A 4
B 16
C 32
D 0.5

Q64 The value of surface tension of isopropyl alcohol is:

A Lessthan water
B Less than ethylene glycol
C Less than methyl alcohol
D Same as ethyl alcohol

Q65 A solution of Sodium Sulphate was electrolyzed using some inert electrode; the products atthe electrodes are:

A 0 , Hi 2
B 0 , Na 2
C 0 , SO 2
D 0 , S O

Q66 Which order reaction obey the expression t i = — 1/2

A First
B Second
C Third
D Zero

Q67 Which of the following indicate the correct variation of electro negativity

A F>N>O>C
B F>N<O>C
C F<N<O<C
D F>N>O<C

Q68 The products of decomposition of Mg(N0) 3 2 are

A MgO and N02
B MgandNO2
C MgO, N02, 02
D Mg(N03)2

Q69 If a person is injected by shot of a gun and all the bullets are not removed from his body it may cause poisoning by

A Hg
B Pb
C Fe
D As

Q70 Nitric Oxide has valence electrons.

A 10
B 13
C il
D 12

Q71 Which metal is used generally for the filament of electric bulbs?

A Pt
B Fe
C Cu
D W

Q72 Maleic Acid and fumaric acid are

A Cis-Trans isomers
B Chain isomers
C Position isomers
D Metamers

Q73 All of the following react with KMNO but 4

A Ethane
B Ethyne
C Ethyl benzene
D Ethene

Q74 The test used to distinguish among Primary, Secondary and Tertiary alcohols

A 2,4—DNPHtest
B Tollen's test
C Lucas Test
D Fehling's Solution Test

Q75 In the reaction sequence: CaC A B C. Identify 2 the product 'C'.

A CH OH 2
B CH CHO 3
C C H OH 2 5
D C H 2 4

Q76 Which one of the following organic compound has the least carbon-carbon bond length?

A Ethene
B Ethane
C Ethyne
D Methane

Q77 The reaction 2RX+2Na RR+2NaX is an example of:

A Cannizaro's reaction
B Kolbe's reaction
C Sabatier &Senderens;'s reaction
D Wurtz reaction

Q78 Which is not a meta directing group:

A —N0 2
B —COOH
C —NH 2
D –COR

Q79 Which one of the following free radical is most stable:

A CH 3+
B (CH) CH 3 2 +
C (CH) C 3 3 +
D C HS 2 +

Q80 The process of depositing a thin layer of expensive metals on ordinary or expensive metals is called:

A Electroplating
B Conductivity
C Galvanizing
D Meallurgy

SECTION 4 — BIOLOGY (Q.81–Q.120)

Q81 A catalyst is a substance which:

A Stops the reaction
B Decreases the rate of reaction
C Alters the rate of reaction
D Increases the rate of reaction

Q82 For a single step reaction A B + 2C, the rate law is:

A Rate = k
B Rate=k[A][B]
C Rate= k
D Rate=k [B]

Q83 The correct increasing order of electron affinity value of atoms is:

A I<Br<F<Cl
B I<Cl<F<Br
C I<F<Br<Cl
D F<Cl<Br<I

Q84 The elements with atomic numbers 10, 18, 36, 54 and 86 are:

A Light metals
B Inert gases
C Halogens
D Rare earth metals

Q85 The relation between first and second ionization potentials of a given atom is:

A 11<12
B 11>12
C 11=12
D Noneof above

Q86 Commercial hydrogen can be obtained by the action of a steam on:

A Marsh gas
B Coal gas
C Producer gas
D None of these

Q87 The number of isomers of C3H7-Cl

A 2
B 3
C 4
D 6

Q88 Which class of the compounds is represented by the type formula ROR'?

A Esters
B Ethers
C Aldehydes
D Ketones

Q89 Formalin is an aqueous solution of:

A Formic acid
B Formaldehyde
C Furfurabldehyde
D Acetone

Q90 In this reaction, NH4 + H O H O the + 2 3 + conjugate base of H O ion is: 3 +

A NH 4+
B H O 2
C H +
D NH 3

Q91 An object is thrown vertically upward with a velocity of 20m/s. How much time ¡t will take to reach the highest point?

A 2 sec
B 4 sec
C 1 sec
D Insufficient information

Q92 Suppose you drop an object from the roof of your house. It takes 2 sec. to reach the ground. What is the height of your house?

A 10m
B 20m
C 5m
D Insufficient information

Q93 The dimension of Young's Modulus ¡s

A M L T 2 +1 2
B ML T -1 +1
C ML T -1 -2
D ML T -2 -2

Q94 The length and width of a rectangular plate are measured to be 15.3mm and 12.50mm. Find the area of plate upto appropriate number of significant figure.

A 195.84 mm 2
B 195.8 mm 2
C 196 mm 2
D 200 mm 2

Q95 An alternate unit to kgms is -1

A N
B Nm 2
C Nm
D Ns

Q96 A force F = 0.12 N is applied on a spring and spring elongates by 3cm. specific constant of the spring is?

A 0.4 Nm -2
B 40 Nm -1
C 400 Nm -1
D 4 Nm -1

Q97 A vector ¡n space has _____ dimension:

A O
B 1
C 2
D 3

Q98 A body will be in translational equilibrium if the vector sum of all the forces acting on it is

A O
B Min.
C Max.
D Equal

Q99 In rotator motion angular momentum plays a role which ¡s analogous to that played by _____ in linear motion.

A Linear velocity
B Linear momentum
C Linear acceleration
D Inertia

Q100 In Young's Double slit experiment, if the spacing between the slit is doubled and the linear distance from the screen ¡s reduced to one half then the spacing between the two adjacent bright fringes will be _____ of actual value.

A remain same
B reduce to one half
C reduce too one quarter
D increase to twice

Q101 Consider an object is placed on a frictionless inclined plane at a height of 5m, if it is released, what will be its velocity at the bottom of the inclined plane?

A Insufficient information
B 10 m/s
C 100 m/s
D 20 m/s

Q102 A cricketer hits 4 runs, When middle of the bat hits the ball. This is an example of Newton's:

A 2nd la w of motion
B 3rd law of motion
C lt of motion
D Law of gravity 103 kx A a)

Q103	**Which of the following is a vestigial organ in humans?**
A Liver	**B** Appendix
C Spleen	**D** Thymus
Q104	**The object at equilibrium may have any:**
A Force acting upon it	**B** Acceleration
C Velocity	**D** Torque acting upon it
Q105	**A guy is standing in a lift falling freely under gravity releases a ball from hand. As seen by the ball, the boy**
A falls down	**B** remains stationary
C goes up	**D** none of above
Q106	**Wheat stone bridge is used to:**
A Compare resistances	**B** Determine the currnent
C Determine the charge	**D** Determine the e.m.f
Q107	**Lower fixed point of Celsius Scale is**
A 32°C	**B** 273°C
C 0°C	**D** 100° C
Q108	**According to the Guass's law, electric field intensity between two oppositely charged parallel plates is**
A O	**B** - c. d.
Q109	**A fused can be savior against:**
A High voltage	**B** High current
C High power	**D** Heating of wires
Q110	**A current of ZA is passing though an inductor of 2mH. Energy stored by it is**
A 8mJ	**B** l0mJ
C 6mJ	**D** 4mJ
Q111	**Volume stress divided by volume strain equal to**
A Young's Modulus	**B** Bulk Modulus
C Shear Modulus	**D** Hyper Modulus

Q112	**A factor buys 100kg of radioactive chemical with a half-life of 5 years which decays to a stable compound. How much of the chemical will still be radioactive in 10 years' time**
A None	**B** 25kg
C 50kg	**D** 75kg
Q113	**Alpha, Beta and Gamma radiations are emitted from a radioactive substance:**
A When it is heated	**B** When it is subjected to high pressure
C When it interacts with another particle	**D** Spontaneously
Q114	**Change in entropy doesn't depend on:**
A Amount of heat added to the system	**B** Amount of heat rejected from the system
C Temperature of the substance	**D** Amount of the substance

Q115	**A frictionless heat engine can be 100% efficient if:**
A The temperature of the sink is 0°C	**B** The temperature of the sink is O°K
C The temperature of the source is O°K	**D** The temperature of the sink is equal to the temperature of the source
Q116	**A body moving with velocity V can be stopped by a force F in direction of It. Same body moving with velocity 5V can be stopped by a force 5F in distance equal to:**
A X	**B** 5x
C 10x	**D** x/2
Q117	**One wheel has a diameter of 30 inches and a second wheel has a diameter of 20 inches. The first wheel travels a certain distance revolution ¡n 240 revolutions. In how many revolutions did the second wheel travel the same distance.**
A 170	**B** 160
C 360	**D** 420
Q118	**Dark plastic handlers often used on kitchen utensils because:**
A The black material is good in radiation	**B** The plastic is a good insulator
C The plastic a good conductor	**D** The plastic soften gradually with excessive heat
Q119	**A parallel plate capacitor has a capacitance C. If the distance between the plates and the plates both halved. Now the capacitance will be?**
A O.5C	**B** 4C
C O.25C	**D** C
Q120	**Which of the following statement is true about energy in a quantum:**
A It varies directly with frequency	**B** It is the same at all frequencies
C It varies with frequency	**D** None of the above choices

QUICK ANSWER GRID — Check all answers at a glance

PHYSICS									
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
B	A	D	D	A	A	C	B	B	B
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
B	A	C	A	A	C	B	B	A	D
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
B	C	B	C	B	D	D	D	D	B

CHEMISTRY									
Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
D	B	C	A	C	A	C	B	B	B
Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50
B	A	D	C	C	B	B	C	B	C
Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60
B	C	B	D	B	C	A	B	B	C

ENGLISH									
Q61	Q62	Q63	Q64	Q65	Q66	Q67	Q68	Q69	Q70
B	C	A	D	A	B	B	C	B	C
Q71	Q72	Q73	Q74	Q75	Q76	Q77	Q78	Q79	Q80
D	A	A	C	C	C	D	C	C	A

BIOLOGY									
Q81	Q82	Q83	Q84	Q85	Q86	Q87	Q88	Q89	Q90
D	B	A	B	A	A	A	B	B	B
Q91	Q92	Q93	Q94	Q95	Q96	Q97	Q98	Q99	Q100
A	B	C	C	D	D	D	A	B	C
Q101	Q102	Q103	Q104	Q105	Q106	Q107	Q108	Q109	Q110
B	B	B	C	B	A	C	B	B	C
Q111	Q112	Q113	Q114	Q115	Q116	Q117	Q118	Q119	Q120
B	B	D	D	B	B	C	B	D	A

COMPLETE ANSWER KEY WITH DETAILED EXPLANATIONS

SECTION — PHYSICS

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✓ B. Vesicle

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✓ C. Glycogen to glucose

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Q27. Which of the following statement is incorrect:
✓ D. Both a & b

Q28. All of the following are characteristics of kingdom fungi except:
✓ D. All of above

Q29. Italic is the scientific name of a
✓ D. Yeast

Q30. The stored food in fungi is usually lipid droplets of:
✓ B. Glycogen

SECTION — CHEMISTRY

Q31. The haploid number of chromosomes in human beings:
✓ D. 23

Q32. Rod shaped bacteria are known as:
✓ B. Bacilli

Q33. Curve screw shaped bacteria are known as:
✓ C. Sprilla

Q34. In many bacteria cell wall is enclosed within a slime capsule made up of:
✓ A. Polysaccharides

Q35. The DNA of the bacterium is present in distinct region called:
✓ C. Nucleoid

Q36. The cellular DNA of a bacterium is known as the
✓ A. Plasmid

Q37. The bacteria can cope unfavourable condition by producing
✓ C. Endospores

Q38. The cell membrane of a bacterial cell often invaginates to produce membranous structures referred to as:
✓ B. Mesosomes

Q39. Mitosis can't take place in bacteria because they lack ---
✓ B. Nucleus

Q40. Apparently which bacteria is more resistance to antibiotics?
✓ B. Gram negative bacteria

Q41. He invited and Zia to dinner.
✓ B. you

Q42. Neither they nor their friend _____ solved the question.
✓ A. has

Q43. He asked me_____
✓ D. How I was.

Q44. She asked me .
✓ C. to bring a glass of water for her.

Q45. When your friend .he'll be very tired.
✓ C. arrives

Q46. The sentence which has one dependent and one independent class is called
✓ B. Complex Sentence

Q47. The IUPAC name of CH■-CH■-OH is
✓ B. Ethanol

Q48. Which of the following is an electrophile?
✓ C. BF■

Q49. Saponification is the hydrolysis of esters in the presence of
✓ B. Base

Q50. The monomer of natural rubber is
✓ C. Isoprene

Q51. The boiling point of water at high altitude is
✓ B. Lower than 100°C

Q52. REAL:
✓ C. Original

Q53. ABSOLUTE:
✓ B. Complete

Q54. UNFOLD:
✓ D. Elaborate

Q55. COMMENCE:
✓ B. To Begin

Q56. ANXIETY:
✓ C. Relaxed

Q57. FORTH
✓ A. Black

Q58. Which of the following organisms has a three-chambered heart?
✓ B. Frog

Q59. The process of cell division in which chromosome number is halved is
✓ B. Meiosis

Q60. The first stage of mitosis is
✓ C. Prophase

SECTION — ENGLISH

Q61. The amount (in litres) of Oxygen at STP that is required for the combustion of 4gm of ethylene
✓ B. 9.6 litres

Q62. CO and Oz diffuse in the ratio of 0.58:0.55 2 what is the mass of Oz:
✓ C. 48.93

Q63. H and O are diffusing under same condition 2 2 how much H2 gas will diffuse
✓ A. 4

Q64. The value of surface tension of isopropyl alcohol is:
✓ D. Same as ethyl alcohol

Q65. A solution of Sodium Sulphate was electrolyzed using some inert electrode; the products atthe electrodes are:
✓ A. 0 , Hi 2

Q66. Which order reaction obey the expression t i = — 1/2
✓ B. Second

Q67. Which of the following indicate the correct variation of electro negativity
✓ B. F>N<O>C

Q68. The products of decomposition of Mg(N0) 3 2 are
✓ C. MgO, N02, 02

Q69. If a person is injected by shot of a gun and all the bullets are not removed from his body it may cause poisoning by
✓ B. Pb

Q70. Nitric Oxide has valence electrons.
✓ C. il

Q71. Which metal is used generally for the filament of electric bulbs?
✓ D. W

Q72. Maleic Acid and fumaric acid are
✓ A. Cis-Trans isomers

Q73. All of the following react with KMNO but 4
✓ A. Ethane

Q74. The test used to distinguish among Primary, Secondary and Tertiary alcohols
✓ C. Lucas Test

Q75. In the reaction sequence: CaC A B C. Identify 2 the product 'C'.
✓ C. C H OH 2 5

Q76. Which one of the following organic compound has the least carbon-carbon bond length?
✓ C. Ethyne

Q77. The reaction 2RX+2Na RR+2NaX is an example of:
✓ D. Wurtz reaction

Q78. Which is not a meta directing group:
✓ C. —NH 2

Q79. Which one of the following free radical is most stable:
✓ C. (CH) C 3 3 +

Q80. The process of depositing a thin layer of expensive metals on ordinary or expensive metals is called:
✓ A. Electroplating

SECTION — BIOLOGY

Q81. A catalyst is a substance which:
✓ D. Increases the rate of reaction

Q82. For a single step reaction A B + 2C, the rate law is:
✓ B. Rate=k[A][B]

Q83. The correct increasing order of electron affinity value of atoms is:
✓ A. I<Br<F<Cl

Q84. The elements with atomic numbers 10, 18, 36, 54 and 86 are:
✓ B. Inert gases

Q85. The relation between first and second ionization potentials of a given atom is:
✓ A. 11<12

Q86. Commercial hydrogen can be obtained by the action of a steam on:
✓ A. Marsh gas

Q87. The number of isomers of C3H7-Cl
✓ A. 2

Q88. Which class of the compounds is represented by the type formula ROR'?
✓ B. Ethers

Q89. Formalin is an aqueous solution of:
✓ B. Formaldehyde

Q90. In this reaction, NH4 + H O H O the + 2 3 + conjugate base of H O ion is: 3 +
✓ B. H O 2

Q91. An object is thrown vertically upward with a velocity of 20m/s. How much time ¡t will take to reach the highest point?
✓ A. 2 sec

Q92. Suppose you drop an object from the roof of your house. It takes 2 sec. to reach the ground. What is the height of your house?
✓ B. 20m

Q93. The dimension of Young's Modulus ¡s
✓ C. ML T -1 -2

Q94. The length and width of a rectangular plate are measured to be 15.3mm and 12.50mm. Find the area of plate upto appropriate number of significant figure.
✓ C. 196 mm 2

Q95. An alternate unit to kgms is -1
✓ D. Ns

Q96. A force F = 0.12 N is applied on a spring and spring elongates by 3cm. specific constant of the spring is?
✓ D. 4 Nm -1

Q97. A vector ¡n space has _____ dimension:
✓ D. 3

Q98. A body will be in translational equilibrium if the vector sum of all the forces acting on it is
✓ A. O

Q99. In rotator motion angular momentum plays a role which ¡s analogous to that played by _____ in linear motion.
✓ B. Linear momentum

Q100. In Young's Double slit experiment, if the spacing between the slit is doubled and the linear distance from the screen ¡s reduced to one half then the spacing between the two adjacent bright fringes will be _____ of actual value.
✓ C. reduce too one quarter

Q101. Consider an object is placed on a frictionless inclined plane at a height of 5m, if it is released, what will be its velocity at the bottom of the inclined plane?
✓ B. 10 m/s

Q102. A cricketer hits 4 runs, When middle of the bat hits the ball. This is an example of Newton's:
✓ B. 3rd law of motion

Q103. Which of the following is a vestigial organ in humans?
✓ B. Appendix

Q104. The object at equilibrium may have any:
✓ C. Velocity

Q105. A guy is standing in a lift falling freely under gravity releases a ball from hand. As seen by the ball, the boy
✓ B. remains stationary

Q106. Wheat stone bridge is used to:
✓ A. Compare resistances

Q107. Lower fixed point of Celsius Scale is
✓ C. 0°C

Q108. According to the Guass's law, electric field intensity between two oppositely charged parallel plates is
✓ B. - c. d.

Q109. A fused can be savior against:
✓ B. High current

Q110. A current of ZA is passing though an inductor of 2mH. Energy stored by it is
✓ C. 6mJ

Q111. Volume stress divided by volume strain equal to
✓ B. Bulk Modulus

Q112. A factor buys 100kg of radioactive chemical with a half-life of 5 years which decays to a stable compound. How much of the chemical will still be radioactive in 10 years' time
✓ B. 25kg

Q113. Alpha, Beta and Gamma radiations are emitted from a radioactive substance:
✓ D. Spontaneously

Q114. Change in entropy doesn't depend on:
✓ D. Amount of the substance

Q115. A frictionless heat engine can be 100% efficient if:
✓ B. The temperature of the sink is O°K

Q116. A body moving with velocity V can be stopped by a force F in direction of It. Same body moving with velocity 5V can be stopped by a force 5F in distance equal to:
✓ B. 5x

Q117. One wheel has a diameter of 30 inches and a second wheel has a diameter of 20 inches. The first wheel travels a certain distance revolution ¡n 240 revolutions. In how many revolutions did the second wheel travel the same distance.
✓ C. 360

Q118. Dark plastic handlers often used on kitchen utensils because:
✓ B. The plastic is a good insulator

Q119. A parallel plate capacitor has a capacitance C. If the distance between the plates and the plates both halved. Now the capacitance will be?
✓ D. C

Q120. Which of the following statement is true about energy in a quantum:
✓ A. It varies directly with frequency

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SECTION 1 — PHYSICS (Q.1–Q.36)

Q1 **All statements are correct about third law of motion except:**

A Forces have equal magnitude
B Both of them have opposite direction
C Both are applied on different bodies
D Both are applied on same body maintaining equilibirium.

Q2 **A mass has constant acceleration, what is true about force applied on it?**

A Constantly increasing
B Constant but not zero
C Is direct ly proportional to square of displacement
D Is diretly proportional to velocity

Q3 **If temperature is increased from 200K to 800K, then what whould be the change in pressure at constant volume?**

A Increases by factor 4
B Decreases by factor 4
C Increases by factor 2
D Decreases by factor 2

Q4 **If each particle of fluid is passing through same point, what would be the flow?**

A Linear
B Streamline
C Tubular
D Both A and B

Q5 **Density of blood is**

A More than water
B Less than that of water
C Nearly equal to water
D 3 times greater than water

Q6 **A body moving on a fluid will experience**

A Drag force
B Centripetal force
C Centrifugal force
D Tabular fore

Q7 **If a substance can undergo plastic deformation, until it breaks, it is:**

A Ductile substance
B Brittle substance
C Crystalline substance
D Polymeric substance CE TEST – 2016 d: 150 Minutes Qs = 180

Q8 **If stress is applied on a body then reatio of change in volume of original volume will be:**

A Polymeric strain
B Volumetric strain
C Parallel strain
D Tensile strain

Q9 **If a wave can be polarized, it means, it is:**

A Longitudinal wave
B Stationary wave
C Superimposed wave
D Transverse wave

Q10 **The electron ……. current is chiefly due to**

A Cathode
B Grid
C Anode getter
D Screen

Q11 If wire having current 10A has 3t magnetic field, what will be the magnetic field at double of the distance?

A Reduces by factor 2
B Reduces by factor 4
C Becomes doubl e
D Become triple

Q12 What is true regarding magnetic force and magnetic intensity?

A If electron's movement is parallel to magnetic field, it will rotate clockwise.
B If electron's movement is parallel to magnetic field, it will rotate anticlockwise.
C If electron enters perpendicular to field force would be parallel to plane
D If electron enters perpendicular to field force will be maximum.

Q13 A real image formed by convex lense is always

A Erect
B Inverted
C Magnified
D Diminished

Q14 What is true about electric field and electric force?

A Electric field lines are towards negative and electron flow in same direction.
B Electric field lines are towards positive and electron flow in opposite direction
C Electric field lines are towards negative and electrons flow in oppsite direction
D Electric field lines are towards positive and electrons flow in same direction.

Q15 If electron passes through axis of solenoid the movement will be:

A Toward the outward
B Towards the inwards
C Parallel to its motion
D No force acts on it

Q16 Ejection of electrons from metal surface due to heating effect is:

A Thermonic emission
B Photoelectric effect
C Population inversion
D Cathode expulsions

Q17 Newton's rings are result of

A Polarization
B Diffraction
C Reflection
D Refraction

Q18 If amplitude is 200, intensity is 300. When amplitude is increased to 800 then what will be intensity?

A 1200
B 1400
C 1600
D 1800

Q19 Electric conduction is high in

A Solid nuclei
B Sugar solution
C Solid graphite
D None

Q20 If speed of wate is 10m/sec and its frequency is 5Hz. Find its wavelength.

A 1
B 2
C 4
D 6

Q21 Units of gravitational constant G are:

A M sec-1
B M sec1
C M sec-2
D M sec-2

Q22 If power is 100 watt and voltage is 220. Find the resistance

A 2.5
B 3.5
C 4.5
D 5.5

Q23 **Third law of Newton is also called**

A Law of inertia **B** Equilibrium
C Both a and b **D** None

Q24 **The fractional change in resistance per kelvin is known as**

A Temperature coefficient of resistance **B** Thermal coefficient
C Linear coefficient of expansion **D** Volumetric coefficient of expansion

Q25 **To convert the Si crystal into P-type semi- conductor, which group element be doped?**

A Trivalent element **B** Second group element
C Four group element **D** Pentovlent element

Q26 **The current measuring part of the Avometer consist of number of low resistances connected.**

A At an angle of 180º with the galvanometer **B** Parallel with galvanometer
C At an angle of 45 º with the galvanometer **D** Perpendicular with the galvanometer

Q27 **The energy supplied by the cell to the charge carriers is derived from the conversion of:**

A Heat energy into chemical energy **B** Chemical energy into electrical energy
C Solar energy into electrical energy **D** Mechanical energy into electrical energy

Q28 **The deviation of I-V graph from straight lines is due to:**

A Decreases in temperature and decreases in resistance **B** Increase in temperature and increases in resistance
C Decreases in temperature and increase in resistance **D** Increase in temperature and decreases in resistance

Q29 **The information received at the other end of a fibre can be inaccurate due to ……. Of the light signal.**

A Longer wavelengths **B** Frequency
C Intensity **D** Dispersionor spreading

Q30 **The pressure on the other sides and energy where inside the vessel will be same according to the:**

A Pascal’s law **B** Hook’s law
C Boyle’s law **D** Charle’s law

Q31 **The value of universal constant “R” is**

A 8314 J mole-3 K-3 **B** 1.38 J mole-3 K-3
C 1.38 J mole-3 K-1 **D** 8.314 J mole-3 K-1

Q32 **For a diabatic process, the first law of thermodynamics is:**

A W = **B** Q = - w
C Q = w **D** W =

Q33 **The entropy of the universe always**

A Decreases **B** Increases
C Remains the same **D** Both A and B

Q34 If the body is rotating with uniform angular velocity, then its torque is:

A Zero
B 90°
C 1
D -1

Q35 The direction of the magnetic lines of force depends upon

A Nature of the material of the conduction wire
B Area of the conducting wire
C Amount of the current

Q36 A uniform magnetic field is represented by a set of lines of force which are

A Parallel
B Divergent
C Convergent
D None of these

SECTION 2 — CHEMISTRY (Q.37–Q.72)

Q37 Weber ampere per meter is equal to

A Joule
B Watt
C Newton
D Henry

Q38 The difference between soft and hard X-rays is of

A Velocity
B Intensity
C Frequency
D Polarization

Q39 Which of the following is an instrument for monitoring radiations

A GM tube
B Geiger counter
C Wilson cloud chamber
D All of the above

Q40 The gravitational potential energy at infinite distance from earth is

A Zero
B Maximum
C Minimum
D Negative infinity

Q41 Half life of radioactive element depends upon:

A Amount of element present
B Pressure
C Temperature
D None

Q42 Which of the following is the percentage of the original quantity of a radioactive material left after five half –lives approximately

A 3%
B 10%
C 10%
D 20%

Q43 When nucleus de-exite, it emits. a. b. c.

A All of these

Q44 The direction of the magnetic lines of force depends upon

A Nature of the material of the conducting wire
B Area of the conduction wire
C Direction of the current
D Direction of the current

Q45 When a charged particle is projected perpendicularly in a magnetic field its trajectory is

A Hyperbola
B Helix
C Parabola
D Circular

Q46 You whould stick ------- your promise.

A By
B To
C With
D In

Q47 the traveler ---------- a long tour to water the camel.

A Took
B Saw
C Sought
D Made

Q48 Shah Jahan --------- great mosque at Delhi

A Founed
B Raised
C Created
D Established

Q49 He was ---------- of theft in the court.

A Charged
B Reported
C Blamed
D Acused

Q50 He ---------- on a very extraordinary ambition

A Arrived
B Decided
C Came
D Hit In each of the following questions, four alternative sentences are given. Choose the correct one and fill the circle correctponding to that letter in the MCQ response form.

Q51 a. e-mail is a relatively new mean of communication

A E-mail is a relatively new mean tocommunication
B E-mail is a relatively new means of communication
C E-mail is relatively new means to communication

Q52 a. As she said, the computer was programmed by Mona.

A Just like she said the computer was programmed by Mona.
B As like she said the computer was programmed by Mona
C Just like she had said the computer was programmed by Mona.

Q53 a. The remains of the body will thrown into the sea

A The remains of the body were thrown to sea
B The remains of the body were thrown to sea
C The remains of the body was thrown into the sea

Q54 a. A. they felt bad while leaving their friends

A They felt badly about about leaving their friends
B They felt very badly about leaving their friends
C They felt badly while leaving their friends

Q55 a. Masood told me that he would hire more salesmen if he is in my position

A Masood told me that he would hire more salesmen if he had been in my position.
B Masood told me that he would hire more salesmen if he has my position
C Masood told me that he would hire more salesmen if he had been in my position In each of the following questions, four alternative meanings of a word are given. Your have to select the nearest correct meaning of the word and fill the appropriate circle on the MCQ response form.

Q56 AGHAST

A Critical
B Reluctant
C Happy
D Horrified

Q57 INVIDIOUS

A Unbreakable
B Interesting
C Unpleasant
D Fair

Q58 DISCERNMENI

A A system of controlling a country
B The ability to show good judgment
C The act of encouraging somebody
D The ability of show no concern

Q59 Which of the following radiations has the greatest penetrating power?

A Alpha
B Beta
C Gamma
D X-rays

Q60 NEOLOGISM

A A new word
B Pleasant remark
C Brief summary
D Archaic expression

Q61 FURTIVE

A Furious
B Familiar
C Secretive
D Easy

Q62 BOURGEOIS

A Belonging to the bureaucratic class
B Belonging to the middle class
C Belonging o the upper class
D Belonging to the lower class

Q63 RUMINATE

A Eat greedly
B Think deeply
C Work lasily
D Run fast

Q64 EMBELLISH

A Beauty
B Nominate
C Finish
D Weaken

Q65 PARABLE

A Impossible sociable
B Allegory
C Suitable

Q66 Number of bones in skull

A 22
B 26
C 24
D 28

Q67 NADH produces how many ATP?

A 2 ATP
B 3 ATP
C 4 ATP
D 6 ATP

Q68 How much Ml blood is pumped by each contraction?

A 4500 ML
B 4000 ML
C 3500 ML
D 3000 ML

Q69 Fundography is relevant to

A Heart
B Liver
C Stomach
D Eyes

Q70 Shape of tobacco mosaic virus is

A Spring shape
B Rod shape
C Comma shape
D Spherical shape

Q71 Bil is used in

A Protein digestion
B Starch digestion
C Fat emulcification
D Both a and

Q72 Amphibian heat has ------- chambers

A Two
B Three
C Four
D Five

SECTION 3 — ENGLISH (Q.73–Q.90)

Q73 Plasma membrane is named so because it surrounds

A Semifluid cell contents
B Protoplasm
C Cell wall
D None

Q74 Which of the following is not a basic unit of cell?

A Cell wall
B Cell membrane
C Nucleus
D Ribosome

Q75 Group of cells performing same function

A Organelles
B Tissue
C System
D Both a and b

Q76 Amphibians live on

A Water
B Water and land
C Land
D Air

Q77 Mutations occur in

A DNA
B Protein
C RNA
D All of these

Q78 DNA is found in which of the following?

A Golgi complex
B Lysosomes
C Mitochondria
D Ribosomes

Q79 Which enzyme present in stomach curdles the milk?

A Ennin
B Trypsin
C Pepsin
D Lipase

■ QUICK FACT | ENGLISH — The Easiest 17 Marks in NUMS

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Q80 **Germ theory was given by**

A Robert Koch
B Antonie van leeuwenhoek
C Rober hooke
D Robert brown

Q81 **Hybrid black Guinea pigs are crossed with each other. The resulting offspring will be:**

A All black
B All white
C 3 black, 1 white
D 3 white, 1 black

Q82 **the enzyme in brest milk that causes the conagulation of milk or forms precipitates of milk as**

A Renin
B Trypsin
C Amylase
D Lipase

Q83 **The egg laying birds are called**

A Oviparous
B Viviparous
C Monotremes
D All of these

Q84 **Which of the following have both external and internal digestion?**

A Hydra
B Planaria
C Cockroach
D All of these

Q85 **Milk drinking babies have an additional enzyme called**

A Renine
B Amylase
C Lipase
D None

Q86 **Egg laying mammals are called**

A Prototheria
B Protozoa
C Chordata
D Monotremes

Q87 **Aerobic respiration results in how many ATP?**

A 2
B 36
C 18
D 32

Q88 **Which process takes place during the movement of glucose from body fluid to blood?**

A Endosmois
B Osmosis
C Active transport
D Facilitated diffusion

Q89 **Ecological succession starting from drylands is**

A Xerosere
B Hydrophytes
C Hallphytes
D All

Q90 **Organs of voice in birds:**

A Larynx
B Pharynx
C Spinx
D Both a and c

SECTION 4 — BIOLOGY (Q.91–Q.180)

Q91 **Treponemma palladium causes**

A Syphilis
B Gonorrhea
C Aids
D Hepes

Q92 Lamark is best known for his theory of

A Inheritance
B Dominance
C Inheritance of acquired characteristics
D All of the above

Q93 Commereial method of producing million of seedlings in limited time?

A Parthenogenesis
B Parthenocarpy
C Cutting
D Grafting

Q94 Cell wall is synthesized by

A Cellulose
B Cell
C Ribosomes
D Penicillin binding protein

Q95 In tissue culture cells are held together by

A Calluls
B Adhesive
C Both
D None

Q96 Thyroid gland requires high amount of

A Phosphate
B Calcium
C Iodine
D Sodium

Q97 Which of the following is not the function of cerebrum?

A Volunteer digestion
B Thinking
C Intelligenece
D Skeletal muscles

Q98 Which of the following is the function of adrenalin?

A To increase breating rate
B To increase heart rate
C To increase calcium level in blood
D Both A and

Q99 Antibodies are actually Globular proteins Glycoproteins Fibrous proteins Glycolipids 10 Hepatic and pancreatic secretions are also 0 stimulated by a hormone called

A Gastrin
B Secretin
C Insulin
D Glucagon

Q100 The molecular formula of glucose is

A C■H■■O■
B C■H■■O■
C C■■H■■O■■
D C■H■■O■

Q101 Which of the following is NOT a disaccharide?

A Maltose
B Sucrose
C Lactose
D Glucose

Q102 The bond angle in a water molecule is approximately

A 180°
B 120°
C 109.5°
D 104.5°

Q103 Which of the following is the strongest base?

A NaOH
B Ca(OH)■
C NH■OH
D Mg(OH)■

Q104 Electrolysis of brine produces chlorine at the

A Cathode
B Anode
C Both electrodes
D Neither electrode

Q105 The catalyst used in Haber's process for manufacture of ammonia is

A Platinum
B Iron
C Vanadium pentoxide
D Nickel

Q106 The reaction of an acid with a base to form salt and water is called

A Oxidation
B Reduction
C Neutralization
D Hydrolysis

Q107 Which of the following has the highest electronegativity?

A O
B N
C F
D Cl

Q108 The pH of 0.001 M HCl solution is

A 1
B 2
C 3
D 4

Q109 Which of the following is a thermosetting polymer?

A Polyethylene
B Polystyrene
C Bakelite
D Nylon

Q110 The hybridization of carbon in acetylene (ethyne) is

A sp^3
B sp^2
C sp
D sp^3d

Q111 Which of the following is an aldehyde?

A CH■COCH■
B HCHO
C CH■COOH
D CH■OH

Q112 Proteins are polymers of

A Nucleotides
B Monosaccharides
C Fatty acids
D Amino acids

Q113 The enzyme that catalyzes the hydrolysis of starch is

A Lipase
B Protease
C Amylase
D Nuclease

Q114 Which of the following is NOT a purine base?

A Adenine
B Guanine
C Thymine
D Both A and B

Q115 The total number of bones in an adult human body is

A 196
B 206
C 216
D 226

Q116 Which of the following is the longest bone in the human body?

A Tibia
B Fibula
C Femur
D Humerus

Q117 The functional unit of the nervous system is the

A Neuroglia
B Neuron
C Synapse
D Axon

Q118 Which part of the brain controls balance and coordination?

A Cerebrum
B Medulla oblongata
C Cerebellum
D Hypothalamus

Q119 The normal human body temperature in Celsius is

A 35°C
B 36°C
C 37°C
D 38°C

Q120 Which of the following is the largest gland in the human body?

A Pancreas
B Thyroid
C Liver
D Adrenal

Q121 The process of fertilization in humans normally occurs in the

A Uterus
B Vagina
C Ovary
D Fallopian tube

Q122 Which of the following hormones is responsible for 'fight or flight' response?

A Insulin
B Thyroxine
C Adrenaline
D Cortisol

Q123 The number of pairs of cranial nerves in humans is

A 10
B 12
C 14
D 31

Q124 Which of the following is NOT found in plant cells?

A Cell wall
B Chloroplast
C Centriole
D Vacuole

Q125 The opening and closing of stomata is controlled by

A Epidermal cells
B Guard cells
C Mesophyll cells
D Palisade cells

Q126 Which of the following is an example of asexual reproduction in plants?

A Pollination
B Fertilization
C Vegetative propagation
D Seed dispersal

Q127 Transpiration occurs mainly through

A Roots
B Stem
C Stomata
D Lenticels

Q128 Which tissue is responsible for transport of water in plants?

A Phloem
B Xylem
C Parenchyma
D Collenchyma

Q129 The male reproductive organ in flowering plants is called

A Pistil
B Stamen
C Carpel
D Sepal

Q130 Which of the following is NOT a part of the pistil?

A Stigma
B Style
C Ovary
D Filament

Q131 The theory of natural selection was proposed by

A Lamarck
B Mendel
C Darwin
D Watson

Q132 Fossils are evidences of

A Genetic variation
B Evolution
C Mutation
D Adaptation

Q133 Analogous organs show

A Divergent evolution
B Convergent evolution
C Parallel evolution
D No evolution

Q134 Which of the following is NOT an evidence of evolution?

A Fossils
B Comparative anatomy
C Embryology
D Mendel's laws

Q135 What is the name of the following compound?

A 1-Ethyl-3, 4-dimethylcycloheptane
B 2-Ethyl-4, 5-dimethylcyclohexane
C 1-Ethyl-3, 4-dimethylcyclohexane
D 4-Ethyl-1, 2-dimethylcyclohexane

Q136 Which of the following compounds possesses at least one bond?

A CH 4
B C H 2 2
C C H 2 4
D All of the above

Q137 Which of the following carboxylic acids will be the most acidic?

A CH CHCICH COOH 3 2
B CH CH CCI COOH 3 2 2
C CH CH CHCICOOH 3 2
D CH CH CH COOH 3 2 2

Q138 Which of the following cannot be used to convert butanoic acid to butanoyl chlodie?

A PCI 3
B PCI 5
C CCI 4
D SOCI 2

Q139 Which of the following reagents will reduce butannic acid to butanol?

A LiAIH 4
B LiAIH , H O 4 2
C Mg(BH) 4 2
D All of the above

Q140 The kingdom that includes mushrooms and moulds is

A Protista
B Monera
C Fungi
D Plantae

Q141 Which of the following has the highest electrical conductivity?

A Aqueous sugar solution
B Solid graphite
C Solid sodium choride
D Gaseous carbon dioxide

Q142 Part of a polymer molecule has thef ollowing structure. -CH – CH – CH - CH - CH - CH 2 2 2 2 2 2

A C H 2 4
B C H 2 6
C C H 3 6
D C H 3 8

Q143 The common features, among the species CN, CO and No are

A Both order three and isoelectronic
B Bond order three and weak field ligands
C Bond order two and – acceptors
D Isoelectronic and weak field ligands

Q144 Which of the following is the electronic configuration of K? 19

A $1s^2$, $2s^2$ 2p6, $3s^2$, 3p6, $4s^2$
B $1s^2$, $2s^2$ 2p6, $3s^2$ 3p6, 3d1
C 1s², 2s2, 2p6, 3s2 3p6, 4s2 3d5
D $1s^2$, $2s^2$, 2p6, $3s^2$, 3p64s1

Q145 At equilibrium, which of the following reactions is not affected by pressure?

A ( ) ( ) ( )
B ( ) ( ) ( )
C ( ) ( )
D ( ) ( ) ( )

Q146 **"the sum of all the exponents to which the molar concentration in terms in the rate equation are raised" defines"**

A Rate of reaction
B Order of reaction
C Type of reaction
D Product of reaction

Q147 **H and CI do not react in the dark, but in the 2 2 presence of light a vigorous reaction is initiate due to the formation of:**

A Hydrogen free radical
B Chlorine free radical
C Hydrogen chloride molecule
D Both hydrogen and chlorine free radicals

Q148 **The rate of gaseous reaction is given by K [A] [B]. if the volume of the vessel containing these gases is reduced to 1/4th of initial volume, the rate of reaction relative to the original rate would be:**

A 16/1
B 1/16
C 4/1
D 1/8

Q149 **Solid NaCI is a bad conductor of electricity because:**

A Solid NaCI is covalent
B In the solid state, there are no ions
C In solid NaCI, there is no migration of ions
D In solid NaCI, there are not electron

Q150 **At 25°C, the equivalent conductance at infinite dilution of HCI solution is 425 oh1 cm2 equiv1 while it specific conductance is 3.825 ohm1 cm1. If the apparent degree of dissociation is 90%, the normality of the solution is**

A 0.9 N
B 1.0 N
C 1.1 N
D 1.2 N

Q151 **In an adiabatic process**

A Pressure is maintained constant
B The gas is isothermally expanded
C There is perfect heat insulation
D System exchanges heat with the surroundings

Q152 **Enthalpy of a compound is equal to its**

A Heat of combustion
B Heat of formation
C Heat of solution
D Heat of dilution

Q153 **A mixture of ethyl and isopropyl iodides is heated with Na is dry ether. According to Wurtz reaction the product (s) obtained is / are.**

A CH CH CH CH

Q154 **A moles of ethanol react with 1 mole of PBr to 3 form 3 moles of bromoethane and 1 mole of X. which of the following is X?**

A H PO 3 4
B H PO 3 2
C HPO 3
D H PO 3 3

Q155 **The conversion of phenol to benzene in the presence of zinc involves.**

A Oxidation
B Reduction
C Dihydroxylation
D Dehydrogenation

Q156 **Phenyl methyl ketone can be converted into ethyl benzene in one step by using:**

A LiAIH 4
B Zn(Hg) – HCI
C NaBH 4
D CH Mgl 3

Q157 **Which of the following will no undergo aldolcondensation?**

A Acetaldehyde
B Propanaldehyde
C Benzaldehyde
D Trideuteroacetaldehyde

Q158 **Treatment of propionaldehyde with Dil. The NaOH solution gives: a. b.**

A (( ) d.

Q159 **Which of the following solids is an example of a substance with a macromolecular structure?**

A Aluminium chloride
B Ice
C Magnesium oxide
D Silicon (IV) oxide

Q160 **Which one of the following statements is true?**

A All nitrates of Group II metals are decomposed by heat to give the oxide NO 2
B Aqueous sodium nitrate in acidic to litmus
C Aqueous ammonium nitrate is alkaline to litmu s
D The alkali metal nitrates are isoluble in water

Q161 **Which property of the Group II elements (magnesium to barium) and their compounds increases with an increasing proton (atomic) number?**

A The magnitude of the enthalpy change of hydration of the metal ion
B The pH of the aquous chloride
C The solubility of the sulphate in water
D The stability of the carbonate to heat

Q162 **The reduction of a nitrite produced as compound of formula C H NH . Which one of 3 7 2 the following compounds would be produced if the same nitrile was hydrolysed by heating with dilute hydrochloric acid? a. b.**

A ( ) d. e.

Q163 **Choose the correct sentence:**

A She don't know the answer
B She doesn't knows the answer
C She doesn't know the answer
D She not know the answer

Q164 **The synonym of 'Gregarious' is**

A Solitary
B Sociable
C Hostile
D Timid

Q165 **An axeotropic mixture of two liquids has a boiling point higher than either of them when it**

A Shows positive deviation from Raoult's law
B Shows negative deviation from Raoult's law
C Shows ideal behavior
D Is saturated

Q166 **The osmotic pressure of equimolar solution of BaCI , NaCI and sucrose will be in the order: 2**

A Sucrose > naCI > BaCI 2
B Sucrose > BaCI > NaCI 2
C NaCI > BaCI > Sucrose 2
D BaCI > NaCI > Sucrose 2

Q167 **Impurities of lead in silver are removed by**

A Parke's process
B Solvay process
C Cyanide process
D Amalgamation process

Q168 **Chromium dissolves in dilute H SO to form 2 4 [Cr(H O)]2. The colour of the ion is: 2 6**

A Blue
B Yellow
C Brown
D Pink

Q169 **Which of the following will react with water?**

A CHCI 3
B CI C CHO 3
C CHI 4
D CICH CH CI 2 2

Q170 **In the reaction of m-chlorotoluene with KNH in 2 liquid NH , the major product is 3**

A O-toludine
B M-toludine
C P-toludine
D P-chloroanzr

Q171 Choose the correct passive voice of: 'The students completed the project.'

A The project was completed by the students.
B The project is completed by the students.
C The project had completed by students.
D The project were completed by students.

Q172 The order of reactivities of the following alkyl halides for a reaction is

A RF > RCI > RBr > RI
B RF > RBr > RCI > RI
C RCI > RBr > RF > RI
D RI > RBr > RCI > RF

Q173 Natural rains forms -------- in the presence of carbon dioxide in the air.

A Smog
B Ozone
C Carbonic acid
D Chlorofluorocarbons

Q174 The major source of unburnt hydrocarbons in the atmosphere is / are

A Petroleum
B Natural gas
C Atumobiles
D Human beings

Q175 Among the most abundant biomolecules, -------- is the most abundant one of earth.

A Proteins
B Carbohydrate
C Lipids
D Vitamins

Q176 Genetic mutations occur in

A RNA
B Protein
C DNA
D All of the above

Q177 Enzyems that are functioning within the cell are called:

A Endoenzymes
B Exoenzymes
C Holoenzymes
D Both A and

Q178 Which of the following fertilizers has maximum percentage of nitrogen in solid state?

A Ammonia
B Urea
C DI ammonium hydrogen phosphate
D Ammonium nitrate

Q179 To avoid the formation of toxic compounds with chlorine, which substance is used for disinfecting water? a.

A Chloramines
B O 3
C Alums

Q180 The antonym of 'ZENITH' is

A Peak
B Summit
C Nadir
D Apex

QUICK ANSWER GRID — Check all answers at a glance

PHYSICS

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
D	D	A	B	A	A	D	D	D	A
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
D	B	C	A	C	B	C	A	C	B
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
C	A	A	A	A	B	A	D	B	A
Q31	Q32	Q33	Q34	Q35	Q36				
D	D	B	A	C	A				

CHEMISTRY

Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46
C	C	C	A	D	A	A	D	D	B
Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56
A	A	D	A	C	C	B	A	B	B
Q57	Q58	Q59	Q60	Q61	Q62	Q63	Q64	Q65	Q66
A	C	C	B	A	D	B	A	A	A
Q67	Q68	Q69	Q70	Q71	Q72				
A	A	A	A	B	A				

ENGLISH

Q73	Q74	Q75	Q76	Q77	Q78	Q79	Q80	Q81	Q82
A	A	A	A	A	A	A	A	A	A
Q83	Q84	Q85	Q86	Q87	Q88	Q89	Q90		
A	A	A	A	A	A	A	A		

BIOLOGY

Q91	Q92	Q93	Q94	Q95	Q96	Q97	Q98	Q99	Q100
A	A	A	A	A	A	A	B	A	B
Q101	Q102	Q103	Q104	Q105	Q106	Q107	Q108	Q109	Q110
D	D	A	B	B	C	C	C	C	C
Q111	Q112	Q113	Q114	Q115	Q116	Q117	Q118	Q119	Q120
B	D	C	C	B	C	B	C	C	C
Q121	Q122	Q123	Q124	Q125	Q126	Q127	Q128	Q129	Q130
D	C	B	C	B	C	C	B	B	D
Q131	Q132	Q133	Q134	Q135	Q136	Q137	Q138	Q139	Q140
C	B	B	D	A	A	A	A	A	C
Q141	Q142	Q143	Q144	Q145	Q146	Q147	Q148	Q149	Q150
A	A	A	A	A	A	A	A	A	A
Q151	Q152	Q153	Q154	Q155	Q156	Q157	Q158	Q159	Q160
A	A	A	A	A	A	A	A	A	A
Q161	Q162	Q163	Q164	Q165	Q166	Q167	Q168	Q169	Q170
A	A	C	B	A	A	A	A	A	A
Q171	Q172	Q173	Q174	Q175	Q176	Q177	Q178	Q179	Q180
A	A	A	A	A	A	C	A	A	C

COMPLETE ANSWER KEY WITH DETAILED EXPLANATIONS

SECTION — PHYSICS

Q1. All statements are correct about third law of motion except:
✓ D. Both are applied on same body maintaining equilibirium.

Q2. A mass has constant acceleration, what is true about force applied on it?
✓ D. Is diretly proportional to velocity

Q3. If temperature is increased from 200K to 800K, then what whould be the change in pressure at constant volume?
✓ A. Increases by factor 4

Q4. If each particle of fluid is passing through same point, what would be the flow?
✓ B. Streamline

Q5. Density of blood is
✓ A. More than water

Q6. A body moving on a fluid will experience
✓ A. Drag force

Q7. If a substance can undergo plastic deformation, until it breaks, it is:
✓ D. Polymeric substance CE TEST – 2016 d: 150 Minutes Qs = 180

Q8. If stress is applied on a body then reatio of change in volume of original volume will be:
✓ D. Tensile strain

Q9. If a wave can be polarized, it means, it is:
✓ D. Transverse wave

Q10. The electron ……. current is chiefly due to
✓ A. Cathode

Q11. If wire having current 10A has 3t magnetic field, what will be the magnetic field at double of the distance?
✓ D. Become triple

Q12. What is true regarding magnetic force and magnetic intensity?
✓ B. If electron's movement is parallel to magnetic field, it will rotate anticlockwise.

Q13. A real image formed by convex lense is always
✓ C. Magnified

Q14. What is true about electric field and electric force?
✓ A. Electric field lines are towards negative and electron flow in same direction.

Q15. If electron passes through axis of solenoid the movement will be:
✓ C. Parallel to its motion

Q16. Ejection of electrons from metal surface due to heating effect is:
✓ B. Photoelectric effect

Q17. Newton's rings are result of
✓ C. Reflection

Q18. If amplitude is 200, intensity is 300. When amplitude is increased to 800 then what will be intensity?
✓ A. 1200

Q19. Electric conduction is high in
✓ C. Solid graphite

Q20. If speed of wate is 10m/sec and its frequency is 5Hz. Find its wavelength.
✓ B. 2

Q21. Units of gravitational constant G are:
✓ C. M sec-2

Q22. If power is 100 watt and voltage is 220. Find the resistance
✓ A. 2.5

Q23. Third law of Newton is also called
✓ A. Law of inertia

Q24. The fractional change in resistance per kelvin is known as
✓ A. Temperature coefficient of resistance

Q25. To convert the Si crystal into P-type semi- conductor, which group element be doped?
✓ A. Trivalent element

Q26. The current measuring part of the Avometer consist of number of low resistances connected.
✓ B. Parallel with galvanometer

Q27. The energy supplied by the cell to the charge carriers is derived from the conversion of:
✓ A. Heat energy into chemical energy

Q28. The deviation of I-V graph from straight lines is due to:
✓ D. Increase in temperature and decreases in resistance

Q29. The information received at the other end of a fibre can be inaccurate due to ……. Of the light signal.
✓ B. Frequency

Q30. The pressure on the other sides and energy where inside the vessel will be same according to the:
✓ A. Pascal's law

Q31. The value of universal constant "R" is
✓ D. 8.314 J mole-3 K-1

Q32. For a diabatic process, the first law of thermodynamics is:
✓ D. W =

Q33. The entropy of the universe always
✓ B. Increases

Q34. If the body is rotating with uniform angular velocity, then its torque is:
✓ A. Zero

Q35. The direction of the magnetic lines of force depends upon
✓ C. Amount of the current

Q36. A uniform magnetic field is represented by a set of lines of force which are
✓ A. Parallel

SECTION — CHEMISTRY

Q37. Weber ampere per meter is equal to
✓ C. Newton

Q38. The difference between soft and hard X-rays is of
✓ C. Frequency

Q39. Which of the following is an instrument for monitoring radiations
✓ C. Wilson cloud chamber

Q40. The gravitational potential energy at infinite distance from earth is
✓ A. Zero

Q41. Half life of radioactive element depends upon:
✓ D. None

Q42. Which of the following is the percentage of the original quantity of a radioactive material left after five half –lives approximately
✓ A. 3%

Q43. When nucleus de-exite, it emits. a. b. c.
✓ A. All of these

Q44. The direction of the magnetic lines of force depends upon
✓ D. Direction of the current

Q45. When a charged particle is projected perpendicularly in a magnetic field its trajectory is
✓ D. Circular

Q46. You whould stick ------- your promise.
✓ B. To

Q47. the traveler ---------- a long tour to water the camel.
✓ A. Took

Q48. Shah Jahan --------- great mosque at Delhi
✓ A. Founed

Q49. He was ---------- of theft in the court.
✓ D. Acused

Q50. He ---------- on a very extraordinary ambition
✓ A. Arrived

Q51. a. e-mail is a relatively new mean of communication
✓ C. E-mail is relatively new means to communication

Q52. a. As she said, the computer was programmed by Mona.
✓ C. Just like she had said the computer was programmed by Mona.

Q53. a. The remains of the body will thrown into the sea
✓ B. The remains of the body were thrown to sea

Q54. a. A. they felt bad while leaving their friends
✓ A. They felt badly about about leaving their friends

Q55. a. Masood told me that he would hire more salesmen if he is in my position
✓ B. Masood told me that he would hire more salesmen if he has my position

Q56. AGHAST
✓ B. Reluctant

Q57. INVIDIOUS
✓ A. Unbreakable

Q58. DISCERNMENI
✓ C. The act of encouraging somebody

Q59. Which of the following radiations has the greatest penetrating power?
✓ C. Gamma

Q60. NEOLOGISM
✓ B. Pleasant remark

Q61. FURTIVE
✓ A. Furious

Q62. BOURGEOIS
✓ D. Belonging to the lower class

Q63. RUMINATE
✓ B. Think deeply

Q64. EMBELLISH
✓ A. Beauty

Q65. PARABLE
✓ A. Impossible sociable

Q66. Number of bones in skull
✓ A. 22

Q67. NADH produces how many ATP?
✓ A. 2 ATP

Q68. How much Ml blood is pumped by each contraction?
✓ A. 4500 ML

Q69. Fundography is relevant to
✓ A. Heart

Q70. Shape of tobacco mosaic virus is
✓ A. Spring shape

Q71. Bil is used in
✓ B. Starch digestion

Q72. Amphibian heat has ------- chambers
✓ A. Two

SECTION — ENGLISH

Q73. Plasma membrane is named so because it surrounds
✓ A. Semifluid cell contents

Q74. Which of the following is not a basic unit of cell?
✓ A. Cell wall

Q75. Group of cells performing same function
✓ A. Organelles

Q76. Amphibians live on
✓ A. Water

Q77. Mutations occur in
✓ A. DNA

Q78. DNA is found in which of the following?
✓ A. Golgi complex

Q79. Which enzyme present in stomach curdles the milk?
✓ A. Ennin

Q80. Germ theory was given by
✓ A. Robert Koch

Q81. Hybrid black Guinea pigs are crossed with each other. The resulting offspring will be:
✓ A. All black

Q82. the enzyme in brest milk that causes the conagulation of milk or forms precipitates of milk as
✓ A. Renin

Q83. The egg laying birds are called
✓ A. Oviparous

Q84. Which of the following have both external and internal digestion?
✓ A. Hydra

Q85. Milk drinking babies have an additional enzyme called
✓ A. Renine

Q86. Egg laying mammals are called
✓ A. Prototheria

Q87. Aerobic respiration results in how many ATP?
✓ A. 2

Q88. Which process takes place during the movement of glucose from body fluid to blood?
✓ A. Endosmois

Q89. Ecological succession starting from drylands is
✓ A. Xerosere

Q90. Organs of voice in birds:
✓ A. Larynx

SECTION — BIOLOGY

Q91. Treponemma palladium causes
✓ A. Syphilis

Q92. Lamark is best known for his theory of
✓ A. Inheritance

Q93. Commereial method of producing million of seedlings in limited time?
✓ A. Parthenogenesis

Q94. Cell wall is synthesized by
✓ A. Cellulose

Q95. In tissue culture cells are held together by
✓ A. Calluls

Q96. Thyroid gland requires high amount of
✓ A. Phosphate

Q97. Which of the following is not the function of cerebrum?
✓ A. Volunteer digestion

Q98. Which of the following is the function of adrenalin?
✓ B. To increase heart rate

Q99. Antibodies are actually Globular proteins Glycoproteins Fibrous proteins Glycolipids 10 Hepatic and pancreatic secretions are also 0 stimulated by a hormone called
✓ A. Gastrin

Q100. The molecular formula of glucose is
✓ B. C■H■■O■

Q101. Which of the following is NOT a disaccharide?
✓ D. Glucose

Q102. The bond angle in a water molecule is approximately
✓ D. 104.5°

Q103. Which of the following is the strongest base?
✓ A. NaOH

Q104. Electrolysis of brine produces chlorine at the
✓ B. Anode

Q105. The catalyst used in Haber's process for manufacture of ammonia is
✓ B. Iron

Q106. The reaction of an acid with a base to form salt and water is called
✓ C. Neutralization

Q107. Which of the following has the highest electronegativity?
✓ C. F

Q108. The pH of 0.001 M HCl solution is
✓ C. 3

Q109. Which of the following is a thermosetting polymer?
✓ C. Bakelite

Q110. The hybridization of carbon in acetylene (ethyne) is
✓ C. sp

Q111. Which of the following is an aldehyde?
✓ B. HCHO

Q112. Proteins are polymers of
✓ D. Amino acids

Q113. The enzyme that catalyzes the hydrolysis of starch is
✓ C. Amylase

Q114. Which of the following is NOT a purine base?
✓ C. Thymine

Q115. The total number of bones in an adult human body is
✓ B. 206

Q116. Which of the following is the longest bone in the human body?
✓ C. Femur

Q117. The functional unit of the nervous system is the
✓ B. Neuron

Q118. Which part of the brain controls balance and coordination?
✓ C. Cerebellum

Q119. The normal human body temperature in Celsius is
✓ C. 37°C

Q120. Which of the following is the largest gland in the human body?
✓ C. Liver

Q121. The process of fertilization in humans normally occurs in the
✓ D. Fallopian tube

Q122. Which of the following hormones is responsible for 'fight or flight' response?
✓ C. Adrenaline

Q123. The number of pairs of cranial nerves in humans is
✓ B. 12

Q124. Which of the following is NOT found in plant cells?
✓ C. Centriole

Q125. The opening and closing of stomata is controlled by
✓ B. Guard cells

Q126. Which of the following is an example of asexual reproduction in plants?
✓ C. Vegetative propagation

Q127. Transpiration occurs mainly through
✓ C. Stomata

Q128. Which tissue is responsible for transport of water in plants?
✓ B. Xylem

Q129. The male reproductive organ in flowering plants is called
✓ B. Stamen

Q130. Which of the following is NOT a part of the pistil?
✓ D. Filament

Q131. The theory of natural selection was proposed by
✓ C. Darwin

Q132. Fossils are evidences of
✓ B. Evolution

Q133. Analogous organs show
✓ B. Convergent evolution

Q134. Which of the following is NOT an evidence of evolution?
✓ D. Mendel's laws

Q135. What is the name of the following compound?
✓ A. 1-Ethyl-3, 4-dimethylcycloheptane

Q136. Which of the following compounds possesses at least one bond?
✓ A. CH 4

Q137. Which of the following carboxylic acids will be the most acidic?
✓ A. CH CHCICH COOH 3 2

Q138. Which of the following cannot be used to convert butanoic acid to butanoyl chlodie?
✓ A. PCI 3

Q139. Which of the following reagents will reduce butannic acid to butanol?
✓ A. LiAIH 4

Q140. The kingdom that includes mushrooms and moulds is
✓ C. Fungi

Q141. Which of the following has the highest electrical conductivity?
✓ A. Aqueous sugar solution

Q142. Part of a polymer molecule has thef ollowing structure. -CH – CH – CH - CH - CH 2 2 2 2 2 2
✓ A. C H 2 4

Q143. The common features, among the species CN, CO and No are
✓ A. Both order three and isoelectronic

Q144. Which of the following is the electronic configuration of K? 19
✓ A. $1s^2$, $2s^2$ 2p6, $3s^2$, 3p6, $4s^2$

Q145. At equilibrium, which of the following reactions is not affected by pressure?
✓ A. ( ) ( ) ( )

Q146. “the sum of all the exponents to which the molar concentration in terms in the rate equation are raised” defines”
✓ A. Rate of reaction

Q147. H and Cl do not react in the dark, but in the 2 2 presence of light a vigorous reaction is initiate due to the formation of:
✓ A. Hydrogen free radical

Q148. The rate of gaseous reaction is given by K [A] [B]. if the volume of the vessel containing these gases is reduced to 1/4th of initial volume, the rate of reaction relative to the original rate would be:
✓ A. 16/1

Q149. Solid NaCl is a bad conductor of electricity because:
✓ A. Solid NaCl is covalent

Q150. At 25°C, the equivalent conductance at infinite dilution of HCl solution is 425 oh1 cm2 equiv1 while it specific conductance is 3.825 ohm1 cm1. If the apparent degree of dissociation is 90%, the normality of the solution is
✓ A. 0.9 N

Q151. In an adiabatic process
✓ A. Pressure is maintained constant

Q152. Enthalpy of a compound is equal to its
✓ A. Heat of combustion

Q153. A mixture of ethyl and isopropyl iodides is heated with Na is dry ether. According to Wurtz reaction the product (s) obtained is / are.
✓ A. CH CH CH CH

Q154. A moles of ethanol react with 1 mole of PBr to 3 form 3 moles of bromoethane and 1 mole of X. which of the following is X?
✓ A. H PO 3 4

Q155. The conversion of phenol to benzene in the presence of zinc involves.
✓ A. Oxidation

Q156. Phenyl methyl ketone can be converted into ethyl benzene in one step by using:
✓ A. LiAIH 4

Q157. Which of the following will no undergo aldolcondensation?
✓ A. Acetaldehyde

Q158. Treatment of propionaldehyde with Dil. The NaOH solution gives: a. b.
✓ A. (( ) d.

Q159. Which of the following solids is an example of a substance with a macromolecular structure?
✓ A. Aluminium chloride

Q160. Which one of the following statements is true?
✓ A. All nitrates of Group II metals are decomposed by heat to give the oxide NO 2

Q161. Which property of the Group II elements (magnesium to barium) and their compounds increases with an increasing proton (atomic) number?
✓ A. The magnitude of the enthalpy change of hydration of the metal ion

Q162. The reduction of a nitrite produced as compound of formula C H NH . Which one of 3 7 2 the following compounds would be produced if the same nitrile was hydrolysed by heating with dilute hydrochloric acid? a. b.
✓ A. ( ) d. e.

Q163. Choose the correct sentence:
✓ C. She doesn't know the answer

Q164. The synonym of 'Gregarious' is
✓ B. Sociable

Q165. An axeotropic mixture of two liquids has a boiling point higher than either of them when it
✓ A. Shows positive deviation from Raoult’s law

Q166. The osmotic pressure of equimolar solution of BaCI , NaCI and sucrose will be in the order: 2
✓ A. Sucrose > naCI > BaCI 2

Q167. Impurities of lead in silver are removed by
✓ A. Parke’s process

Q168. Chromium dissolves in dilute H SO to form 2 4 [Cr(H O)]2. The colour of the ion is: 2 6
✓ A. Blue

Q169. Which of the following will react with water?
✓ **A. CHCl 3**

Q170. In the reaction of m-chlorotoluene with KNH in 2 liquid NH , the major product is 3
✓ **A. O-toludine**

Q171. Choose the correct passive voice of: 'The students completed the project.'
✓ **A. The project was completed by the students.**

Q172. The order of reactivities of the following alkyl halides for a reaction is
✓ **A. RF > RCI > RBr > RI**

Q173. Natural rains forms -------- in the presence of carbon dioxide in the air.
✓ **A. Smog**

Q174. The major source of unburnt hydrocarbons in the atmosphere is / are
✓ **A. Petroleum**

Q175. Among the most abundant biomolecules, -------- is the most abundant one of earth.
✓ **A. Proteins**

Q176. Genetic mutations occur in
✓ **A. RNA**

Q177. Enzyems that are functioning within the cell are called:
✓ **C. Holoenzymes**

Q178. Which of the following fertilizers has maximum percentage of nitrogen in solid state?
✓ **A. Ammonia**

Q179. To avoid the formation of toxic compounds with chlorine, which substance is used for disinfecting water? a.
✓ **A. Chloramines**

Q180. The antonym of 'ZENITH' is
✓ **C. Nadir**

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SECTION 1 — PHYSICS (Q.1–Q.40)

Q1 **Y chromosome in humans**

A Is completely inert
B Carries few genes
C Carries many genes
D Contains genes for hemophilia and colour blindness

Q2 **Wood is not formed in**

A Monocots
B Dicots
C Gymnosperms
D All of given

Q3 **Which type of chlorophyll is found in all types of algae?**

A Chlorophyll a
B Chlorophyll b
C Chlorophyll c
D Chlorophyll d

Q4 **Which of the following is not related with apoptosis?**

A Loss of tail of developing human embryos
B Loss of tissue between developing digits
C Controlling the number of neurons
D None of given

Q5 **Which of the following is not parasitic fungus of plants?**

A Rust
B Midews
C Armillaria
D None of given

Q6 **Which of the following is not component of extra-cellular matrix in bacteria?**

A Cell wall
B Slime
C Capsule
D Cell membrane

Q7 **Which of the following is not an infection of the lungs/ respiratory tract?**

A Histoplasmosis
B Tuberculosis
C Cystic fibrosis CE TEST – 2015 d: 180 Minutes Qs = 200
D None of given

Q8 **Which of the following is correct in humans?**

A Both sperm and egg contain Yolk
B All genetic information comes from sperm
C Sperm contains little cytoplasm
D Fertilization commonly occurs in uterus

Q9 **The corganism having wings with claws.**

A Eagle
B Kestrel
C Archaeopteryx
D Mallard

Q10 **The fungus provides chemotherapeutic agent that is used ito inhibit fungal growth?**

A Penicilliumnotatum
B Aspergillus
C Penicilliumgriseofulvum
D Calvcepspurpurea

Q11	**Which of the following feature is not related to vexillium in pea family?**
A Large	**B** Single
C Outermost	**D** Anterior
Q12	**Which of the following does not belong to same linkage group?**
A Sickle cell anemia	**B** Albinism
C Leukemia	**D** Gout
Q13	**Which of the following correctly explains the structure of myoglobin**
A 4 polypeptide chain + 4 haeme portions	**B** 4 polypeptide chain + 1 haeme portions
C 1 polypeptide chain + 4 haeme portions	**D** 1 polypeptide chain + 1 haeme portions a.
Q14	**The leg of cockroach which acts as 'prop' during walking?**
A Anterior leg	**B** Posterior leg
C Middle leg	**D** All given
Q15	**Which component enters into mitochondria after glycol sis?**
A Pyruvate	**B** Acetate
C Oxaloacetate	**D** Acetyl-CoA
Q16	**What will be the approximate length of DNA strand having 500 nucleotides?**
A 100 nm	**B** 130 nm
C 170 nm	**D** 150 nm
Q17	**Viral disease that is widely spread and caused by envolped RNA virus is**
A AIDS	**B** Hepatitis
C Measles	**D** Influenza
Q18	**Vaccination can be done against**
A Bacterial diseases only	**B** Viral disease only
C Both viral and bacterial	**D** All type of disease causing organisms
Q19	**Useful bacteria at large intestine of humans produce**
A Vitamin K	**B** Vitamin E
C Vitamin D	**D** Vitamin C
Q20	**Undigested food in cockroach is stored in**
A Crop	**B** Rectum
C Gizzard	**D** Crop & rectum
Q21	**Type of selerenhyma cells found in seed coats are**
A Fibers	**B** Trachieds
C Sclerids	**D** Vessels
Q22	**Type of lichen which is leaf-like in appearance is**
A Lecanor	**B** Ramaliana
C Parmelia	**D** Bacida

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Q23 **Trichome of Nostoc is surrounded by**

A Pellicle **B** Capsule
C Mucilaginous sheath **D** None of given

Q24 **The ultimate source of all changes is**

A Mutation **B** Migration
C Genetic drift **D** Change in allelic frequency

Q25 **The lymph vessel empty in**

A Arteries **B** Viens
C Cappileies **D** None of given

Q26 **The helical structure of a protein is kept by formation of hyrogen bond between amino acid molecules which are**

A Adjacent to each other **B** In successive turns of spiral
C Between two different polypeptide chains **D** None of given

Q27 **Tail can be regenerated in**

A Larvae of amphibian **B** Lizard
C Both lizard and larvae of amphibian **D** None of given

Q28 **Symptoms of malaria occurs specifically due to formation of**

A Sporozoit **B** Merozoit
C Gametocyte **D** Oocyte

Q29 **Such inflorescence in which main axis is elongated and bears sessile flower is called**

A Raceme **B** Spike
C cyme **D** panicle

Q30 **semilunar valve are not present**

A at base of pulmonary trunk **B** at base of aorta
C in veins **D** coronary artery

Q31 **second major form of hepatitis is**

A hepatitis A **B** hepatitis B
C hepatitis C **D** hepatitis D 32 B scales are present in

Q32 **The pressure exerted by a gas is due to**

A Weight of molecules **B** Collision of molecules with container walls
C Attraction between molecules **D** Volume of molecules

Q33 **reduction division is**

A amitosis **B** mitosis
C meiosis 1 **D** meiosis II

Q34 reactive parts of an amino acid are

A alpha carbon & amino group
B amino group & carboxyl group
C carboxyl group & R group
D r group &alphacarbon;

Q35 ptyalin can convert startch into

A monosaccharide form
B oligosaccharide form
C polysaccharide form
D all given options

Q36 process of aging

A can be slowed down by adequate sleep
B can be slowe down by regular meal
C cannot be slowed down in any way
D both by adequate sleep and regular meal

Q37 planet protects itself from rapid chilling through:

A increasing unsaturated fatty acids
B increasing protein contents
C both increasing protein contents and unsaturated fatty acids
D none of given

Q38 plant on which teliospores attack produces …….. In its seeds.

A Teliospores
B Dikaryotic hyphae
C Monok4ryotic hyphae
D None of given

Q39 Pick the mismatched pair for birds.

A Air spaces – lighter body
B Pectoral muscles – strong pull of wings
C Urinary bladder, producing semisolid urine
D Keel – attachment of muscles

Q40 Pick the correct option about Drosophila?

A Male is larger with pointed abdomen
B Female has sex combs on front legs
C It has generation time of just eight weeks
D Salivary gland cells have giant chromosomes in their nuclei

SECTION 2 — CHEMISTRY (Q.41–Q.80)

Q41 Percentage of magnesium by mass of a human being is

A 0.005 %
B 0.25%
C 0.15%
D 0.35%

Q42 Pectoral fins are enlarged in

A Whale
B Shark
C Skates
D Plaice

Q43 Oxygen is transported by comibining with . …… In Hb.

A Nitrogen
B Iron
C Carbon
D Hydrogen

Q44 Only one ovary is functional at a time in

A Human
B Eagle
C Pigeon
D Pigeon and human

Q45	**Nitrogen fixing bacteria in root nodules fix nitrogen in soil air into**
A Ammino	B Nitrite
C Nitrate	D Aminoa acid
Q46	**Metabolically dormant body produced within the bacterial cell membrane is**
A Capsule	B Spore
C Cyst	D Cyst and spore
Q47	**Menstrual cycle can be dividided into**
A Single phase	B Two phase
C Three phase	D Four phase
Q48	**Maxmimum mammalian chacteris are present in these**
A Metatheria	B Prototheria
C Eutherian	D None of given
Q49	**Leptocardii is group of**
A Urochordata	B Cephalochordate
C Vertebrata	D Mollusca
Q50	**Leaves of ……. are used to cure cough and cold in horses**
A Glycyrrhizaglabra	B Cassia alata
C Bamboo	D Both bomboo and glycyrrhizaglabra
Q51	**J. Seiler in 1914 discovered which type of sex determination in months?**
A XO-XX	B XY-XX
C ZZ-ZW	D Noen of these
Q52	**It is the most critical phase of mitosis**
A Prophase	B Telophase
C Anaphase	D Metaphase
Q53	**In which of the following, mitotic division is involved**
A Oogonium to primary oocyte	B Primary oocyte to secondary oocyte
C Secondary oocyte to egg	D None of given
Q54	**In maxam-gilbert method, DNA threads are**
A Chemically synthesized	B Synthesized from mRNA
C Synthesized by using terminating nucleotides	D Chemically cut into pieces
Q55	**If allele frequency for a dominant allele is 0.4. what will be number of heterogeneous individuals if population is of 100 individuals with diploid traits.**
A 36	B 48
C 52	D 74
Q56	**How much carbon dioxide is transported through blood proteins?**
A 5%	B 20%
C 25%	D 70%
Q57	**Hiehst blood pressure is found in**
A Arteries	B Veins
C Capillaries	D None of given
Q58	**Green house gases are those that**
A Prevent entry of ultraviolet rays	B Prevent rain fall
C Prevent heat to escape	D All given options are correct

Q59 Grassland of argentina is

A Pararies
B Savanna
C Boreal
D Pampas

Q60 Genetic recombination in bacteria can occur thorugh

A Conjugation
B Transformation
C Transduction
D All given

Q61 Founder of cell biology is

A Schielden&schwann;
B Galileo
C Robert Hooke
D Robert Brown

Q62 Etioplasts found in plants are actually one of the type of

A Choloroplasts
B Chromoplasts
C Leucoplastas
D Noen of given

Q63 Drosophilia sperm cell contains

A 4 chromosomes
B 8 chromosomes
C 8 pair of chromosomes
D 3 chromosomes

Q64 DNA fingerprintingis basically done for

A DNA cloning
B DNA analysis
C DNA sequencing
D DNA slicing

Q65 Diameter of DNA double helix is

A 3.4 nm
B 0.3 nm
C 2 nm
D 0.2 nm

Q66 Diameter of an artery can be changed by

A Nervous stimulation
B Chemical stimulation
C Both chemical and Nervous stimulation
D None of given

Q67 Dermal, denticle scales of fishes are called

A Placoid scales
B Ganoid scales
C Ctenoid scales
D Cycloid scales

Q68 Dark purple or black spore case of clavicepspurpurea is

A Smut
B Rust
C Ergot
D Aspergin

Q69 Continuous variation in a population were first obnserved by

A Mendel
B Correns
C Nilsson
D Darwin

Q70 Condensation of chromosomes reaches to maximum during

A Zygote
B Pachytene
C Diplotene
D Diakinesis

Q71 Cloning is production of genetically identical copies of organisms/cells by

A Sexual reproduction
B Asexual reproduction
C Both sexual and asexual
D None of given

Q72 Carotenoids are related to

A Vitamin A
B Vitamin B
C Vitamin C
D Vitamin D

Q73 Bryophytes and ferns both require water for fertilization but ferns are not placed in bryophyte because they have

A Giliated spermatozoa instead of flagellated spermatozoa
B Sporophyte as main generation instead of gametophyte generation
C Vascular tissue
D None of given

Q74 Blood group of a person having and hh genotypes

A Have AB phenotype
B Only be Rh-ive
C Do not have antigens attached on RBCs
D None of given

Q75 Annually …….% of fruit is lost due to fungi

A 15-20%
B 35-70%
C 25-35%
D 15-50%

Q76 Amylase is not produced by following type of salivary land:

A Parotid
B Submandibular
C Sublingual
D None of given

Q77 Amng invertebrates, which posseses the greatest power of regeneration

A Sponges
B Platyhelminthes
C Annelids
D Echinoderms

Q78 All of the photosynthetic bacteria use except

A Purple sulphure bacteria
B Green sulphure bacteria
C Purple non-sulphur bacteria
D None of given

Q79 75% osmotic pressure of blood is maintained by

A Globulin prothrombin
B Fibrinogen
C Albumin

Q80 1 NADH in respiratory chain produces

A 1 ATP
B 2 ATP
C 3 ATP
D 4 ATP

SECTION 3 — ENGLISH (Q.81–Q.100)

Q81 A 500g tooth paste sample has 0.2 g fluoride concentration. What is the concentration of fluoride in terms of ppm level?

A 2509
B 200
C 100
D 1000

Q82 Acetone and chlroform are soluble into each other due to

A Hydrogen bonding
B Dipole-dipole interation
C London forces
D Both a and b

Q83 An element M forms a hydride which contains 90% of M by mass. What is the relative atomic mass of M?

A 27 B 30
C 87 D 90

Q84 An ionic compound is most likely to be formed whn

A Ionization energy of A is high but electron affinity of B is low
B The ionization energy of A islow but electron affinity of B is high
C Both ionization energy of A and electron affinity of B are high
D Both ionization energy of A and electron affinity of B are low

Q85 Basieity of H3PO4 is

A 1 B 2
C 3 D 4

Q86 Boiling of dilute HCL acids does not increase in concentration beyond 22 percent because HCl acid

A Is very volatile B Highly soluble in water
C Forms boiling mixture D Forms saturated at this concentration

Q87 Both ionic and covalent bonds are present in a. b. c.

A NaOH

Q88 Half-life period of the first order reaction depends upon

A Initial concentraton B Temperature
C Catalyst D All of above

Q89 Hydrocarbons which burn with smoky flame are called

A Aliphatic B Aromatic
C Alicyclic D None of these

Q90 If the compressibility factor for one mole of an ideal gas is 1, then what will be the

A Same B Different
C Zero D None of the above

Q91 In beta elimination reaction, nucleophile attacks on

A Alpha hydrogen B Beta hydrogen
C Hydrogen D Alpha carbon

Q92 In which of the following cases, the benzene rings are isolated?

A Phenantherene B Triphenylmethane
C Naphthalene D Anthracene

Q93 Ninhydrin reacts with amino acid to form product which has colour

A Blue B Biolet
C Bluish violet D Red

Q94 Sod-benzoate on reacting with soda lime forms

A Benzoic acid B Benzene
C Toluene D Benzaladehyde

Q95 Starch is a polymer of

A Fructose
B D-D glucose
C B-D glucose
D Sucrose

Q96 The conversion of ammonia to nitrates in soil is called

A Nitrogen fixation
B Denitrification
C Nitrification
D Ammonification

Q97 The decreasing order of second ionization energy of K,Ca,Ba is

A K>Ca>Ba
B Ca>Ba>K
C Ba>K>Ca
D K>Ba>Ca

Q98 The essential condition for optically activity of an organic-compound is

A Dextrorotatory
B Levorotatory
C Presence a-symmetric carbon
D Molecular dy-symmetry

Q99 Which of the following is an example of covalent network solid?

A NaCl
B Iron
C Diamond
D Ice

Q100 The maximum number of electrons with n:3 and L:2 is

A 10
B 6
C 18
D 0

SECTION 4 — BIOLOGY (Q.101–Q.200)

Q101 Fehling's test is used to detect the presence of

A Ketones
B Aldehydes
C Carboxylic acids
D Alcohols

Q102 The number of sigma and pi bonds in I- butene-3-yne?

A 5 sigma and 5 pi
B 7 sigma and 3 pi
C 8 sigma and 2 pi
D 6 sigma and 4 pi

Q103 The overall positive reaction potential value predicts that process is

A Not feasible
B Feasible
C Impossible
D No indication

Q104 The radiation from a naturally occurring radioactive substance, as seen after deflection by a magnetic field in one direction, are:

A Definitely a-rays
B Definitely B-rays
C Both alpha and beta rays
D Fither alpha or beta rays

Q105 The rate of reaction in general can be increased by all the following factors except

A By increasing temperature
B Using a suitable catalyst
C By an increase in activation energy
D By increasing conc. Of reactants

Q106 The sweetest of All sugars is

A Glucose
B Maltose
C Sucrose
D Fructose

Q107 The vapour pressure of water at room teprature is 23.8 mm Hg. The vapour pressure of an aqueous solution of sucrose with mole fraction 0.2 is equal to

A 19.04 mm Hg
B 24.2 mm of Hg
C 21.42 mm of Hg
D 21.4 mm of Hg

Q108 The number of moles of N02 which contains 16 g of oxygen?

A 0.25
B 0.50
C 1.0
D 1.50

Q109 Tincture of iodine is

A In alcohol CHI 3
B In alcohol I 2
C In KI I 2
D In KI CH I 3

Q110 Transition elements usually show

A Para magnetism
B Diamagnetism
C Ferromagnetism
D Both ferromagnetism and para magnetism

Q111 What is the mass of same no of potassium as are present in 11.5 grams of sodium?

A 19g
B 19.5g
C 39g
D 78g

Q112 What is the molarity of 25% NaOH solution

A 5.0
B 6.25
C 3.125
D 2.5

Q113 When ethylene ozonide is treated with Zn- dust we get:

A Ethanol
B Methanol
C Methanol
D Ethanol

Q114 When fused PbBr2 is electrolyzed

A Bromine appears at the cathode
B Lead is deposited at the cathode
C Lead appears at the anode
D None of given

Q115 Which compound shows maximum hydrogen bonding with water? a. b. c.

A N-hexagonal

Q116 Which of the following is NOT a characteristic of enzymes?

A They are biological catalysts
B They are consumed in the reaction
C They are specific in action
D They lower activation energy

Q117 Which of the following contains the co- ordinate covalent bond?

A BaCl 2
B NH+
C BF+ 3
D Both b and C

Q118 Which of the following do not have variable valency ?

A Cobalt
B Iron
C Manganese
D Zinc

Q119 The process of breakdown of large molecules into smaller ones is called

A Anabolism
B Catabolism
C Metabolism
D Assimilation

Q120 Which of the following gas is not present in coke?

A Carbon dioxide
B Carbon monoxide
C Oxygen
D Hydrogen

Q121 Which of the following has maximum hydration power?

A Na+
B K+
C Mg+
D Ca+2

Q122 Which of the following has the maximum no of unpaired electrons?

A Mg-2
B V3-
C Ti3+
D Fe2+

Q123 Which of the following is having inert gas configuration

A Pb+4
B As+3
C Zn+2
D Ti+4

Q124 Which of the following is not locating agent a. b.

A Rubenaic acid
B Ninhydrin

Q125 Which of the following is the reducting agent a. b.

A C3H7OH
B (CH) CO 3 2

Q126 Which of the following transition metals in it's ground state having unpaired electron in an s-0rbital?

A Cr
B CO
C Fe
D Cu

Q127 Which one is not relted with evaporation?

A Continuous
B Endothermic
C Exothermic
D Spontaneous

Q128 The property of liquid that is measured by polarimeter?

A Conductance
B Refractive index
C Optical activity
D Change in volume

Q129 NaNO , on heating gives 3

A O 2
B NO 2
C O + NO 2 2
D NaNO 2

Q130 How many ballons of capacity 0.25 dm3 at atm can be filled from hydrogen.

A 50
B 90
C 180
D 200

Q131 The bonds present in N2O5 are

A Only ionic
B Covalent and coordinate
C Only covalent
D Covalent and ionic

Q132 A crystal system having all sides (a, b, and c) unequal and angles a=B=y=90 is

A Cubic
B Rhombohedral
C Orthorhombic
D Hexagonal

Q133 SN can be best carried out with 2

A Primary alkyl halide
B Secondary alkyl halide
C Tertiary alkyl halide
D All of the above

Q134 15g of urea is dissolved in 180cm³ of water. The relative lowering of vapour pressure

A 0.024
B 25.024
C 2.5
D 10.25

Q135 The KSP of AgCl is 2.0 x 1010 mol2.dm-6. The maximum concentration of Ag+ ions:

A 2.0 x 10-10 mol.dm-6
B 1.41 x 10-5 mol.dm-3
C 1.0 x 10-5 mol.dm-3
D 4.0 x 10-20 mol.dm-3

Q136 Which of the following blood vessels carries deoxygenated blood?

A Pulmonary vein
B Aorta
C Pulmonary artery
D Hepatic vein

Q137 The shape of SnCl is 2

A Linear
B Teterahedral
C Angular
D Trigonal planar

Q138 IUPAC name for [Pt Cl Br(NO)(NH)]Cl is 2 3 3

A Triamminechlorobromonitoro platinum (iv) chloride
B Triamminechlorobromonitoroplati mate (iv) chloride
C Triamminechlorobromonitroplatim um (iv) chloride
D Triamminechlorobromonitroplatim um (iv) chloride

Q139 Rate = K|A|2|B| for the reaction 2A + 3B + C product where A and B are present in

A 1st
B 2nd
C 3rd
D 4th

Q140 P O is hygroscopic powder which sublimes 2 5 at

A 260 degree Celsius
B 360degree Celsius
C 630degree Celsius
D 690degree Celsius

Q141 A body of mass of 2 kg absorbed 10j of radioactive radiations then absorbed does of radiation in rad is

A 5
B 5 x 10-2
C 500
D 20

Q142 A disc, a hoop and a sphere of same mass and radius are rolled down from a frictionless …….. inclined plane. Which has greater speed of reaching the ground?

A Disc
B Loop
C Sphere
D All have same speed

Q143 A logic gate has four inputs, its possible input combination will be:

A 4
B 16
C 32
D 64

Q144 A maintenance crew is working on a section of a three-lane highway only lane open to traffic. The result is much slower of traffic flow. Do cars on a highway behave like:

A The molecules of an incompressible fluid
B The molecules of a compressed fluid
C Both (A) and (B)
D Noen of the above

Q145 A square coil of side 16 cm has 200 turns and rotates in a uniform magnetic field on magnitude 0.05 T. if the peak emf is 12 V, what is the angular velocity of the coil?

A 43 rad s-1
B 49 rad s-1
C 47 rad s-1
D 45 rad s-1

Q146 According to Einstein bodies and light rays follow

A rectilinear path
B Circular path
C Geodesics
D Parabolic

Q147 An A.C emf of V=200 sin (10^t) volt is concerned to a choke of negligible resistance. In order to produce current of amplitude 1 A, the inductance of choke should be:

A 200 H
B 2 H c. d.

Q148 Aero plane is flying in a straight line at a constant altitude. If a wing gust strikes and raises the nose of the airplane, the nose will bob up and down until the plane eventually return's to it'sorginal position altitude. Are these oscillation's are

A Undamped
B Underdamped
C Critically damped
D Overdamped

Q149 An electron describes a circular orbits of radius 2 cm in a uniform magnetic field. If speed of electron is doubled then radius of the orbit will

A 0.5 cm
B 1 cm
C 2 cm
D 4 cm

Q150 An electron is moving along the axis of a solenoid carrying a current which of the following is a correct statement about the electromagnetic force acting on the electron?

A The force ats perpendicular to its motion
B The force acts anti-parallel to its motion
C The force acts in the direction of motion
D No force acts

Q151 As temrpatre of the black body is raised the black body radiations become richer in

A Intermediate wavelengths
B Longer wavelengths
C Shorter wavelength s
D Low frequencies

Q152 At which of the following places, motion of simple pendulum becomes slowest

A Murree **B** Karachi
C K-2 **D** Peshawar

Q153 Equation of SHM, with amplitude 'a' is given by

A X = a(sin2wt + cos2wt) **B** X=a(sin w t cos2wt)
C X = a sin w t **D** X = a2 sin (sin w t)

Q154 How much more thumb pressure must a nurse use to administer an injection with a hypodermic needle of inside diameter 0.30 mm compared to one with inside diameter 0.60 mm? assume that the two needles have the same length and that the volume flow rate is the same in both cases.

A Twice as much **B** 4 times as much
C 8 times as much **D** 16 times as much

Q155 If the length of a second's pendulum is L, then the length of pendulum having a period 1 sec will be

A L/2 **B** 2L
C 4L **D** L/4

Q156 In RLC series circuit at resonance the voltage R, L and C are 10 V, 30 V and 30 V respectively then applied voltage will be:

A 30V **B** 10V
C 40V **D** 20V

Q157 The plant hormone responsible for cell elongation is

A Gibberellin **B** Cytokinin
C Auxin **D** Abscisic acid

Q158 A glider moves on a horizontally surface back and fourth

A V - > u and a > u A x **B** V = 0 and a < 0 x x
C V < u and a < u x x **D** V = u and a < u x v

Q159 The first excitation energy of H atom will be

A 10.2 eV **B** 3.4 eV
C -136 eV **D** 13.6 eV

Q160 The number of LED segments used in a calculator display:

A 8 **B** 10
C 7 **D** None

Q161 The ratio of angular speed of moon around the Earth to its angular speed about its own axis is

A 2:1 **B** 1:6
C 1:30 **D** 1:1

Q162	**The six strings of a guitar are the same length under nearly the same tension, but they have diference thickness. On which string do waves travel the fastest?**
A The thickest string	**B** The thinnest string
C The wave speed is the same on all the strings	**D** None of the above
Q163	**To double the total energy for a mass spring system oscillating in SHM, by what factor must the amplitude increase?**
A 4	**B** 2
C √ = 1.414	**D** √ = 1.189 a.
Q164	**Two points charges of +5 and -12 C attract each other with a force of 1.48 N. charge of - 5C is added to each of these charges. Now the force will be**
A 1.48 N(attractive)	**B** 1.48 N (repulsive)
C 2.96 (repulsive)	**D** Zero
Q165	**Two spheres of the same size, one of mass 5 kg and other of mass 50 g are dropped simulataneouly from a tower. When they are about to touch the ground, they have the same**
A Kinetic energy	**B** Potential energy
C Momentum	**D** Acceleration
Q166	**When an observer move with velocity of light relative to a timing device at rest, he would notice**
A Absolute time	**B** Improper time
C Infinite time	**D** Proper time
Q167	**When brakes of a car are applied, angular velocity of a flywheel reduces from 900 cycle/min to 720 cycle/min . in 6 sec. angular retardation is**
A rad/s2	**B** rad/s2
C rad/s2	**D** rad/s2
Q168	**when the output power equals to one-half of the input power, efficiency of the transformer becomes.**
A 0%	**B** 100%
C 50%	**D** 200%
Q169	**Which of the following is a correct synonym for 'Ambiguous'?**
A Clear	**B** Unclear
C Simple	**D** Direct
Q170	**Choose the correctly spelled word:**
A Accomodate	**B** Accommodate
C Acommodate	**D** Accomoodate
Q171	**Which ofne of proper use of preposition?**
A “if I am laying, the course of Allah be on me and may I be drowned in some period. May I even be deprived from a decent burial!”	**B** “if I am lyaing, the course of Allah be on me and may I be drowned in some period. May I even be deprive at a decent burial!”
C “if I may laying, the course of Allah be on me and may I be drowned in some period. May I even be deprived off a decent burial!”	**D** “if I am lying, the course of Allah be on me and may I be drowned in some period. May I even be deprived of a decent burial!”
Q172	**Voracious means ……..**
A Excitable	**B** Honest
C Greedy	**D** Circular
Q173	**The secretary _____ agreed to _____ the present’s decision, knowing that the information was less than factual and against her basic beliefs regarding deceptive sacle practices.**
A Willingly … support	**B** Maliciously … sway
C Secretively …. Acknowledge	**D** Furtively … foster

Q174 The parade route was down the main boulevard

A Alley
B Highway
C Avenue
D Driveway

Q175 The chess master promised to _____ havoc upon his opponent's pawn for taking his bishop

A Endow
B Placate
C Ensue
D Warrant

Q176 The boy was incorrigible and a constant source of trouble to his mother

A Truant
B Bad beyond correction
C Rash
D Dishonest

Q177 Shakespeare, a (an) _____ writer, entertained audiences by writing many tragic and comic plays.

A Numeric
B Obstinate
C Dtiful
D Prolific

Q178 Read the passage and aswer the question: Poetry begins in trivial metaphors, petty metaphors. |grace" metaphors, and goes on to the profoundest thinking that we have. Poetry provides the one permissible way of saying one thing and meaning another. People sy, "why don't you say what you mean?" we never do that, do we, being all of us to much poets. We like to talk in parables and in hints and in indirections whether from diffidence or some other instinct. What selection best describes the word "diffidence" as used in the passage?

A Shyness
B Consternation
C Bewilderment
D Reservations

Q179 Point out the correct one

A A pair of shoes for his first born, mehrunnisa, had cost him one rupee
B A pair of shoes for his first born, mehrunnisa, had costed him one rupee.
C A pair of shoes of his first born, mehrunnisa, had costed him one rupee
D A pair of shoe for his first born, mehrunnisa, had cost him one rupee. 180 C Mongoose: mammal : granite: _____

Q180 The antonym of 'Melancholy' is

A Sad
B Depressed
C Cheerful
D Anxious

Q181 Mitigate means

A Aggravate
B Attenuate
C Contemplate
D Virulent

Q182 Identify correct one

A Now observe it's effect on a human being
B Now observe its effect on a human being
C Now observe its affect on a human being
D Now observe it effect on a human being

Q183 His credulous nature often landed him in touble

A Dreamy
B Naught
C Innocent
D Willing to believe easily

Q184 Her _____ demeanor was understandable given the loss of her brother; indeed, most of us were rather_____ .

A Lachrymose.. . dolorous
B Reprehensible. . . enigmatic
C Subtle... raucous
D Determined. . . committed

Q185 Given Below ¡s a Paragraph. Read it and Answer the Question:!fretted the other night at the hotel at the stranger who broke into my chamber after midnight. claiming to share it. But after his lamp had smoked the chamber full and I had turned round to the wall in despair, the man blew out his lamp, knelt down at his bedside, and made in low whisper a long earnest prayer. Then was the relation entirely changed between us. I fretted no more, but respected and liked him. The probable UOSC of the author using the phrase, “lamp had smoked the chamber full’ is to

A Establish a period of time
B Show a low grade fuel was used
C Establish the faultiness of the lamp
D indicate the lamp was turned up too high

Q186 Football players, generally known for their elevated testosterone levels, would see crying as unmanly rather than a humanistic trait by either sex.

A inherently. .. experienced
B inexpicably. . . enjoyed
C Intentionally... fostered
D Plausibly. .. envisioned (E)Sickeningly. . . thwarted

Q187 DISSENSION has the same meaning as

A Discord
B Analysis
C Swelling
D Jinjury

Q188 Choose the correct one

A She reminded me the nice days of my childhood
B She reminded me of the nice days of my childhood
C She reminded me for the nice days of my childhood
D She reminded me on the nice days of my childhood

Q189 Chose the best mach according to given relation DWELL : DENIZEN

A Shun : outcast
B Inherit : heir
C Squander : miser
D Obey : autocart

Q190 Ballet was_____ delighting the children with its imaginative characters and unpredictable sets.

A Prosaic
B Archaic
C Soporific
D Whimsical

Q191 Which word does not belong to the group in each of the following questions?

A chest
B Ear
C Lip
D Nose 192 A What is the missing number of the triangle on the right?

Q192 Identify the error: 'He is one of the student who works hard.'

A He is one
B of the student
C who works
D hard

Q193 Suppose in a certain language MADRAS is coded as NBESBT. Then BOMBAY is coded in that language as:

A CPNCPZ
B CPNCBX
C CPOCBZ
D CQOCBZ

Q194 Odd one Out:

A Eagle
B Cloud
C Squirrel
D Plane

Q195 Let UDOMETER is coded as DUMOTERE then how will SUBLEASE be coded?

A USBAELES
B USLBESAE
C USLBAEES
D USLBEAES

Q196 If EXPLAINING is written as PXEALNIGNI. Then PRODUCED is written in that code as

A ORPBUDEC
B ROPUDECD
C ORPUDECD
D None of give

Q197 Idenfity which do not posses the same kind of meaning as the others:

- **A** Honesty and integrity
- **B** Bondage and freedon
- **C** Risk and danger
- **D** Pain and agony

Q198 Find the missing number in the box gixn below 7 10 16 1 22 40 3 58 ?

- **A** 122
- **B** 112
- **C** 69
- **D** 98

Q199 A man walks 3 km northwards and then turns left and goes 2 km. He again turns left and goes on 3 km. He turns right and walks straight. In which direction lie is walking?

- **A** EAST
- **B** WEST
- **C** NORTH
- **D** SOUTH

Q200 Which of the following is a correct definition of ecology?

- **A** Study of cells
- **B** Study of organisms and their environment
- **C** Study of evolution
- **D** Study of classification

QUICK ANSWER GRID — Check all answers at a glance

PHYSICS

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
C	A	A	D	D	D	D	A	C	C
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
D	D	D	C	D	C	D	C	A	B
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
C	C	C	A	B	B	C	C	A	C
Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
B	B	C	B	B	D	A	A	C	A

CHEMISTRY

Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50
A	C	A	C	D	B	D	C	B	C
Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60
C	C	A	D	A	A	D	A	D	A
Q61	Q62	Q63	Q64	Q65	Q66	Q67	Q68	Q69	Q70
C	A	B	B	C	D	A	A	D	D
Q71	Q72	Q73	Q74	Q75	Q76	Q77	Q78	Q79	Q80
B	A	C	C	D	C	A	D	C	C

ENGLISH

Q81	Q82	Q83	Q84	Q85	Q86	Q87	Q88	Q89	Q90
B	A	A	D	C	C	A	B	B	A
Q91	Q92	Q93	Q94	Q95	Q96	Q97	Q98	Q99	Q100
B	D	C	B	A	C	A	C	C	A

BIOLOGY

Q101	Q102	Q103	Q104	Q105	Q106	Q107	Q108	Q109	Q110
B	A	B	A	A	D	A	B	B	D
Q111	Q112	Q113	Q114	Q115	Q116	Q117	Q118	Q119	Q120
B	B	C	B	A	B	D	D	B	C
Q121	Q122	Q123	Q124	Q125	Q126	Q127	Q128	Q129	Q130
C	D	A	B	B	A	C	C	D	D
Q131	Q132	Q133	Q134	Q135	Q136	Q137	Q138	Q139	Q140
C	C	A	A	B	C	C	D	A	B
Q141	Q142	Q143	Q144	Q145	Q146	Q147	Q148	Q149	Q150
C	C	B	A	C	C	B	B	A	A
Q151	Q152	Q153	Q154	Q155	Q156	Q157	Q158	Q159	Q160
C	C	C	D	D	B	C	B	A	C
Q161	Q162	Q163	Q164	Q165	Q166	Q167	Q168	Q169	Q170
D	A	C	D	D	C	A	C	B	B
Q171	Q172	Q173	Q174	Q175	Q176	Q177	Q178	Q179	Q180
A	C	E	C	E	B	D	D	A	C
Q181	Q182	Q183	Q184	Q185	Q186	Q187	Q188	Q189	Q190
B	D	D	A	A	A	A	B	B	A
Q191	Q192	Q193	Q194	Q195	Q196	Q197	Q198	Q199	Q200
A	B	A	C	A	A	B	B	A	B

COMPLETE ANSWER KEY WITH DETAILED EXPLANATIONS

SECTION — PHYSICS

Q1. Y chromosome in humans
✓ C. Carries many genes

Q2. Wood is not formed in
✓ A. Monocots

Q3. Which type of chlorophyll is found in all types of algae?
✓ A. Chlorophyll a

Q4. Which of the following is not related with apoptosis?
✓ D. None of given

Q5. Which of the following is not parasitic fungus of plants?
✓ D. None of given

Q6. Which of the following is not component of extra-cellular matrix in bacteria?
✓ D. Cell membrane

Q7. Which of the following is not an infection of the lungs/ respiratory tract?
✓ D. None of given

Q8. Which of the following is correct in humans?
✓ A. Both sperm and egg contain Yolk

Q9. The corganism having wings with claws.
✓ C. Archaeopteryx

Q10. The fungus provides chemotherapeutic agent that is used ito inhibit fungal growth?
✓ C. Penicilliumgriseofulvum

Q11. Which of the following feature is not related to vexillium in pea family?
✓ D. Anterior

Q12. Which of the following does not belong to same linkage group?
✓ D. Gout

Q13. Which of the following correctly explains the structure of myoglobin
✓ D. 1 polypeptide chain + 1 haeme portions a.

Q14. The leg of cockroach which acts as 'prop' during walking?
✓ C. Middle leg

Q15. Which component enters into mitochondria after glycol sis?
✓ D. Acetyl-CoA

Q16. What will be the approximate length of DNA strand having 500 nucleotides?
✓ C. 170 nm

Q17. Viral disease that is widely spread and caused by envolped RNA virus is
✓ D. Influenza

Q18. Vaccination can be done against
✓ C. Both viral and bacterial

Q19. Useful bacteria at large intestine of humans produce
✓ A. Vitamin K

Q20. Undigested food in cockroach is stored in
✓ B. Rectum

Q21. Type of selerenhyma cells found in seed coats are
✓ C. Sclerids

Q22. Type of lichen which is leaf-like in appearance is
✓ C. Parmelia

Q23. Trichome of Nostoc is surrounded by
✓ C. Mucilaginous sheath

Q24. The ultimate source of all changes is
✓ A. Mutation

Q25. The lymph vessel empty in
✓ B. Viens

Q26. The helical structure of a protein is kept by formation of hyrogen bond between amino acid molecules which are
✓ B. In successive turns of spiral

Q27. Tail can be regenerated in
✓ C. Both lizard and larvae of amphibian

Q28. Symptoms of malaria occurs specifically due to formation of
✓ C. Gametocyte

Q29. Such inflorescence in which main axis is elongated and bears sessile flower is called
✓ A. Raceme

Q30. semilunar valve are not present
✓ C. in veins

Q31. second major form of hepatitis is
✓ B. hepatitis B

Q32. The pressure exerted by a gas is due to
✓ B. Collision of molecules with container walls

Q33. reduction division is
✓ C. meiosis 1

Q34. reactive parts of an amino acid are
✓ B. amino group & carboxyl group

Q35. ptyalin can convert startch into
✓ B. oligosaccharide form

Q36. process of aging
✓ D. both by adequate sleep and regular meal

Q37. planet protects itself from rapid chilling through:
✓ A. increasing unsaturated fatty acids

Q38. plant on which teliospores attack produces …….. In its seeds.
✓ A. Teliospores

Q39. Pick the mismatched pair for birds.
✓ C. Urinary bladder, producing semisolid urine

Q40. Pick the correct option about Drosophila?
✓ A. Male is larger with pointed abdomen

SECTION — CHEMISTRY

Q41. Percentage of magnesium by mass of a human being is
✓ A. 0.005 %

Q42. Pectoral fins are enlarged in
✓ C. Skates

Q43. Oxygen is transported by comibining with . …….. In Hb.
✓ A. Nitrogen

Q44. Only one ovary is functional at a time in
✓ C. Pigeon

Q45. Nitrogen fixing bacteria in root nodules fix nitrogen in soil air into
✓ D. Aminoa acid

Q46. Metabolically dormant body produced within the bacterial cell membrane is
✓ B. Spore

Q47. Menstrual cycle can be dividided into
✓ D. Four phase

Q48. Maxmimum mammalian chacteris are present in these
✓ C. Eutherian

Q49. Leptocardii is group of
✓ B. Cephalochordate

Q50. Leaves of ……. are used to cure cough and cold in horses
✓ C. Bamboo

Q51. J. Seiler in 1914 discovered which type of sex determination in months?
✓ C. ZZ-ZW

Q52. It is the most critical phase of mitosis
✓ C. Anaphase

Q53. In which of the following, mitotic division is involved
✓ A. Oogonium to primary oocyte

Q54. In maxam-gilbert method, DNA threads are
✓ D. Chemically cut into pieces

Q55. If allele frequency for a dominant allele is 0.4. what will be number of heterogeneous individuals if population is of 100 individuals with diploid traits.
✓ A. 36

Q56. How much carbon dioxide is transported through blood proteins?
✓ A. 5%

Q57. Hiehst blood pressure is found in
✓ D. None of given

Q58. Green house gases are those that
✓ A. Prevent entry of ultraviolet rays

Q59. Grassland of argentina is
✓ D. Pampas

Q60. Genetic recombination in bacteria can occur thorugh
✓ A. Conjugation

Q61. Founder of cell biology is
✓ C. Robert Hooke

Q62. Etioplasts found in plants are actually one of the type of
✓ A. Choloroplasts

Q63. Drosophilia sperm cell contains
✓ B. 8 chromosomes

Q64. DNA fingerprintingis basically done for
✓ B. DNA analysis

Q65. Diameter of DNA double helix is
✓ C. 2 nm

Q66. Diameter of an artery can be changed by
✓ D. None of given

Q67. Dermal, denticle scales of fishes are called
✓ A. Placoid scales

Q68. Dark purple or black spore case of clavicepspurpurea is
✓ A. Smut

Q69. Continuous variation in a population were first obnserved by
✓ D. Darwin

Q70. Condensation of chromosomes reaches to maximum during
✓ D. Diakinesis

Q71. Cloning is production of genetically identical copies of organisms/cells by
✓ B. Asexual reproduction

Q72. Carotenoids are related to
✓ A. Vitamin A

Q73. Bryophytes and ferns both require water for fertilization but ferns are not placed in bryophyte because they have
✓ C. Vascular tissue

Q74. Blood group of a person having and hh genotypes
✓ C. Do not have antigens attached on RBCs

Q75. Annually ……% of fruit is lost due to fungi
✓ D. 15-50%

Q76. Amylase is not produced by following type of salivary land:
✓ C. Sublingual

Q77. Amng invertebrates, which posseses the greatest power of regeneration
✓ A. Sponges

Q78. All of the photosynthetic bacteria use except
✓ D. None of given

Q79. 75% osmotic pressure of blood is maintained by
✓ C. Albumin

Q80. 1 NADH in respiratory chain produces
✓ C. 3 ATP

SECTION — ENGLISH

Q81. A 500g tooth paste sample has 0.2 g fluoride concentration. What is the concentration of fluoride in terms of ppm level?
✓ B. 200

Q82. Acetone and chlroform are soluble into each other due to
✓ A. Hydrogen bonding

Q83. An element M forms a hydride which contains 90% of M by mass. What is the relative atomic mass of M?
✓ A. 27

Q84. An ionic compound is most likely to be formed whn
✓ D. Both ionization energy of A and electron affinity of B are low

Q85. Basieity of H3PO4 is
✓ C. 3

Q86. Boiling of dilute HCL acids does not increase in concentration beyond 22 percent because HCl acid
✓ C. Forms boiling mixture

Q87. Both ionic and covalent bonds are present in a. b. c.
✓ A. NaOH

Q88. Half-life period of the first order reaction depends upon
✓ B. Temperature

Q89. Hydrocarbons which burn with smoky flame are called
✓ B. Aromatic

Q90. If the compressibility factor for one mole of an ideal gas is 1, then what will be the
✓ A. Same

Q91. In beta elimination reaction, nucleophile attacks on
✓ B. Beta hydrogen

Q92. In which of the following cases, the benzene rings are isolated?
✓ D. Anthracene

Q93. Ninhydrin reacts with amino acid to form product which has colour
✓ C. Bluish violet

Q94. Sod-benzoate on reacting with soda lime forms
✓ B. Benzene

Q95. Starch is a polymer of
✓ A. Fructose

Q96. The conversion of ammonia to nitrates in soil is called
✓ C. Nitrification

Q97. The decreasing order of second ionization energy of K,Ca,Ba is
✓ A. K>Ca>Ba

Q98. The essential condition for optically activity of an organic-compound is
✓ C. Presence a-symmetric carbon

Q99. Which of the following is an example of covalent network solid?
✓ C. Diamond

Q100. The maximum number of electrons with n:3 and L:2 is
✓ A. 10

SECTION — BIOLOGY

Q101. Fehling's test is used to detect the presence of
✓ B. Aldehydes

Q102. The number of sigma and pi bonds in I- butene-3-yne?
✓ A. 5 sigma and 5 pi

Q103. The overall positive reaction potential value predicts that process is
✓ B. Feasible

Q104. The radiation from a naturally occurring radioactive substance, as seen after deflection by a magnetic field in one direction, are:
✓ A. Definitely a-rays

Q105. The rate of reaction in general can be increased by all the following factors except
✓ A. By increasing temperature

Q106. The sweetest of All sugars is
✓ D. Fructose

Q107. The vapour pressure of water at room teprature is 23.8 mm Hg. The vapour pressure of an aqueous solution of sucrose with mole fraction 0.2 is equal to
✓ A. 19.04 mm Hg

Q108. The number of moles of N02 which contains 16 g of oxygen?
✓ B. 0.50

Q109. Tincture of iodine is
✓ B. In alcohol I 2

Q110. Transition elements usually show
✓ D. Both ferromagnetism and para magnetism

Q111. What is the mass of same no of potassium as are present in 11.5 grams of sodium?
✓ B. 19.5g

Q112. What is the molarity of 25% NaOH solution
✓ B. 6.25

Q113. When ethylene ozonide is treated with Zn- dust we get:
✓ C. Methanol

Q114. When fused PbBr2 is electrolyzed
✓ B. Lead is deposited at the cathode

Q115. Which compound shows maximum hydrogen bonding with water? a. b. c.
✓ A. N-hexagonal

Q116. Which of the following is NOT a characteristic of enzymes?
✓ B. They are consumed in the reaction

Q117. Which of the following contains the co- ordinate covalent bond?
✓ D. Both b and C

Q118. Which of the following do not have variable valency ?
✓ D. Zinc

Q119. The process of breakdown of large molecules into smaller ones is called
✓ B. Catabolism

Q120. Which of the following gas is not present in coke?
✓ C. Oxygen

Q121. Which of the following has maximum hydration power?
✓ C. Mg+

Q122. Which of the following has the maximum no of unpaired electrons?
✓ D. Fe2+

Q123. Which of the following is having inert gas configuration
✓ A. Pb+4

Q124. Which of the following is not locating agent a. b.
✓ B. Ninhydrin

Q125. Which of the following is the reducting agent a. b.
✓ B. (CH) CO 3 2

Q126. Which of the following transition metals in it's ground state having unpaired electron in an s-0rbital?
✓ A. Cr

Q127. Which one is not relted with evaporation?
✓ C. Exothermic

Q128. The property of liquid that is measured by polarimeter?
✓ C. Optical activity

Q129. NaNO , on heating gives 3
✓ D. NaNO 2

Q130. How many ballons of capacity 0.25 dm3 at atm can be filled from hydrogen.
✓ D. 200

Q131. The bonds present in N2O5 are
✓ C. Only covalent

Q132. A crystal system having all sides (a, b, and c) unequal and angles a=B=y=90 is
✓ C. Orthorhombic

Q133. SN can be best carried out with 2
✓ A. Primary alkyl halide

Q134. 15g of urea is dissolved in 180cm³ of water. The relative lowering of vapour pressure
✓ A. 0.024

Q135. The KSP of AgCl is 2.0 x 1010 mol2.dm-6. The maximum concentration of Ag+ ions:
✓ B. 1.41 x 10-5 mol.dm-3

Q136. Which of the following blood vessels carries deoxygenated blood?
✓ C. Pulmonary artery

Q137. The shape of SnCl is 2
✓ C. Angular

Q138. IUPAC name for [Pt Cl Br(NO)(NH)]Cl is 2 3 3
✓ D. Triamminechlorobromonitroplatim um (iv) chloride

Q139. Rate = K|A|2|B| for the reaction 2A + 3B + C product where A and B are present in
✓ A. 1st

Q140. P O is hygroscopic powder which sublimes 2 5 at
✓ B. 360degree Celsius

Q141. A body of mass of 2 kg absorbed 10j of radioactive radiations then absorbed does of radiation in rad is
✓ C. 500

Q142. A disc, a hoop and a sphere of same mass and radius are rolled down from a frictionless …….. inclined plane. Which has greater speed of reaching the ground?
✓ C. Sphere

Q143. A logic gate has four inputs, its possible input combination will be:
✓ B. 16

Q144. A maintenance crew is working on a section of a three-lane highway only lane open to traffic. The result is much slower of traffic flow. Do cars on a highway behave like:
✓ A. The molecules of an incompressible fluid

Q145. A square coil of side 16 cm has 200 turns and rotates in a uniform magnetic field on magnitude 0.05 T. if the peak emf is 12 V, what is the angular velocity of the coil?
✓ C. 47 rad s-1

Q146. According to Einstein bodies and light rays follow
✓ C. Geodesics

Q147. An A.C emf of V=200 sin (10^t) volt is concerned to a choke of negligible resistance. In order to produce current of amplitude 1 A, the inductance of choke should be:
✓ B. 2 H c. d.

Q148. Aero plane is flying in a straight line at a constant altitude. If a wing gust strikes and raises the nose of the airplane, the nose will bob up and down until the plane eventually return's to it'sorginal position altitude. Are these oscillation's are
✓ B. Underdamped

Q149. An electron describes a circular orbits of radius 2 cm in a uniform magnetic field. If speed of electron is doubled then radius of the orbit will
✓ A. 0.5 cm

Q150. An electron is moving along the axis of a solenoid carrying a current which of the following is a correct statement about the electromagnetic force acting on the electron?
✓ A. The force ats perpendicular to its motion

Q151. As temrpatre of the black body is raised the black body radiations become richer in
✓ C. Shorter wavelength s

Q152. At which of the following places, motion of simple pendulum becomes slowest
✓ C. K-2

Q153. Equation of SHM, with amplitude 'a' is given by
✓ C. X = a sin w t

Q154. How much more thumb pressure must a nurse use to administer an injection with a hypodermic needle of inside diameter 0.30 mm compared to one with inside diameter 0.60 mm? assume that the two needles have the same length and that the volume flow rate is the same in both cases.
✓ D. 16 times as much

Q155. If the length of a second's pendulum is L, then the length of pendulum having a period 1 sec will be
✓ D. L/4

Q156. In RLC series circuit at resonance the voltage R, L and C are 10 V, 30 V and 30 V respectively then applied voltage will be:
✓ B. 10V

Q157. The plant hormone responsible for cell elongation is
✓ C. Auxin

Q158. A glider moves on a horizontally surface back and fourth
✓ B. V = 0 and a < 0 x x

Q159. The first excitation energy of H atom will be
✓ A. 10.2 eV

Q160. The number of LED segments used in a calculator display:
✓ C. 7

Q161. The ratio of angular speed of moon around the Earth to its angular speed about its own axis is
✓ D. 1:1

Q162. The six strings of a guitar are the same length under nearly the same tension, but they have diference thickness. On which string do waves travel the fastest?
✓ A. The thickest string

Q163. To double the total energy for a mass spring system oscillating in SHM, by what factor must the amplitude increase?
✓ C. √ = 1.414

Q164. Two points charges of +5 and -12 C attract each other with a force of 1.48 N. charge of - 5C is added to each of these charges. Now the force will be
✓ D. Zero

Q165. Two spheres of the same size, one of mass 5 kg and other of mass 50 g are dropped simulataneouly from a tower. When they are about to touch the ground, they have the same
✓ D. Acceleration

Q166. When an observer move with velocity of light relative to a timing device at rest, he would notice
✓ C. Infinite time

Q167. When brakes of a car are applied, angular velocity of a flywheel reduces from 900 cycle/min to 720 cycle/min . in 6 sec. angular retardation is
✓ A. rad/s2

Q168. when the output power equals to one-half of the input power, efficiency of the transformer becomes.
✓ C. 50%

Q169. Which of the following is a correct synonym for 'Ambiguous'?
✓ B. Unclear

Q170. Choose the correctly spelled word:
✓ B. Accommodate

Q171. Which ofne of proper use of preposition?
✓ A. “if I am laying, the course of Allah be on me and may I be drowned in some period. May I even be deprived from a decent burial!”

Q172. Voracious means ……..
✓ C. Greedy

Q173. The secretary _____ agreed to _____ the present’s decision, knowing that the information was less than factual and against her basic beliefs regarding deceptive sacle practices.
✓ E. —

Q174. The parade route was down the main boulevard
✓ C. Avenue

Q175. The chess master promised to _____ havoc upon his opponent’s pawn for taking his bishop
✓ E. —

Q176. The boy was incorrigible and a constant source of trouble to his mother
✓ B. Bad beyond correction

Q177. Shakespeare, a (an) _____ writer, entertained audiences by writing many tragic and comic plays.
✓ D. Prolific

Q178. Read the passage and aswer the question: Poetry begins in trivial metaphors, petty metaphors. |grace” metaphors, and goes on to the profoundest thinking that we have. Poetry provides the one permissible way of saying one thing and meaning another. People sy, “why don’t you say what you mean?” we never do that, do we, being all of us to much poets. We like to talk in parables and in hints and in indirections whether from diffidence or some other instinct. What selection best describes the word “diffidence” as used in the passage?
✓ D. Reservations

Q179. Point out the correct one
✓ A. A pair of shoes for his first born, mehrunnisa, had cost him one rupee

Q180. The antonym of 'Melancholy' is
✓ C. Cheerful

Q181. Mitigate means
✓ B. Attenuate

Q182. Identify correct one
✓ D. Now observe it effect on a human being

Q183. His credulous nature often landed him in touble
✓ D. Willing to believe easily

Q184. Her _____ demeanor was understandable given the loss of her brother; indeed, most of us were rather_____ .
✓ A. Lachrymose.. . dolorous

Q185. Given Below ¡s a Paragraph. Read it and Answer the Question:!fretted the other night at the hotel at the stranger who broke into my chamber after midnight. claiming to share it. But after his lamp had smoked the chamber full and I had turned round to the wall in despair, the man blew out his lamp, knelt down at his bedside, and made in low whisper a long earnest prayer. Then was the relation entirely changed between us. I fretted no more, but respected and liked him. The probable UOSC of the author using the phrase, “lamp had smoked the chamber full’ is to
✓ A. Establish a period of time

Q186. Football players, generally known for their elevated testosterone levels, would see crying as unmanly rather than a humanistic trait by either sex.
✓ A. inherently. .. experienced

Q187. DISSENSION has the same meaning as
✓ A. Discord

Q188. Choose the correct one
✓ B. She reminded me of the nice days of my childhood

Q189. Chose the best mach according to given relation DWELL : DENIZEN
✓ B. Inherit : heir

Q190. Ballet was_____ delighting the children with its imaginative characters and unpredictable sets.
✓ A. Prosaic

Q191. Which word does not belong to the group in each of the following questions?
✓ **A. chest**

Q192. Identify the error: 'He is one of the student who works hard.'
✓ **B. of the student**

Q193. Suppose in a certain language MADRAS is coded as NBESBT. Then BOMBAY is coded in that language as:
✓ **A. CPNCPZ**

Q194. Odd one Out:
✓ **C. Squirrel**

Q195. Let UDOMETER is coded as DUMOTERE then how will SUBLEASE be coded?
✓ **A. USBAELES**

Q196. If EXPLAINING is written as PXEALNIGNI. Then PRODUCED is written in that code as
✓ **A. ORPBUDEC**

Q197. Idenfity which do not posses the same kind of meaning as the others:
✓ **B. Bondage and freedon**

Q198. Find the missing number in the box gixn below 7 10 16 1 22 40 3 58 ?
✓ **B. 112**

Q199. A man walks 3 km northwards and then turns left and goes 2 km. He again turns left and goes on 3 km. He turns right and walks straight. In which direction lie is walking?
✓ **A. EAST**

Q200. Which of the following is a correct definition of ecology?
✓ **B. Study of organisms and their environment**

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SECTION 1 — PHYSICS (Q.1–Q.40)

Q1 Which one of the following animals possesses on open circulatory system:

A Amoeba
B Earth worm
C Grass hopper
D Man

Q2 The gametophyte of Ulva is:

A Haploid
B Diploid
C Triploid
D Polyploid

Q3 Its membranes are the sites where sunlight energy's trapped and where all formed refers to

A Chloroplast
B Leucoplast
C Chromoplast
D Cytosol

Q4 All of the following are bacterial diseases except.

A Cholera
B Tuberculosis
C Typhoid
D Poliomyelitis viral

Q5 The genetic material of plant viruses mostly is

A DNA
B RNA
C Both A and B
D Proteins

Q6 The social organization of howling monkeys was studied by

A Allen
B Thorpe
C Schjeldeupebbe
D Carpenter

Q7 The flower of family gramineae process contain two scales below ovary which are called:

A Glumes
B Lemma and palea
C Lodicule
D Rochella

Q8 The total of the allele is population is called

A Genetic drift
B Genotype
C Gene pool CE TEST – 2014 d: 150 Minutes Qs = 100
D Gene mutation

Q9 The cells that play vital role in the differentiation of various body parts are called

A Ectodermal cells
B Mesodermal cells
C Endodermal cells
D All of the above

Q10 Fibrinogen is necessary for

A Metabolism
B Blood clotting
C Reproduction
D Respiration

Q11 It looks like a single flower ut it is in fact an inflorescence called

A Pencil
B Typical receme
C Compound umbel
D Capitulum

Q12 A cross between F1 hybirds with either of parents is called

A Back cross
B Test cross
C Reverse cross
D None of the above

Q13 Which one of following is a true fish?

A Cuttle fish
B Silver fish
C Jelly fish
D Sea fish

Q14 Fibrinogen is necessary for

A Metabolism
B Bloodclotting
C Reproduction
D Respiration

Q15 Filter feeders extract food particles from:

A Water
B Soil
C Air
D Blood

Q16 Which one of the following is homoeothermic animal

A Uromastyx
B Salamander
C Sea horse
D Kangaroo

Q17 The individual with hare lip shows which of the following conditions?

A Hard palate
B Polydactyl
C Cleft palate
D Microcephale

Q18 Which hormone prepare the body for situations of stress and emergency?

A Adrenaline
B Non adrenaline
C Thyroxin
D Insulin

Q19 Peptide bond is formed between

A Hydrogen groups of adjacent amino acids
B Functional group of the amino acids
C Carboxyl group and amino group
D Functional group and hydrogen group of adjacent amino acid

Q20 The term bivalent mean

A Two chromatids
B Two chromosomes
C Four chromatids
D Four chromosomes

Q21 All of the following structures are portentous in nature except

A Hooves
B Haemoglobin
C Enzyems
D Steroids

Q22 Most favorite host cell of HIV-Virus is

A Lymphocytes
B RBC
C T-cell
D B-cell

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Q23 **Sunken stomata are found in .**

A Mesophytes **B** Xerophytes
C Halophytes **D** Hydrophytes

Q24 **The mammals term connecting link between reptilian and mammals**

A Marsupials **B** Eutherians
C Monotremes **D** Metatherians

Q25 **In which of the following book lungs are found?**

A Clam warm **B** Spider
C Silver fish **D** Leech

Q26 **Hydra reproduces asexually by**

A Binary fission **B** Multiple fission
C Budding **D** Regeneration

Q27 **During cellular respiration NADH2 produces:**

A 2 ATP **B** 3 ATP
C 4ATP **D** 5ATP

Q28 **An individual has an additional sex chromosome which syndrome does it refer to?**

A Down's syndrome **B** Thrner's syndrome
C Jacob's syndrome **D** Kline filter's syndrome

Q29 **HIV is also known as:**

A AIDS **B** HAV
C UTLV **D** HBV

Q30 **Smaller the animals**

A More rate of respiration **B** Less the rate of respiration
C Rate of respiration has nothing to do with the size of animal **D** None of these

Q31 **Nicotine is tobacco**

A Decreases the heart rate **B** Decreases the blood pressure
C Block the transport of oxygen **D** Paralyzes cells

Q32 **Stream of chloroplast carriers the fixation of**

A Nitrogen **B** Oxygen
C Carbon monoxide **D** Carbon dioxide

Q33 **The valve between right atrium and right ventricle is called**

A Bicuspid valve **B** Tricuspid valve
C Pulmonary valve **D** Semi lunar valve

Q34 Authocyanin's are various types of colorful pigments present in the:

A Chloroplasts
B Chromoplasts
C Leucoplsts
D Vacuoles

Q35 Anti-bodies are produced by

A Red blood cells
B Platelets
C B-lymphocytes
D Hormones

Q36 Which of the following scientists contributed a lot to "modern synthetic theory of organic evaluation"?

A Theodosius dobzhansky 1973
B Fischer 1958
C Wright 1968
D All of above

Q37 Flow of energy in an ecosystem is

A Unidirectional
B Tridirectional
C Multidirectional
D Bidirectional

Q38 When a child with blood group IA, IB is born of a women with genotype IB, MB, then the father of child could not be a man on the genotype

A IB/IB
B IA/IA
C I A/IB
D IA/I

Q39 Which of the following amino acids has single codon?

A Isoleucine
B Tryptophan
C Valine
D Arginine

Q40 Poliomyelitis normally affects the

A Legs
B Brain
C Spinal cord
D Both b and c

SECTION 2 — CHEMISTRY (Q.41–Q.80)

Q41 Who experimented with dissected leg of a frog?

A Volta
B Jenner
C Salk
D Galvanic

Q42 Synaptonemal complex helps in

A Gemete formation
B Recombination during cell division
C Production of enzymes during cell division
D Chromosomal movement towards pole

Q43 Amniotic fluid in human embryo protects it from:

A Degeneration
B Jerks
C Encasement
D None of these

Q44 An analysi of chromosomes in a big city revealed the presence of four types of rather rare human being whose sex chromosome compositions are mentioned in the list-I. they are phenotypically either male M or female F as recorded in list-II, Match list-I chromosomes composition with list-II sex select the correct phenotypic sex using the codes giving elow the lists. List I List II Chromosome Composition

A XO Male M
B B.XXXV Female F
C XYY
D XXV Codes A,B,C,D

Q45 Bipinnaria is the larval form of

A Coelenterate
B Potychaeta
C Echinodermata
D Cestoda

Q46 Normally body temperature of man is 98.6 degree Fahrenheit but of rabbit is

A 96ºF degree Fahrenheit
B 98 ºF degree Fahrenheit
C 99 ºF degree Fahrenheit
D 100 ºF degree Fahrenheit

Q47 When frog is kept in water for some time it sheds a thin covering of skin which is

A Cuboidal epithelium
B Squamous epithelium
C Columnar epithelium
D Ciliated epithelium

Q48 Gene mutation takes place in

A Ribosome's
B Chloroplast
C Dioxyribose nuclei acid
D None of them

Q49 When liver fat content of our body increase then the condition leads to

A Fatty liver
B Necros liver
C Jaundice
D None of them

Q50 In fatty liver the fat contents are

A 1 to 2%
B 4 to 5%
C 20 to 40%
D 10 to 15%

Q51 Which one of the following coelenterate is also called prtuguese man of war

A Hydra
B Velella
C Obelia
D Physalis

Q52 Pseudo coelomate animals are

A Coelenterates
B Nematodes
C Annelids
D Arthropods

Q53 Earth worm belongs to

A Phylum Platyhelminthes
B Nematodes
C Mollusea
D Arthropods

Q54 The primary oocyte in mammals has which of the following structures around it

A Zonapellucida
B Zonavasculosa
C Zona radiate
D None of them

Q55 Membrane granulose is found in which of the mammalian oocytes?

A Primary
B Secondary
C Both a and b
D None of these

Q56 Female rabbits are

A Induced ovulators
B Spontaneous ovulators
C Seasonal ovulators
D Indifferent ovulators

Q57 Opposable thumbs are chracteristc feature of

A Lagomorpha
B Primates
C Ederitate
D None of these

Q58 Differences in the scale of fishes and reptiles lies in them being

A Endodermal and dry
B Epidermal and dry
C Epidermal and wet
D Endodermal and wet

Q59 Which of the following has oxygenated blood?

A Renal veins
B Pulmonary artery
C Hepatic portal veins
D None

Q60 Scapule is the bone of

A Skull
B Pelvic girdle
C Pectoral girdle
D Vertebral column

Q61 All the digestive are found in vertebrates by

A Ectoderm
B Endoderm
C Mesoderm
D None of these

Q62 Ammonia is chief excretory product in

A Reptiles
B Turtles
C Mammals
D Fish

Q63 Archaeopteryx is an connecting link between

A Amphibians and reptiles
B Reptiles and birds
C Birds and mammals
D None of these

Q64 Lamarek's theory of evaluation is based upon

A Effect of environment
B Use and disuse of body parts
C Inheritance of acquired characters
D All of these

Q65 Absorption of digested food occur mainly in

A Colon
B Small intestine
C Large intestine
D Stomach

Q66 Flame cells are commonly found in

A Plathelminthes
B Annelida
C Coelenterate
D All of above

Q67 The number of vertebrates in horse neck are

A 5
B 6
C 7
D 10

Q68 Least distance vision for a person of hypermetropia is

A 25cm
B Less than 25 cm
C More than 25 cm
D Infinity

Q69 The nerve center for sight is located in

A Thalamus
B Cerebral cortex
C Both a and b
D None of these

Q70 On land frogs are

A Hypermetric
B Myopic
C Normal sighted
D None of these

Q71 The sense organs of taste in tongue are known as

A Olfactory receptors
B Gustatory receptors
C Cutaneous receptors
D All of these

Q72 The process of cartilage formation is known as

A Chondrioblasts
B Chondriocutosis
C Chondrogensis
D None of these

Q73 Significant flight muscles in birds is

A Pectoral
B Tensor
C Appendicular
D All of these

Q74 Which of the following concepts is attributed to Lamarck?

A Struggle for existence
B Survival of the fittest
C Inheritance of acquired characters
D Cells come from pre-existing cells

Q75 Which of the following theories of evolution can best explain the vestigial organs.

A Darwinism
B Lamarckism
C Natural selection
D Special creation

Q76 Food is assimilated into the body from digestive tract in

A Esophagus
B Stomach
C Small intestine
D Rectum

Q77 Sea horse is included in

A Pisces
B Mammals
C Insects
D Mollusca

Q78 Pond is an example for ecosystem?

A Complete
B In complete
C Almost complete
D None of these

Q79 Despite the structural diversities they ate characterized by having soft body protected by calealreous shell developing from the mantle layer.

A Corals
B Foraminiferous
C Molluses
D None of these

Q80 Chlorine upon reaction with NaOH in cold yields

A NaCI, NaCIO, H O 2
B NaCI, NaCIO3, H O 2
C NaCIO, NaCIO , H O 3 2
D NaCI, H O 2

SECTION 3 — ENGLISH (Q.81–Q.100)

Q81 Farming salt is

A NaCI
B HF
C KHF 2
D KCIO 3

Q82 Which of the following is least polarizable?

A Ne
B He
C X
D Kr

Q83	Transfer of heat from hot surrounding to cold refrigerator is an example of	
A	Spontaneous reaction	B Non spontaneous reaction
C	First law of thermodynamics	D All of above

Q84	alkaline KMn04 convert ethylene into	
A	Methanol	B Ethanol
C	Ethane	D Ethylene glycol

Q85	Which one of the following is not an isotope of hydrogen	
A	Deuterium	B Tritium
C	Ortho hydrogen	D None of these

Q86	Blue litmus turns reds in a solution of pH	
A	Below 7	B 7
C	Above 7	D All at 7

Q87	Maximum ionization potential is of	
A	Ca	B Na
C	Be	D Mg

Q88	Strongest acid among the following is	
A	CCL4 COOH	B CH3 COOH
C	CF3 COOH	D CBr COOH 3

Q89	Which molecule is planar	
A	SF4	B XeF4
C	NF3	D SiF4

Q90	A certain radioactive isotope has a half-life of 50 days. Fraction of the material left behind after 100 days will e:	
A	125%	B 25%
C	50%	D 100%

Q91	The rams speed at NTP of a gas can be calculated ffrom the expression	
A	Under root 3 P/d	B Under root 3 Pv/M
C	Under root 3RT/m	D All of above

Q92	Prussian blue is	
A	K 2Fe[FeCN6]	B K4[FeCN6]
C	Fe4[Fe(CN)6] 3xH20	D K3FeCN6]

Q93	Which of the following are the fundamental ways of transferring energy?	
A	Pressure and work	B Volume and pressu re
C	Heat and work	D Pressure and heat

Q94	A miture of camphor and benzide acid can be separated by	
A	Fractional crystallization	B Sublimation
C	Chemical method	D Extraction with solvent

Q95 Diameter of an atom is in the range of

A 0.2 m
B 0.2 nm
C 2x10-19 nm
D 0.2 Pm

Q96 The relative abundance of ion with a definite m/e value is measured by?

A Quantity of fast moving electrons
B Strength of electric current measured
C High pressure of vapors
D Electron gas

Q97 0.078 g of a hydrocarbon occupies 22.414 ml of volumeat S.T.P the empirical formula of hydrocarbon is CH. The molecular formula of hydrocarbon is? a. b. c.

A)

Q98 Idenfity correct statement

A Element sodium can be prepared and isolated by electrolyzing an aqueous solution of NaCI
B Element Na is strong oxidizing agent
C Elemental Na is insoluble in NH3
D Elemental Na is easily oxidizing

Q99 Which of the following statements is true? .

A Alkali metal hydroxides are stable to heat except KOH
B CaOH is a stronger base than NaOH
C When NaOH is made the gas released at the cathode is CI2
D NaOH is named as caustic soda ecause it reacts with fats to form soap.

Q100 The substance which conducts electricity by the movement of ions:

A Graphite
B Copper
C Molten NaCI
D Mercury

SECTION 4 — BIOLOGY (Q.101–Q.200)

Q101 Point out the property which is not characteristic of alkali metal

A Low electronegativity
B Low melting point
C Their ions are isoelectronic with noble gas
D High ionization energy

Q102 Metal belonging to the same group in the periodic table

A Magnesium and Na
B Magnesium and Copper
C Magnesium and Barium
D Magnesium and potassium

Q103 Magnesium keep on burning in

A N 2
B CO 2
C N O 2
D N as wll as CO 2 2

Q104 Read lead is

A PbO
B Pb O 3 4
C Pb O 2 4
D Pb O 2 5

Q105 Solid CO dry ice has a structure just like 2

A Diamond
B Sulphur
C Graphite
D None of

Q106 Silicon is found in nature in form of

A Isolated or free silicon
B Sulphides
C Silica or silicates
D Only silicates

Q107 Choose the correct statement:

A Diamond is the hardest and graphite is softest
B Graphite is the hardest while lamp black is softest
C Coal is the hardest and coke is softest
D Diamond is the hardest and coke is softest

Q108 Which one is not organic compound?

A Fast
B Carbohydrates
C Water
D None

Q109 The isomer due to the unequal distribution of carbon atoms on either side of the functional group belonging to the same homologous series are called

A Functional isomers
B Position isomers
C Chain isomers
D Metamers

Q110 The active part in organic molecules is called

A Homologous series
B Functional group
C Chemical bonding
D Ionic complex

Q111 The four bonds of carbon in methane are directed towards the corners of

A Cube
B Pentagon
C Hexagon
D Tetrahedron

Q112 Which of the following is NOT a greenhouse gas?

A CO■
B CH■
C N■
D N■O

Q113 Acetylene on reacting with ammonium silver nitrate gives

A Silver metal
B Silver mirror
C Silver acetylide
D Silver acetate

Q114 Aromatic compounds burn with a sooty flame because

A They are resistant of react with oxygen
B They have a cyclic structure
C They have high percentage of carbon
D They have high percentage of hydrogen

Q115 In a resonance structure of a molecule:

A Pairing scheme should be same
B Arrangement of atom should be same
C Same energy
D All are true

Q116 An ester is prepared by

A Two alcohols
B Carboxylic acid and alcohol
C Ketone and alcohol
D Aldehyde and alcohol

Q117 Which of the following does not give iodoform test?

A Ethanol
B Ethanol
C Acetophenone
D Benzophenone

Q118 The SI unit of electric charge is

A Ampere
B Volt
C Coulomb
D Ohm

Q119 Ionic radius in period from left to right

A Decreases
B Increases
C 1st increase and then decrease
D 1st decrease and then increase

Q120 Which of the following molecules has no net dipole moment

A HCl
B H O 2
C CCl 4
D CH3Cl

Q121 Choose the value of the Rydberg constant among the following value?

A 1.09678 x 107 nr-1
B 1.602 x – 19C
C 1.7588 x 111
D 1.007 x 107 m-1

Q122 A 4s orbital has

A One node
B Two node
C Three node
D 0 node

Q123 Electronic configuration of k is

A [Ar] 4s²
B [Ar] 4s1
C [Kr] 4s1
D [He] 4S1

Q124 The spectrum of He is expected to be similar to that of

A H
B Na
C He+
D Li+

Q125 Triatomic molecules have following movements

A Translation and vibrational
B Vibrational and rotational
C All the above
D None the above

Q126 Law of mass action was derived by

A Newton
B CM guldbrug
C P wage
D CM gldburg was P wage

Q127 If we move down in electrochemical series

A Reduction potential will increase
B Reduction potenatil will decrease
C Oxidizing ability decrease
D None of them

Q128 The periodic table consist of

A 7 horizontal series, 7 vertical series and 2 blocks
B 8 horizontal series, 7 vertical series and 2 blocks
C 7 horizontal series, 18 vertical series and 4 blocks
D 8 horizontal series, 18 vertical series and 8 blocks.

Q129 Variable valency is generally exhibited by

A Normal elements
B Transition elements
C Metallic elements
D None of them

Q130 Which of the following oxides is amphoteric in character?

A CaO
B CO 2
C SiO 2
D SnO 2

Q131 Salt of weak bases react with strong acid to give

A Basic solution
B Acidic solution
C Neutral solution
D None

Q132 ……. is a technique to separate impuriteies from chemical products

A Lands berger's method
B Fractional crystallization
C Beckmann method
D None

Q133 A carbohydrate that cannot be acid hydrolyzed is called

A Monosaccharide's
B Disaccharides
C Polysaccharides
D Oligosaccharides

Q134 One gram of carbohydrate yields energy

A 10kcal
B 100kcal
C 4kcal
D 9kcal

Q135 Ascorbic acid is a chemical name of

A Vitamin D
B Vitamin A
C Vitamin C
D Vitamin B6

Q136 The number of amino acids found in proteins that a human body can synthesize is

A 230
B 10
C 5
D 14

Q137 Choose the correct statement

A Ultraviolet radiation from sun cause a reaction that produces ozone

B Ozone hole is depletion in total amount of O

C A single chlorine free radical can destroy 10000 ozone molecules f

D All of above

Q138 Which of the following is not an air pollutant? a. b.

A NO

B CO

Q139 Pick up the correct statement about photochemical smog

A Photo chemical smog contains nitric oxide and unburnt hydrocarbon as main reactants

B Photo chemical smog is caused by N02

C Photochemical smog occurs in day time whereas the classical smog occurs in early morning hours

D Both b and c

Q140 The physical quantity which produces angular acceleration in the body is

A Force

B Moment of inertia

C Impulse

D Torque

Q141 In dimension of angular momentum is

A M. L 1 T-1

B M1 L2 T-1

C M. L2 T-1

D M L T 2 1

Q142 If A = B+C and A,B,C have scalaermaagnitudes of 5,4,3 unit respectively then the angle between vector A and vector B is

A Cos-1 (3/5)

B Cos-1 (4/5)

C 3.14/2

D Sin-1 (3/4)

Q143 Pick up the correct statement about photochemical smog

A Photo chemical smog contain nitric oxide and unburnt hydrocarbon as main reactant

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D Both B and C

Q144 A particle is travelling among a straight line OX. The distance x in meters of the particle from O at a time t is given by $X = 37 + 27t\ t^3$ where t is given by X in the seconds. The distance of particles from O when it comes to rest is. W3.

A 81m

B 91m

C 101m

D 111m

Q145 A particle is projected from the ground with kinetic energy E at an angle of 60 degree with the horizontal. Its kinetic energy at the highest point of its motion will be

A .

B E/2

C E/4

D E/8

Q146 A bullet on penetrating 30cm into its target loses its velocity by 50%. What additional distance will its penetrate into the target before ti comes to rest?

A 30 cm

B 20 cm

C 10 cm

D 5 cm

Q147 When a spring is stretched by 10 cm, the . potential energy is stored is E. when the spring is stretched by 10cm more, the potential energy stored in the spring becomes.

A 2E

B 4E

C 6E

D 10E

Q148 Average distance of the earth from the sun is L1. If one year of the earth =D days one year of another planet whose average distance from the sun is L will be 2

A D(L2/L1)1/2days

B D(L2/L1)3/2 days

C D(L2/L1)2/3 days

D D(L2/L1) days

Q149 The point at which an applied force produces linear motion but no rotatory motion is

A Mid-pint
B Center of gravity
C Optical center
D Pole

Q150 When a certain metal surface is illuminated with light of frequency v. the stopping potential for photoelectric current is V0. When the same surface is illuminated by light of frequency V/2, the stopping potential is V0-/4. The threshold frequency for photoelectric emission is

A V/6
B V/3
C 2V/3
D 4V/3

Q151 Let L be the length and d be the diameter of cross section of a wire. Wires of the same material with different L. and d are subjected to the same tension along the length of the wire. In which of the following cases the extension of wire will be the maximum?

A L=200cm, d=0.5 mm
B L=300 cm, d=1.0 mm
C L= 50 cm, d=0.05 mm
D L=100cm, d=0.2 mm

Q152 An object placed in front of a concave mirror at a distance of X cm from the pole gives a 3 times magnified real image if it is moved to distance of X+5cm, the. Magnification of the image becomes 2. The focal length of the mirror is:

A 15 cm
B 20 cm
C 25 cm
D 30 cm

Q153 22320 calheat is supplied to 100g of ice at . zero degree centigrade. If thelatent heat of fusion of ice is 80 cal /g and latent heat of vaporization of water is 540 cal/g the final amount of water thus obtained and its temperature respectively are:

A 8 g, 100 degree centrigrade
B 100 g, 90 degree centrigrade
C 92 g, 100 degree centrigrade
D 82 g, 100 degree centrigrade

Q154 A progressivewave moving along X axis is . represented by y = [(2 / -x)]. Thewavelength? Atwhich the maximum particle velocity is 3 time the wave velocity is

A A/3
B 3
C 3/4
D 2/3( )

Q155 Two radioactive substances A and B have . decay constant constant 5? And ?respectively. At t=0, they have the same number of nuclei of A to that of B will be 1/e2 after a time interval of

A 1/
B 1/2
C 1/3
D 1/4

Q156 A magnetic needle is placed in a uniform magnetic field and is alighned with the field. The needle is now rotated by an angle of 60 degree and the work donw is W. the torque on the magnetic needle at this position.

A 2V3W
B 3W
C (3/2)W
D (3/4)W

Q157 **A body when fully immersed in al iquid of specific gravity 1.2 weight 44gwt. The same body when fully immersed in water weight 50gwt. The mass of the body is a. 36g b. 48g**

A 64g d. 80g 158). The equation of state of a gas is given by (P + a/V8) (v-b 2)=cT, where P,V,T, are pressure. Volume and temperature respectively, and a,v,c are constant the dimensions of a and bare respectively.

B ML 8T -2 and L3/2

C ML 8T -2 and L3

D ML 5T -2 and L6

Q158 **The R.M.S. speed of a moelcules of a gas at 100 degree centrigrade is v. the temperature at which the R.M.S speed will be ? 3v is:**

A 546 degree centigrade

B 646 degree centigrade

C 746 degree centigrade

D 846 degree centigrade

Q159 **A frictional piston cylinder bsae enclosure contains some amount of gas at a pressure of 400kPa. Then heat is pressure in a quasi- static process. The piston moves up slowly through a height of 10cmlf the piston has acrossecron area of 0.3m2, the work done by the gas in the process is:**

A 6kj

B 12 kj

C 75kj

D 24kj

Q160 **An electric cell of e.m.f E is connected across a copper wire of dimeter d and length l. the drift velocity of electrons in the wire is v0. If the length of the wire is changed to 21, the new drift velocity of electrons in the copper wire will be:**

A V

B 2v

C V2

D V4

Q161 **The Hardy-Weinberg principle applies to a population that is**

A Small and isolated

B Large and randomly mating

C Experiencing selection pressure

D Undergoing migration

Q162 **A ball is thrown vertically upward with a velocity of 98 m/s if it takes 10 seconds to reach the highest point then the acceleration of the ball is:**

A 9.8 m/s²

B 980 m/s²

C 98 m/s²

D -9 8 m/s²

Q163 **The velocity of a car travelling on a straight road in 36 km/h at an instant of time. Now travelling with uniform acceleration for 10s, the velocity becomes exactly double if the wheel radius of the car is 25cm then which of the following number is the closest to the number of revolution that the wheel makes during this 10s?**

A 84

B 95

C 126

D 135

Q164 **Two glass prisms P1 and P2 are to be combined together to produce dispersion without deviation. The angle of the prisms P1 and P2 are selected as 40 and 30 respectively. If the refractive index of prism P1 is 1.54, then that of P2 will be:**

A 1.48

B 1.58

C 1.62

D 1.72

Q165 **A man throws a ball vertically upwards in compartment of an accelerated train. The ball will fall**

A In front of him

B In his hand

C Behind him

D Beside him

Q166 **Water is flowing in steam line motion through a horizontal tube. The pressure at a point in the tube is P where the velocity of flow is v. at another point, where the pressure is P/2, the velocity of flow is [density of water=p]**

A (V2 + p/ p)

B (V2 – p/p)

C (V2 + 2p/p)

D (V2 – 2p/p)

Q167 A wire of initial length L and radius r is stretched by a length l. another wire of same material but with initial length 2 L and radius 2r is stretched by length 2l. the ratio of the stored elastic energy per unit volume in the first and second wire is:

- **A** 1:4
- **B** 1:2
- **C** 2:1
- **D** 1:1

Q168 A current of 1A is flowing along positive x- axis through a straight wire of length 0.5 m placed in a region of magnetic field give by B=(2? + 2j) T. the magnetifude and the direction of the force experienced by the wire respectively are:

- **A** √ N, along positive z-axis
- **B** √ N, along positive x-axis
- **C** 2N, along positive axis
- **D** 4N, along positive axis

Q169 A bomer drop a bomd, when it is vertically above the tartet, it missed the target because of

- **A** Vertical component of the velocity of bomber
- **B** Force of gravity
- **C** Acceleration of the bomber
- **D** Horizontal component of the velocity of bomber

Q170 There was a surprising story in the paper about the _____ car was stolen:

- **A** Man which his
- **B** Man whose his
- **C** Man that his
- **D** Man whose

Q171 Several times during the ession the director _____ to tell his success story to the other promotion:

- **A** Asked he
- **B** Asked who
- **C** Asked him
- **D** Asked his

Q172 When one need career conunselling go th the college career advisor?

- **A** You should
- **B** It should
- **C** He should
- **D** One should

Q173 Did anybody do the work?

- **A** Themselves
- **B** Himself
- **C** His self
- **D** None

Q174 Take your application to the _____ you think can help you.

A person whom
B person
C person who
D person which Read the passage and answer the question given at the end of passage (5- 10). Recent advances in science and technology have made it possible for geneticists to find out abnormalities in the unborn fetus and take remedial action to rectify some defects which should otherwise prove to be fatal to the child. Through genetic engineering is still at its infancy, scientist can now predict with greater accuracy a genetic disorder. It is not yet an exact science since they are not in a position to predict when exactly a genetic disorder will set in. while they heave not yet been also to change the genetic order of the gene in germs, they are optimistic and are holding out that in th near future they might be successful in achieving this feat they have however, acquired the ability in manipulating tissue cells. However. Genetic misinformation can sometimes be damaging for it may adversely affect people psychologically. Genetic information may lead to a tendency to brand some people as inferiors. Genetic information can therefore be abused and its application in deciding the sex of the fetus and its subsequent abortion is now hotly debated on ethical lines. But on this issue geneticists cannot be squarely blamed through this charge has often been leveled at hem. It is mainly a societal problem. At present genetic engineering is costly process of detecting disorders but scientist hoped to reduce the cost when technology becomes more advanced. This is why much progress in this area has been possible in scientifically advanced and rich country like the U.S.A, U K and Japan. It remains to be seen if in the future this science will lead to this development of a race of supermen or will be able to obliterate disease from this world.

Q175 Which of the following is the same is meaning as the phrase “holding out” as used in passage?

A Catching
B Expounding
C Sustaining
D Restraining

Q176 According to the passage the question of abortion is

A ignored
B Hotly debated
C Unanswered
D Left to the scientists to decide

Q177 Which of the following is true regarding the reasons for progress in genetic engineering?

A It has been populat to abort female fetuses
B Human beings are extremely interested in heredity
C Economically sound and scientifically advanced countries can provide the infrastructure for such research
D Poor countries desperately need genetic information

Q178 Which of the following is same in meaning as the word “obliterate” as used in passage?

A Wipie off
B Eradicate
C Give bith to
D Wipe out

Q179 Which of the following is the opposite in meaning to the word “charged” as used in the passage?

A Calm
B Disturbed
C Discharged
D Settled

Q180	**Agenda: conference (analogy);**		
A	Teacher: class	**B**	Agency : assignment (analogy)
C	Map : tap	**D**	Man : women
Q181	**Manacle: male factor (analogy)**		
A	Juvenile : delinquent	**B**	Suave maniac
C	Muzzle : dog	**D**	Pinto : tether
Q182	**Aerie : eagle (analogy)**		
A	Venom : rattle snake	**B**	Viper : reptiles
C	Hawk : falcon	**D**	Lair : wolf
Q183	**Altimeter: height (analogy)**		
A	Speedometer : speed	**B**	Observatory : constellation
C	Racetrack : furlong	**D**	Vessel : knots
Q184	**Slipshod: organization (analogy)**		
A	Clever: shroud	**B**	Cringing : obsequious
C	Prodigal : generosity	**D**	Phlegmatic: emotion
Q185	**Rookie synonyms**		
A	An old man	**B**	A new recruit
C	A fighter	**D**	A wrestler
Q186	**Catharisis synonyms**		
A	Sudden	**B**	Outlet of strong emotions
C	Anti-climax	**D**	Informal discussion
Q187	**Adapt antonym**		
A	Approve	**B**	Applaud
C	Shed	**D**	Reject
Q188	**Atheist antonym**		
A	Hypnotic	**B**	Bane
C	Believer	**D**	Theorist
Q189	**Generous antonym**		
A	Cruel	**B**	Noble
C	Selfish	**D**	Lavish
Q190	**2,5,9 ____ 20, 27**		
A	14	**B**	16
C	18	**D**	24
Q191	**3, 6, 18, 72, _____**		
A	144	**B**	216
C	288	**D**	360
Q192	**12, 32, 72, 152, _____**		
A	312	**B**	325
C	515	**D**	613
Q193	**2,15, 41, 80, _____**		
A	111	**B**	120
C	121	**D**	132
Q194	**8, 10, 14, 18, _____ 34, 50, 60**		
A	24	**B**	25
C	26	**D**	27

Q195	**Sick is to sack as lick is to**
A Lack	**B** Luck
C Eat	**D** Meat
Q196	**What letter comes next in the following series? B D G K P**
A C	**B** E
C B	**D** V
Q197	**What number comes next in the following series? 34 24 16 10 6**
A 5	**B** 10
C 3	**D** 2
Q198	**If 4 is more than 9 write a as your answer otherwise write b?**
A A	**B** B
C C	**D** D
Q199	**Children go to school because**
A They want to learn poems	**B** They want to be away from home
C They want to look beautiful	**D** They want to gain knowledge
Q200	**The technique used to amplify DNA in vitro is called**
A Gel electrophoresis	**B** Southern blotting
C PCR	**D** DNA sequencing

QUICK ANSWER GRID — Check all answers at a glance

PHYSICS

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
C	B	A	D	C	D	B	C	C	B
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
C	A	D	B	A	D	C	A	C	C
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
D	C	A	C	B	C	A	D	A	A
Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
D	D	B	B	C	C	A	B	C	D

CHEMISTRY

Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50
D	B	B	A	C	D	B	C	A	B
Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60
D	E	E	D	C	A	B	C	D	C
Q61	Q62	Q63	Q64	Q65	Q66	Q67	Q68	Q69	Q70
C	C	B	C	B	A	C	A	B	B
Q71	Q72	Q73	Q74	Q75	Q76	Q77	Q78	Q79	Q80
C	C	A	C	A	C	A	A	C	A

ENGLISH

Q81	Q82	Q83	Q84	Q85	Q86	Q87	Q88	Q89	Q90
A	B	A	D	C	A	C	B	A	C
Q91	Q92	Q93	Q94	Q95	Q96	Q97	Q98	Q99	Q100
C	C	C	C	B	A	A	A	A	C

BIOLOGY

Q101	Q102	Q103	Q104	Q105	Q106	Q107	Q108	Q109	Q110
A	C	B	B	A	C	A	C	D	B
Q111	Q112	Q113	Q114	Q115	Q116	Q117	Q118	Q119	Q120
D	C	C	C	D	B	D	C	A	C
Q121	Q122	Q123	Q124	Q125	Q126	Q127	Q128	Q129	Q130
A	C	B	A	B	D	D	C	B	D
Q131	Q132	Q133	Q134	Q135	Q136	Q137	Q138	Q139	Q140
B	B	A	C	C	D	C	B	D	D
Q141	Q142	Q143	Q144	Q145	Q146	Q147	Q148	Q149	Q150
C	D	A	B	C	A	A	A	A	A
Q151	Q152	Q153	Q154	Q155	Q156	Q157	Q158	Q159	Q160
B	A	A	A	A	A	B	A	B	B
Q161	Q162	Q163	Q164	Q165	Q166	Q167	Q168	Q169	Q170
B	D	C	C	B	B	B	C	A	D
Q171	Q172	Q173	Q174	Q175	Q176	Q177	Q178	Q179	Q180
C	C	B	A	C	D	B	B	C	B
Q181	Q182	Q183	Q184	Q185	Q186	Q187	Q188	Q189	Q190
B	C	C	C	B	B	D	C	C	A
Q191	Q192	Q193	Q194	Q195	Q196	Q197	Q198	Q199	Q200
D	A	C	A	A	D	D	A	B	C

COMPLETE ANSWER KEY WITH DETAILED EXPLANATIONS

SECTION — PHYSICS

Q1. Which one of the following animals possesses on open circulatory system: ✓ C. Grass hopper	Q2. The gametophyte of Ulva is: ✓ B. Diploid
Q3. Its membranes are the sites where sunlight energy's trapped and where all formed refers to ✓ A. Chloroplast	Q4. All of the following are bacterial diseases except. ✓ D. Poliomyelitis viral
Q5. The genetic material of plant viruses mostly is ✓ C. Both A and B	Q6. The social organization of howling monkeys was studied by ✓ D. Carpenter
Q7. The flower of family gramineae process contain two scales below ovary which are called: ✓ B. Lemma and palea	Q8. The total of the allele is population is called ✓ C. Gene pool CE TEST – 2014 d: 150 Minutes Qs = 100
Q9. The cells that play vital role in the differentiation of various body parts are called ✓ C. Endodermal cells	Q10. Fibrinogen is necessary for ✓ B. Blood clotting
Q11. It looks like a single flower ut it is in fact an inflorescence called ✓ C. Compound umbel	Q12. A cross between F1 hybirds with either of parents is called ✓ A. Back cross
Q13. Which one of following is a true fish? ✓ D. Sea fish	Q14. Fibrinogen is necessary for ✓ B. Bloodclotting
Q15. Filter feeders extract food particles from: ✓ A. Water	Q16. Which one of the following is homoeothermic animal ✓ D. Kangaroo
Q17. The individual with hare lip shows which of the following conditions? ✓ C. Cleft palate	Q18. Which hormone prepare the body for situations of stress and emergency? ✓ A. Adrenaline
Q19. Peptide bond is formed between ✓ C. Carboxyl group and amino group	Q20. The term bivalent mean ✓ C. Four chromatids
Q21. All of the following structures are portentous in nature except ✓ D. Steroids	Q22. Most favorite host cell of HIV-Virus is ✓ C. T-cell
Q23. Sunken stomata are found in . ✓ A. Mesophytes	Q24. The mammals term connecting link between reptilian and mammals ✓ C. Monotremes
Q25. In which of the following book lungs are found? ✓ B. Spider	Q26. Hydra reproduces asexually by ✓ C. Budding
Q27. During cellular respiration NADH2 produces: ✓ A. 2 ATP	Q28. An individual has an additional sex chromosome which syndrome does it refer to? ✓ D. Kline filter's syndrome
Q29. HIV is also known as: ✓ A. AIDS	Q30. Smaller the animals ✓ A. More rate of respiration
Q31. Nicotine is tobacco ✓ D. Paralyzes cells	Q32. Stream of chloroplast carriers the fixation of ✓ D. Carbon dioxide
Q33. The valve between right atrium and right ventricle is called ✓ B. Tricuspid valve	Q34. Authocyanin's are various types of colorful pigments present in the: ✓ B. Chromoplasts
Q35. Anti-bodies are produced by ✓ C. B-lymphocytes	Q36. Which of the following scientists contributed a lot to "modern synthetic theory of organic evaluation"? ✓ C. Wright 1968
Q37. Flow of energy in an ecosystem is ✓ A. Unidirectional	Q38. When a child with blood group IA, IB is born of a women with genotype IB, MB, then the father of child could not be a man on the genotype ✓ B. IA/IA
Q39. Which of the following amino acids has single codon? ✓ C. Valine	Q40. Poliomyelitis normally affects the ✓ D. Both b and c

SECTION — CHEMISTRY

Q41. Who experimented with dissected leg of a frog?
✓ D. Galvanic

Q42. Synaptonemal complex helps in
✓ B. Recombination during cell division

Q43. Amniotic fluid in human embryo protects it from:
✓ B. Jerks

Q44. An analysi of chromosomes in a big city revealed the presence of four types of rather rare human being whose sex chromosome compositions are mentioned in the list-I. they are phenotypically either male M or female F as recorded in list-II, Match list-I chromosomes composition with list-II sex select the correct phenotypic sex using the codes giving elow the lists. List I List II Chromosome Composition
✓ A. XO Male M

Q45. Bipinnaria is the larval form of
✓ C. Echinodermata

Q46. Normally body temperature of man is 98.6 degree Fahrenheit but of rabbit is
✓ D. 100 ºF degree Fahrenheit

Q47. When frog is kept in water for some time it sheds a thin covering of skin which is
✓ B. Squamous epithelium

Q48. Gene mutation takes place in
✓ C. Dioxyribose nuclei acid

Q49. When liver fat content of our body increase then the condition leads to
✓ A. Fatty liver

Q50. In fatty liver the fat contents are
✓ B. 4 to 5%

Q51. Which one of the following coelenterate is also called prtuguese man of war
✓ D. Physalis

Q52. Pseudo coelomate animals are
✓ E. —

Q53. Earth worm belongs to
✓ E. —

Q54. The primary oocyte in mammals has which of the following structures around it
✓ D. None of them

Q55. Membrane granulose is found in which of the mammalian oocytes?
✓ C. Both a and b

Q56. Female rabbits are
✓ A. Induced ovulators

Q57. Opposable thumbs are chracteristc feature of
✓ B. Primates

Q58. Differences in the scale of fishes and reptiles lies in them being
✓ C. Epidermal and wet

Q59. Which of the following has oxygenated blood?
✓ D. None

Q60. Scapule is the bone of
✓ C. Pectoral girdle

Q61. All the digestive are found in vertebrates by
✓ C. Mesoderm

Q62. Ammonia is chief excretory product in
✓ C. Mammals

Q63. Archaeopteryx is an connecting link between
✓ B. Reptiles and birds

Q64. Lamarek's theory of evaluation is based upon
✓ C. Inheritance of acquired characters

Q65. Absorption of digested food occur mainly in
✓ B. Small intestine

Q66. Flame cells are commonly found in
✓ A. Plathelminthes

Q67. The number of vertebrates in horse neck are
✓ C. 7

Q68. Least distance vision for a person of hypermetropia is
✓ A. 25cm

Q69. The nerve center for sight is located in
✓ B. Cerebral cortex

Q70. On land frogs are
✓ B. Myopic

Q71. The sense organs of taste in tongue are known as
✓ C. Cutaneous receptors

Q72. The process of cartilage formation is known as
✓ C. Chondrogensis

Q73. Significant flight muscles in birds is
✓ A. Pectoral

Q74. Which of the following concepts is attributed to Lamarck?
✓ C. Inheritance of acquired characters

Q75. Which of the following theories of evolution can best explain the vestigial organs.
✓ A. Darwinism

Q76. Food is assimilated into the body from digestive tract in
✓ C. Small intestine

Q77. Sea horse is included in
✓ A. Pisces

Q78. Pond is an example for ecosystem?
✓ A. Complete

Q79. Despite the structural diversities they ate characterized by having soft body protected by caleareous shell developing from the mantle layer.
✓ C. Molluses

Q80. Chlorine upon reaction with NaOH in cold yields
✓ A. NaCl, NaClO, H O 2

SECTION — ENGLISH

Q81. Farming salt is
✓ A. NaCl

Q82. Which of the following is least polarizable?
✓ B. He

Q83. Transfer of heat from hot surrounding to cold refrigerator is an example of
✓ A. Spontaneous reaction

Q84. alkaline KMn04 convert ethylene into
✓ D. Ethylene glycol

Q85. Which one of the following is not an isotope of hydrogen
✓ C. Ortho hydrogen

Q86. Blue litmus turns reds in a solution of pH
✓ A. Below 7

Q87. Maximum ionization potential is of
✓ C. Be

Q88. Strongest acid among the following is
✓ B. CH3 COOH

Q89. Which molecule is planar
✓ A. SF4

Q90. A certain radioactive isotope has a half-life of 50 days. Fraction of the material left behind after 100 days will e:
✓ C. 50%

Q91. The rams speed at NTP of a gas can be calculated ffrom the expression
✓ C. Under root 3RT/m

Q92. Prussian blue is
✓ C. Fe4[Fe(CN)6] 3xH20

Q93. Which of the following are the fundamental ways of transferring energy?
✓ C. Heat and work

Q94. A miture of camphor and benzide acid can be separated by
✓ C. Chemical method

Q95. Diameter of an atom is in the range of
✓ B. 0.2 nm

Q96. The relative abundance of ion with a definite m/e value is measured by?
✓ A. Quantity of fast moving electrons

Q97. 0.078 g of a hydrocarbon occupies 22.414 ml of volumeat S.T.P the empirical formula of hydrocarbon is CH. The molecular formula of hydrocarbon is? a. b. c.
✓ A.)

Q98. Idenfity correct statement
✓ A. Element sodium can be prepared and isolated by electrolyzing an aqueous solution of NaCl

Q99. Which of the following statements is true? .
✓ A. Alkali metal hydroxides are stable to heat except KOH

Q100. The substance which conducts electricity by the movement of ions:
✓ C. Molten NaCl

SECTION — BIOLOGY

Q101. Point out the property which is not characteristic of alkali metal
✓ A. Low electronegativity

Q102. Metal belonging to the same group in the periodic table
✓ C. Magnesium and Barium

Q103. Magnesium keep on burning in
✓ B. CO 2

Q104. Read lead is
✓ B. Pb O 3 4

Q105. Solid CO dry ice has a structure just like 2
✓ A. Diamond

Q106. Silicon is found in nature in form of
✓ C. Silica or silicates

Q107. Choose the correct statement:
✓ A. Diamond is the hardest and graphite is softest

Q108. Which one is not organic compound?
✓ C. Water

Q109. The isomer due to the unequal distribution of carbon atoms on either side of the functional group belonging to the same homologous series are called
✓ D. Metamers

Q110. The active part in organic molecules is called
✓ B. Functional group

Q111. The four bonds of carbon in methane are directed towards the corners of
✓ D. Tetrahedron

Q112. Which of the following is NOT a greenhouse gas?
✓ C. N■

Q113. Acetylene on reacting with ammonium silver nitrate gives
✓ C. Silver acetylide

Q114. Aromatic compounds burn with a sooty flame because
✓ C. They have high percentage of carbon

Q115. In a resonance structure of a molecule:
✓ D. All are true

Q116. An ester is prepared by
✓ B. Carboxylic acid and alcohol

Q117. Which of the following does not give iodoform test?
✓ D. Benzophenone

Q118. The SI unit of electric charge is
✓ C. Coulomb

Q119. Ionic radius in period from left to right
✓ A. Decreases

Q120. Which of the following molecules has no net dipole moment
✓ C. CCl 4

Q121. Choose the value of the Rydberg constant among the following value?
✓ A. 1.09678 x 107 nr-1

Q122. A 4s orbital has
✓ C. Three node

Q123. Electronic configuration of k is
✓ B. [Ar] 4s1

Q124. The spectrum of He is expected to be similar to that of
✓ A. H

Q125. Triatomic molecules have following movements
✓ B. Vibrational and rotational

Q126. Law of mass action was derived by
✓ D. CM gldburg was P wage

Q127. If we move down in electrochemical series
✓ D. None of them

Q128. The periodic table consist of
✓ C. 7 horizontal series, 18 vertical series and 4 blocks

Q129. Variable valency is generally exhibited by
✓ B. Transition elements

Q130. Which of the following oxides is amphoteric in character?
✓ D. SnO 2

Q131. Salt of weak bases react with strong acid to give
✓ B. Acidic solution

Q132. ……. is a technique to separate impuriteies from chemical products
✓ B. Fractional crystallization

Q133. A carbohydrate that cannot be acid hydrolyzed is called
✓ A. Monosaccharide's

Q134. One gram of carbohydrate yields energy
✓ C. 4kcal

Q135. Ascorbic acid is a chemical name of
✓ C. Vitamin C

Q136. The number of amino acids found in proteins that a human body can synthesize is
✓ D. 14

Q137. Choose the correct statement
✓ C. A single chlorine free radical can destroy 10000 ozone molecules f

Q138. Which of the following is not an air pollutant? a. b.
✓ B. CO

Q139. Pick up the correct statement about photochemical smog
✓ D. Both b and c

Q140. The physical quantity which produces angular acceleration in the body is
✓ D. Torque

Q141. In dimension of angular momentum is
✓ C. M. L2 T-1

Q142. If A = B+C and A,B,C have scalaermaagnitudes of 5,4,3 unit respectively then the angle between vector A and vector B is
✓ D. Sin-1 (3/4)

Q143. Pick up the correct statement about photochemical smog
✓ A. Photo chemical smog contain nitric oxide and unburnt hydrocarbon as main reactant

Q144. A particle is travelling among a straight line OX. The distance x in meters of the particle from O at a time t is given by $X = 37 + 27t\ t^3$ where t is given by X in the seconds. The distance of particles from O when it comes to rest is. W3.
✓ B. 91m

Q145. A particle is projected from the ground with kinetic energy E at an angle of 60 degree with the horizontal. Its kinetic energy at the highest point of its motion will be
✓ C. E/4

Q146. A bullet on penetrating 30cm into its target loses its velocity by 50%. What additional distance will its penetrate into the target before ti comes to rest?
✓ A. 30 cm

Q147. When a spring is stretched by 10 cm, the . potential energy is stored is E. when the spring is stretched by 10cm more, the potential energy stored in the spring becomes.
✓ A. 2E

Q148. Average distance of the earth from the sun is L1. If one year of the earth =D days one year of another planet whose average distance from the sun is L will be 2
✓ A. D(L2/L1)1/2days

Q149. The point at which an applied force produces linear motion but no rotatory motion is
✓ A. Mid-pint

Q150. When a certain metal surface is illuminated with light of frequency v. the stopping potential for photoelectric current is V0. When the same surface is illuminated by light of frequency V/2, the stopping potential is V0-/4. The threshold frequency for photoelectric emission is
✓ A. V/6

Q151. Let L be the length and d be the diameter of cross section of a wire. Wires of the same material with different L. and d are subjected to the same tension along the length of the wire. In which of the following cases the extension of wire will be the maximum?
✓ B. L=300 cm, d=1.0 mm

Q152. An object placed in front of a concave mirror at a distance of X cm from the pole gives a 3 times magnified real image if it is moved to distance of X+5cm, the. Magnification of the image becomes 2. The focal length of the mirror is:
✓ A. 15 cm

Q153. 22320 calheat is supplied to 100g of ice at . zero degree centigrade. If thelatent heat of fusion of ice is 80 cal /g and latent heat of vaporization of water is 540 cal/g the final amount of water thus obtained and its temperature respectively are:
✓ A. 8 g, 100 degree centrigrade

Q154. A progressivewave moving along X axis is . represented by y = [(2 / -x)]. Thewavelength? Atwhich the maximum particle velocity is 3 time the wave velocity is
✓ A. A/3

Q155. Two radioactive substances A and B have . decay constant constant 5? And ?respectively. At t=0, they have the same number of nuclei of A to that of B will be 1/e2 after a time interval of
✓ A. 1/

Q156. A magnetic needle is placed in a uniform magnetic field and is alighned with the field. The needle is now rotated by an angle of 60 degree and the work donw is W. the torque on the magnetic needle at this position.
✓ A. 2V3W

Q157. A body when fully immersed in al iquid of specific gravity 1.2 weight 44gwt. The same body when fully immersed in water weight 50gwt. The mass of the body is a. 36g b. 48g
✓ B. ML 8T -2 and L3/2

Q158. The R.M.S. speed of a moelcules of a gas at 100 degree centrigrade is v. the temperature at which the R.M.S speed will be ? 3v is:
✓ A. 546 degree centigrade

Q159. A frictional piston cylinder bsae enclosure contains some amount of gas at a pressure of 400kPa. Then heat is pressure in a quasi- static process. The piston moves up slowly through a height of 10cmIf the piston has acrossecron area of 0.3m2, the work done by the gas in the process is:
✓ B. 12 kj

Q160. An electric cell of e.m.f E is connected across a copper wire of dimeter d and length l. the drift velocity of electrons in the wire is v0. If the length of the wire is changed to 21, the new drift velocity of electrons in the copper wire will be:
✓ B. 2v

Q161. The Hardy-Weinberg principle applies to a population that is
✓ B. Large and randomly mating

Q162. A ball is thrown vertically upward with a velocity of 98 m/s if it takes 10 seconds to reach the highest point then the acceleration of the ball is:
✓ D. -9 8 m/s²

Q163. The velocity of a car travelling on a straight road in 36 km/h at an instant of time. Now travelling with uniform acceleration for 10s, the velocity becomes exactly double if the wheel radius of the car is 25cm then which of the following number is the closest to the number of revolution that the wheel makes during this 10s?
✓ C. 126

Q164. Two glass prisms P1 and P2 are to be combined together to produce dispersion without deviation. The angle of the prisms P1 and P2 are selected as 40 and 30 respectively. If the refractive index of prism P1 is 1.54, then that of P2 will be:
✓ C. 1.62

Q165. A man throws a ball vertically upwards in compartment of an accelerated train. The ball will fall
✓ B. In his hand

Q166. Water is flowing in steam line motion through a horizontal tube. The pressure at a point in the tube is P where the velocity of flow is v. at another point, where the pressure is P/2, the velocity of flow is [density of water=p]
✓ B. (V2 – p/p)

Q167. A wire of initial length L and radius r is stretched by a length I. another wire of same material but with initial length 2 L and radius 2r is stretched by length 2l. the ratio of the stored elastic energy per unit volume in the first and second wire is:
✓ B. 1:2

Q168. A current of 1A is flowing along positive x- axis through a straight wire of length 0.5 m placed in a region of magnetic field give by B=(2? + 2j) T. the magnetifude and the direction of the force experienced by the wire respectively are:
✓ C. 2N, along positive axis

Q169. A bomer drop a bomd, when it is vertically above the tartet, it missed the target because of
✓ A. Vertical component of the velocity of bomber

Q170. There was a surprising story in the paper about the _____ car was stolen:
✓ D. Man whose

Q171. Several times during the ession the director _____ to tell his success story to the other promotion:
✓ C. Asked him

Q172. When one need career conunselling go th the college career advisor?
✓ C. He should

Q173. Did anybody do the work?
✓ B. Himself

Q174. Take your application to the _____ you think can help you.
✓ A. person whom

Q175. Which of the following is the same is meaning as the phrase “holding out” as used in passage?
✓ C. Sustaining

Q176. According to the passage the question of abortion is
✓ D. Left to the scientists to decide

Q177. Which of the following is true regarding the reasons for progress in genetic engineering?
✓ B. Human beings are extremely interested in heredity

Q178. Which of the following is same in meaning as the word “obliterate” as used in passage?
✓ B. Eradicate

Q179. Which of the following is the opposite in meaning to the word “charged” as used in the passage?
✓ C. Discharged

Q180. Agenda: conference (analogy);
✓ B. Agency : assignment (analogy)

Q181. Manacle: male factor (analogy)
✓ B. Suave maniac

Q182. Aerie : eagle (analogy)
✓ C. Hawk : falcon

Q183. Altimeter: height (analogy)
✓ C. Racetrack : furlong

Q184. Slipshod: organization (analogy)
✓ C. Prodigal : generosity

Q185. Rookie synonyms
✓ B. A new recruit

Q186. Catharisis synonyms
✓ B. Outlet of strong emotions

Q187. Adapt antonym
✓ D. Reject

Q188. Atheist antonym
✓ C. Believer

Q189. Generous antonym
✓ C. Selfish

Q190. 2,5,9 ____ 20, 27
✓ A. 14

Q191. 3, 6, 18, 72, _____
✓ D. 360

Q192. 12, 32, 72, 152, _____
✓ A. 312

Q193. 2,15, 41, 80, _____
✓ C. 121

Q194. 8, 10, 14, 18, _____ 34, 50, 60
✓ A. 24

Q195. Sick is to sack as lick is to
✓ A. Lack

Q196. What letter comes next in the following series? B D G K P
✓ D. V

Q197. What number comes next in the following series? 34 24 16 10 6
✓ D. 2

Q198. If 4 is more than 9 write a as your answer otherwise write b?
✓ A. A

Q199. Children go to school because
✓ B. They want to be away from home

Q200. The technique used to amplify DNA in vitro is called
✓ C. PCR

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SECTION 1 — PHYSICS (Q.1–Q.25)

Q1 **A student is trying to determine the type of membrane transport occurring in a cell. She fineds that the molecules to be transported is very large and when transported across the membrane, No ATP is used. Which of the following is the most likely mechanism of transport?**

A Active transport
B Simple diffusion
C Facilitated diffusion
D Exocytosis

Q2 **In the course of glycolysis**

A NADH is reduced to NAD+
B NAD+ is oxidized to NADH
C Glucose is degraded into two molecules
D Both A and B

Q3 **The epiglottis is to trachea as the lower esophaged (cardiac) sphineter is to the**

A Stomach
B Heart
C Small intestine
D Liver

Q4 **Starch is hydrolyzed into maltose by: a**

A Salivary amylase
B Maltose
C Pancreatic amylase
D Both A and

Q5 **Which of the following best describes the residual volume of the lungs?**

A The amount of air normally inhaled and exhaled with each breath.
B The maximum amount of air that can be forcibly inhaled and exhaled from the lungs.
C The volume of air that can still be forcibly exhaled following a normal exhalation.
D The volume of air that always remains in the lungs.

Q6 **The diagram shows events at a synapse. Which numbered arrow represents the movement of neurotransmitter across the synaptic cleft?**

A Arrow 1
B Arrow 2
C Arrow 3
D Arrow 4

Q7 **Arthropods can be characterized by all of the following except.**

A A hard exoskeleton
B A water vascular system
C Joined appendages
D Molting

Q8 **The role of decomposers in the nitrogen cycle is to:**

A Fix atmospheric nitrogen into ammonia.
B Incorporate nitrogen into amino acids and organic compounds.
C Convert ammonia to nitrate, which can be then absorbed by plants.
D Denitrify ammonia, thus returning nitrogen tot he atmosphere.

Q9 **Black coat color in horses is dominant over white. Two black horses produce a white foal. The probability that their second foal will be black is**

A 1/4
B 1/2
C 3/4
D 1

Q10 **Organisms that live in the intertidal zone b might have which of the following characteristics? (I) Ability to conduct photosynthesis (ii) Tolerance of periodic drought (iii) Tolerance of wide range of temperatures**

A I only
B II only
C I and II only
D I aiid lit only

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Q11 **In floral formula K stands for:**

A Corolla **B** Calyx
C perianth **D** Andraeciurn

Q12 **Hordeum vulgare ¡s the botanical name of:**

A Wheat **B** Oats
C Rice **D** Barly

Q13 **The usual duration of luteal phase in the menstrual cycle of human female is:**

A 4-6 days **B** s-10 days
C 12-14 days **D** 10-12 days

Q14 **Response to plants to touch is called:**

A Geotropism **B** Thigmotropism
C Nasticism **D** Mechanoreception

Q15 **Select the false statement.**

A All fungi are saprophytic **B** Mycology ¡s the study of fungi
C Fungi are non coenocytes **D** Puccinia is a obligate parasite

Q16 **Photosynthetic product from leaves to all parts of plant are disturbed through:**

A Vascular bundles **B** Phloein
C Cylem **D** Stomata

Q17 **In the F generation of di hybrid cross e 2 between yellow, round seeded and green wrinkled seeded pea plants. 17 out of 254 seeds were green and wrinkled other seeds were: *Yellow and round *Green and round *Yellow and wrinkled What do these results indicate?**

A Crossing-over has occurred **B** Green and wrinkled are both recessive characters
C The alleles for green and wrinkled are linked **D** The allele for green in recessive but not the allele for wrinkled

Q18 **Duck bill platypus and spiny ant eater have internal fertilization and are:**

A Ooviviparous **B** Viviparous
C Oviparous **D** None of the above

Q19 **Nematocvstsa re characteristics of:**

A Porifera **B** Protozoa
C Cnidarians **D** Annelida

Q20 **Which of the following is an acceptable nitrogen base composition for double stranded DNA?**

A 31%. A: 19% T; 31% C; I9%G **B** 36% A; 36% U; 24% C; 24% G
C 48% A: 48% T; 52% C; 52% G **D** 3 1 % A: 3 I % T; 19% C: I 9% G

Q21 The correct order of the structures through which air passes ¡s: I Nasal cavity Ii Bronchi III Larynx IV Air sacs V Trachea

A L, V, 111, Ii. IV
B I, V. 111.1V. II
C 1.111, IV, V, II
D I. Ill, V. IV, II

Q22 Which of the following pathways outlines the order of events dueing aerobic cellular respiration? First last

A Glucose triose phosphate pyruvate krebs cycle CO H O + ATP 2 2
B Glucose triose phosphate pyruvate krebs cycle CO + 2 H O + ADP + Pi 2
C Glucose Hexose phosphate pyruvate
D Glucose

Q23 The diameter of a tree ¡s reduced slightly (luring the day and increased at night. Which of the following changes in environment condition cause the greatest reduction in diameter?

A Increase in wind velocity. temperature, humidity and light intensity.
B Increases in temperature. humidity and light intensity.
C Increases in wind velocity, humidity and light intensity..
D Increases in wind velocity, temperature and light intensity.

Q24 Why is there no glucose present ¡n filtrate, c in the distal end of nephron?

A Glucose molecules are too large to pass across the basement membrane.
B Glucose removed by osmosis from the tubule.
C Glucose is passively absorbed by the cells lining the descending loop of Henle.
D Glucose ¡s actively absorbed by the proximal tubule cells.

Q25 Which of the following ¡s the stage of meiosis during which Paris of homologous chromosomes align at the centre of cells?

A Anaphase ll
B Metaphase I
C Prophase ll
D Metaphase I

SECTION 2 — CHEMISTRY (Q.26–Q.50)

Q26 The tricuspid valves prevent back flow of blood from the:

A Left ventricle into the left atrium. (B). Aorta into the left ventricle
B Pulmonary artery into the right ventricle.
C Right ventricle into the right atrium.

Q27 The liver:

A Decreases blood glucose levels
B Increases blood glucose levels
C Synthesizes glucose
D All of the above are the functions of the liver

Q28 At which two points of the menstrual cycle are the level estrogen height?

A Immediately before and after ovulation
B At ovulation and during the menstrual flow
C During the menstrual how and pregnancy
D Pregnancy and after menopause

Q29 Herpes ¡s a virus that enters the human body and remains dormant in the nervous system until is produces an outbreak, without any particular reason. Which of the following statements correctly describes herpes?

A While it remains dormant in the nervous system. the virus in its lysogenic cycle.
B During an outbreak, the virus is in the lytic cycle.
C Herpes integrates itself into the DNA of the cell.
D All of the above

Q30 Which of the following statements could not be used to describe a species?

A A group of organism showing distinctly similar autosomes.
B A group of organism showing analogues body structure.
C A group of organ ism capable of mating to produce viable offspring.
D A group of organisms sharing the same ecological niche.

Q31 A frictionless heat engine can be 100% efficient only its exhaUst temperatures is:

A Double of its input temperature
B Half of its input temperature
C Equal of its input temperature
D 100% (E)OK°

Q32 The vector which only specifies the direction of a given vector is called:

A Free vector
B Position vector
C Null vector
D Until vector

Q33 A ball is thrown vertically upward with velocity of 196rn/s. How high does the ball rise?

A 1960 meters
B 2960 meters
C 1000 meters
D ¡100 meters

Q34 If there is no external force applied to a system1 then the total momentum of that system remains constant. This is known as:

A Law of conservation of mass
B Elastic collision
C Law of conservation of momentum
D Momentum of body

Q35 A car travelling at a constant speed of 90 km/h rounds a curve of a radius 100m. what is its acceleration?

A 4.0 m/sec²
B 6.25 m/sec²
C 6.5 m/sec²
D 4.5 m/sec²

Q36 A body on a 20 m high cliff drops on stone. One second later, he trhows down another stones. Both the stones hit the ground simultaneously. Find the initial velocity of the second stone g = 10/sec².

A 5 m/sec²
B 10 m/sec²
C 15 m/sec²
D 20 m/sec²

Q37 An elevator, in which a man is Stan(ling moving upward with a constant speed of 10m/sec². If a man drops a coin front a height of 2.5m. Find the time taken by it to reach the floor of the elevation g = 9.8 m/sec2. (A)0.707sec

A 1.9 sec (C)3.1 sec (D)6.l7sec
B 7.15 sec

Q38 Which of the following is NOT a property of enzymes?

A They are proteins
B They are specific
C They are consumed in reactions
D They have an active site

Q39 **Which statement describes the electrical potential difference between two points in a wire carrying a current?**

A The force required to move a unit positive charge between the points.
B The ratio of the energy discipated between the points to the current.
C The ratio of the power discipated between the points to the current.
D The ratio of the power discipated between the points to the charge moved.

Q40 **Find the time period of a simple pendulum whose length is 88.2cm. The value acceleration due to gravity is 9.8m/sec2 at the place where experiment is performed?**

A 1 .885 sec
B 1 .233 sec
C 2.05 sec
D 4 sec

Q41 **A light bulb has resistance of 1500. Find the voltage while the current is 1.5 A.**

A 250V
B 300V
C 224V
D 225V

Q42 **An object that is moving with constant speed travels around a circular path. Which of the following is I are true concerning this motion? (I) The displacement is zero (ii) The average speed is zero (iii) The circulation ¡s zero**

A I only
B I and Ill only
C I and Ill only
D Iii only

Q43 **A system absorbs 80 J through heating while doing I00J of experimental work. What is the change in the internal energy of the system?**

A -1 00J
B -20J
C +80J
D +180J

Q44 **A region round a charge body in which another charge experiences an electric force is called:**

A Electric flux
B Electric field
C Electric potential
D Capacitance

Q45 **A convex lens of focal length 40cm is ¡n contact with a concave lens of focal length 25cm. The power of the combination ¡n diopters is: (A)-5.O**

A -6.5
B +6.5 (D)+6.67
C -7.7

Q46 **A simple pendulum suspended from the b ceiling of a train has a Period T when the train is at rest. When the train is accelerating with a uniform acceleration, the time period of simple pendulum will:**

A Decrease
B Increase
C Remain unchanged
D Become infinite

Q47 Lenz's law states that:

A The how of a fluid in a medium under same applied force experiences some sort of friction or resistance in its path.

B A body remains at rest of continuous to move with uniform velocity unless acted upon by an unbalanced force.

C The induced current always flows in such a direction as to oppose the change which giving rise to it.

D When a particle bearing a charge q and moving with a velocity V enters the region of a uniform magnetic field of induction B. it is acted upon by a force.

Q48 Two rail cargo cars are being hitted together. The first car has a mass 15750 KG and is moving at a sped of 4m/sec. calculate the final velocity of the two cars.

A 1.8 m/sec
B 3.8 m/sec
C 5.8 m/sec
D 7.8 m/sec

Q49 The chemical formula of urea is

A CO(NH■)■
B NH■
C CO■
D NH■Cl

Q50 Which of the following represents the electronic configuration of chlorine?

A 2,8,6
B 2,8,7
C 2,8,8
D 2,7,8

SECTION 3 — ENGLISH (Q.51–Q.65)

Q51 A detector with a surface area of 1 square meter is place 1m from an operating jackhammer. It measures the power of jackhammer sounds as being 10”3W. find the intensity of the jackhammer. a.

A 10-3W/ m^2
B 10-9 W/ m^2
C 10-7 W/ m^2
D 10-11 W/ m^2

Q52 Ultra violet light is more likely to cause a a photoelectric effect than a visible light. This is because photons of ultraviolet light.

A Have a longer wavelength
B Have higher velocity
C Are not visible
D Have a higher energy

Q53 If an object is released 196 meter above the ground. how long does it take the object to reach the ground? (g = 9.8 m/sec2)

A I second
B 2 seconds
C 3 seconds
D 8 seconds

Q54 Two tuning forks are sounded, one has a frequency of 250 Hz while the other has a frequency of 245 Hz. What is the frequency of the beats?

A 250 Hz
B 245 Hz
C 5 Hz
D 10 Hz

Q55 A rock is dropped from a high bridge at the en(l of 3 seconds of free fall the speed of he rock in cm/s. (A)30 (B)100 (C)500 (D)1000

A 2940

Q56 A body rolling freely on the surface of the earth eventually comes to rest because:

A It has mass
B It suffers friction
C It has inertia of rest
D It has a momentum

Q57 **A 100 Kg car can accelerate from rest to Speed of 25 m/sec in 10s. What average power (in kilo watts) must the engine of the car produce in order to cause this acceleration? Neglect the friction loss. (A)33.25 (B)3625 (C)48.44 (D)3125**

A 4125

Q58 **The kinetic energy of a projectile at the highest point is half of its kinetic energy. The angle of projection is:**

A 00
B 30°C
C 60CC
D 45°C

Q59 **A small and a large rain drops are falling b through air:**

A The small drop will evaporate
B T lie large drop move s fasters
C The small drop moves faster
D Both move with the same speed

Q60 **A container is divided into two equal portions. One portion contains an ideal gas at pressure P and temperature T while the other portion is a perfect vaccurti. If a hole is opened between the two portions.**

A There will he a change in internal energy.
B There ill be a change in temperature.
C There willhe no change in internal energy.
D The external pressure will increase.

Q61 **Which gaseous hydride most readily decomposes into its elements on contact with a hot glass rod?**

A Ammonia
B Hydrogen chloride
C Hydrogen iodide
D Steam

Q62 **The normal resting membrane potential of a neuron is approximately**

A +70 mV
B -70 mV
C +40 mV
D -40 mV

Q63 **Bleaching powder is a good:**

A Hydrating agent
B Oxidizing agent
C Dehydrating agent
D Reducing agent

Q64 **The value of the enthalpy change for the process represented by the equation. N3(s) »Na*) + e js equal to: g**

A The first ionization energy of sodium.
B The enthalpy change of vaporization of sodium.
C The sum of the enthalpy change of the atomization and the first ionization energy of sodium.
D The sum of the enthalpy change of atomization and the electron affinity of sodium.

Q65 **Which statement about one mole of metal is always correct?**

A It contains the same number of atoms as

SECTION 4 — BIOLOGY (Q.66–Q.100)

Q66 **As the atomic number increases in group, the chemical properties:**

A Change
B Stay roughly the same
C Decreases
D Increases

Q67 **The crystals formed as a result of Vander a Waals interactions are:**

A Molecular crystals
B Covalent crystals
C Metallic crystals
D Ionic crystals

Q68 **All the following are the true statement concerning catalyst except.**

A A catalyst will speed up the rate determining step.
B catalyst will be used up in a reaction.
C A catalyst may induce steric strain in a molecule to make it react more readily.
D A catalyst will lower the activation energy of reaction.

Q69 **Which of the following process is endothermic?**

A The condensation
B The electrolysis water
C The freezing of the water
D Ca + 2H O >CaO + H (s) 2 (i) (aq) 2

Q70 Which reagent gives a colorless homogeneous solution when added to phenol?

A Aqueous bromine (B) Aqueous sodium carbonate
B Aqueous sodium hydroxide
C Aqueous sodium hydroxide and benzoyl chloride

Q71 Which substance has tetrahedral geometry?

A Banzene
B Methane
C Cyclohexane
D None of the above

Q72 The.....free radical takes part in the destruction of the ozone layer.

A Chlorine
B Helium
C Neon
D Xenon

Q73 How many atoms of carbon are present in 17g of glucose I-le H-j2 06?

A 6.0 x 1022
B 3.6 x l023 (C)6.0x 1023 (D)3.6x1024 (D)6.0 x 1024

Q74 Which property of a gas effects the rate at which it spreads throughout a laboratory?

A Boiling point
B Molecular mass
C Reactivity
D Solubility in water

Q75 The bonding in sulphuric Acid can be represented by the structure shown. What is the total number of electrons in the covalent bonds surrounding the sulphur atom? (A)4 (B)6 (C)8

A 12

Q76 One mole of an organic compound is c completely burnt in oxygen. Which compound produces exactly three moles of water.

A Butane (C4 H20)
B Butanol C4 Hg OH
C Ethanol C2 H5 OH
D Propane C3 Hg

Q77 Which of the following is the correct definition of osmosis?

A Movement of solute from low to high concentration
B Movement of water from high to low water potential
C Movement of solute through a semipermeable membrane
D Movement of water from low to high concentration

Q78 When must a substance must be an alkane?

A When it burns in air or in oxygen.
B When it contains carbon and hydrogen only.
C When it has the general formula C H + n 2n 2
D When ¡t is generally un-reactive.

Q79 Which statement shows that diamond and graphite are allotropes of carbon?

A Both have giant molecular structures
B Complete combustion of equal masses of carbon dioxide as the only product
C Graphite conducts electricity, whereas diamond does not
D Under suitable conditions, graphite can he converted into diamond.

Q80 If Auf ban rule ¡s not followed in Íilling to the sub-shell then the block of which element will change in the periodic table.

A K(19)
B Se 21 (C)V 3 2
C Ni s 2

Q81 Which gas shows real behavior?

A 8g of 0 at S.T.P occupies a volume of 5.6 2 liters.
B 1g of H in 0.5 liter flask exerts pressure 2 of 24.63 atm at 3K.
C I mole of NH at 3K and 1 atm occupies 3 volume 22.4 liters.
D 5.6 liters of CO2 at STP is equal to 11 g.

Q82 heat of neutralization of strong acid by strong base is constant value because:

A Salts formed does not 1-lydrolyze
B Only H+ and OH" ions react in every case.
C Strong acid strong base react completely.
D Strong base and strong acid react in aqueous solution.

Q83 Coin pared with alkaline earth metals the alkali metals exhibit:

A Smaller ionic radii
B Greater hardness
C High boiling point
D Lower ionization energy

Q84 The number and types of bon(ls between b two carbon atoms in CaC2 are:

A One sigma and one Pi bond.
B One sigma and two Pi bonds.
C Two sigma, two Pi bonds.
D One sigma bond.

Q85 The alloy of copper and tin ¡s called:

A Brass
B Bronze
C German silver
D Metal

Q86 Which of the following is not an electrophile?

A NH 3
B B/ 3
C A/C/ 3 (D)Hg2+

Q87 Which of the following is an example of a zoonotic disease?

A Malaria
B Tuberculosis
C Typhoid
D Measles

Q88 Which xylene is most easily sulphonated.

A Ortha
B Para
C Meta
D All at the same rate

Q89 Which one of the following is likely to give a precipitate with AgN0 solution? 3

A NaCI
B CH C/ 3 3
C CH = CHCI 2
D (CH) CCI 3 3

Q90 In SP3d hydridization, the o orbital that participates in hybridization is:

A Dx2 – y2
B Dz^2
C Dxy
D Dxz

Q91 Which is not a past form of verb?

A Was
B Looked
C Had
D Spoke

Q92 Which contains an adjective?

A Old man
B On Tuesday
C She said (
D And you

Q93 Which contains on adverbs? c

A Fuel house
B Three women
C Was dirty
D Very funny

Q94 Which is not correct?

A In February
B On 5:00 O'clock
C At my house
D Near me

Q95 The Km value of an enzyme represents the substrate concentration at which

A Reaction rate is maximum
B Reaction rate is half-maximum
C Enzyme is fully saturated
D No reaction occurs

Q96 Which of the following is NOT found in RNA?

A Adenine
B Thymine
C Uracil
D Guanine

Q97 The type of RNA that carries amino acids to ribosomes is

A mRNA
B rRNA
C tRNA
D snRNA

Q98 ASTOUND:

A Shock
B Confer
C Condescend
D Strengthen

Q99 SCOPE:

A Cleans
B Mock
C Scrutinize
D Stifle

Q100 WISP:

A Tuft
B Pack
C Smell
D Spry

QUICK ANSWER GRID — Check all answers at a glance

PHYSICS

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
C	A	C	B	A	C	C	B	C	A
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
B	D	B	C	C	B	A	D	B	C
Q21	Q22	Q23	Q24	Q25					
E	D	A	A	B					

CHEMISTRY

Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35
C	A	B	C	A	D	A	B	C	A
Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45
D	A	C	E	A	D	B	B	B	A
Q46	Q47	Q48	Q49	Q50					
A	C	A	A	B					

ENGLISH

Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60
B	A	D	C	A	B	A	D	A	A
Q61	Q62	Q63	Q64	Q65					
C	B	B	A	A					

BIOLOGY

Q66	Q67	Q68	Q69	Q70	Q71	Q72	Q73	Q74	Q75
A	A	D	B	C	B	A	A	B	A
Q76	Q77	Q78	Q79	Q80	Q81	Q82	Q83	Q84	Q85
A	B	C	A	A	C	B	D	A	B
Q86	Q87	Q88	Q89	Q90	Q91	Q92	Q93	Q94	Q95
C	A	C	A	B	E	A	A	D	B
Q96	Q97	Q98	Q99	Q100					
B	C	A	C	B					

COMPLETE ANSWER KEY WITH DETAILED EXPLANATIONS

SECTION — PHYSICS

Q1. A student is trying to determine the type of membrane transport occurring in a cell. She fineds that the molecules to be transported is very large and when transported across the membrane, No ATP is used. Which of the following is the most likely mechanism of transport?
✓ C. Facilitated diffusion

Q2. In the course of glycolysis
✓ A. NADH is reduced to NAD+

Q3. The epiglottis is to trachea as the lower esophaged (cardiac) sphineter is to the
✓ C. Small intestine

Q4. Starch is hydrolyzed into maltose by: a
✓ B. Maltose

Q5. Which of the following best describes the residual volume of the lungs?
✓ A. The amount of air normally inhaled and exhaled with each breath.

Q6. The diagram shows events at a synapse. Which numbered arrow represents the movement of neurotransmitter across the synaptic cleft?
✓ C. Arrow 3

Q7. Arthropods can be characterized by all of the following except.
✓ C. Joined appendages

Q8. The role of decomposers in the nitrogen cycle is to:
✓ B. Incorporate nitrogen into amino acids and organic compounds.

Q9. Black coat color in horses is dominant over white. Two black horses produce a white foal. The probability that their second foal will be black is
✓ C. 3/4

Q10. Organisms that live in the intertidal zone b might have which of the following characteristics? (I) Ability to conduct photosynthesis (ii) Tolerance of periodic drought (iii) Tolerance of wide range of temperatures
✓ A. I only

Q11. In floral formula K stands for:
✓ B. Calyx

Q12. Hordeum vulgare ¡s the botanical name of:
✓ D. Barly

Q13. The usual duration of luteal phase in the menstrual cycle of human female is:
✓ B. s-10 days

Q14. Response to plants to touch is called:
✓ C. Nasticism

Q15. Select the false statement.
✓ C. Fungi are non coenocytes

Q16. Photosynthetic product from leaves to all parts of plant are disturbed through:
✓ B. Phloein

Q17. In the F generation of di hybrid cross e 2 between yellow, round seeded and green wrinkled seeded pea plants. 17 out of 254 seeds were green and wrinkled other seeds were: *Yellow and round *Green and round *Yellow and wrinkled What do these results indicate?
✓ A. Crossing-over has occurred

Q18. Duck bill platypus and spiny ant eater have internal fertilization and are:
✓ D. None of the above

Q19. Nematocvstsa re characteristics of:
✓ B. Protozoa

Q20. Which of the following is an acceptable nitrogen base composition for double stranded DNA?
✓ C. 48% A: 48% T; 52% C; 52% G

Q21. The correct order of the structures through which air passes ¡s: I Nasal cavity li Bronchi III Larynx IV Air sacs V Trachea
✓ E. —

Q22. Which of the following pathways outlines the order of events dueing aerobic cellular respiration? First last
✓ D. Glucose

Q23. The diameter of a tree ¡s reduced slightly (luring the day and increased at night. Which of the following changes in environment condition cause the greatest reduction in diameter?
✓ A. Increase in wind velocity. temperature, humidity and light intensity.

Q24. Why is there no glucose present ¡n filtrate, c in the distal end of nephron?
✓ A. Glucose molecules are too large to pass across the basement membrane.

Q25. Which of the following ¡s the stage of meiosis during which Paris of homologous chromosomes align at the centre of cells?
✓ B. Metaphase I

SECTION — CHEMISTRY

Q26. The tricuspid valves prevent back flow of blood from the:
✓ C. Right ventricle into the right atrium.

Q27. The liver:
✓ A. Decreases blood glucose levels

Q28. At which two points of the menstrual cycle are the level estrogen height?
✓ B. At ovulation and during the menstrual flow

Q29. Herpes ¡s a virus that enters the human body and remains dormant in the nervous system until is produces an outbreak, without any particular reason. Which of the following statements correctly describes herpes?
✓ C. Herpes integrates itself into the DNA of the cell.

Q30. Which of the following statements could not be used to describe a species?
✓ A. A group of organism showing distinctly similar autosomes.

Q31. A frictionless heat engine can be 100% efficient only its exhaUst temperatures is:
✓ D. 100% (E)OK°

Q32. The vector which only specifies the direction of a given vector is called:
✓ A. Free vector

Q33. A ball is thrown vertically upward with velocity of 196rn/s. How high does the ball rise?
✓ B. 2960 meters

Q34. If there is no external force applied to a system1 then the total momentum of that system remains constant. This is known as:
✓ C. Law of conservation of momentum

Q35. A car travelling at a constant speed of 90 km/h rounds a curve of a radius 100m. what is its acceleration?
✓ A. 4.0 m/sec²

Q36. A body on a 20 m high cliff drops on stone. One second later, he trhows down another stones. Both the stones hit the ground simultaneously. Find the initial velocity of the second stone g = 10/sec².
✓ D. 20 m/sec²

Q37. An elevator, in which a man is Stan(ling moving upward with a constant speed of 10m/sec². If a man drops a coin front a height of 2.5m. Find the time taken by it to reach the floor of the elevation g = 9.8 m/sec2. (A)0.707sec
✓ A. 1.9 sec (C)3.1 sec (D)6.I7sec

Q38. Which of the following is NOT a property of enzymes?
✓ C. They are consumed in reactions

Q39. Which statement describes the electrical potential difference between two points in a wire carrying a current?
✓ E. —

Q40. Find the time period of a simple pendulum whose length is 88.2cm. The value acceleration due to gravity is 9.8m/sec2 at the place where experiment is performed?
✓ A. 1 .885 sec

Q41. A light bulb has resistance of 1500. Find the voltage while the current is 1.5 A.
✓ D. 225V

Q42. An object that is moving with constant speed travels around a circular path. Which of the following is I are true concerning this motion? (I) The displacement is zero (ii) The average speed is zero (iii) The circulation ¡s zero
✓ B. I and lll only

Q43. A system absorbs 80 J through heating while doing I00J of experimental work. What is the change in the internal energy of the system?
✓ B. -20J

Q44. A region round a charge body in which another charge experiences an electric force is called:
✓ B. Electric field

Q45. A convex lens of focal length 40cm is ¡n contact with a concave lens of focal length 25cm. The power of the combination ¡n diopters is: (A)-5.O
✓ A. -6.5

Q46. A simple pendulum suspended from the b ceiling of a train has a Period T when the train is at rest. When the train is accelerating with a uniform acceleration, the time period of simple pendulum will:
✓ A. Decrease

Q47. Lenz's law states that:
✓ C. The induced current always flows in such a direction as to oppose the change which giving rise to it.

Q48. Two rail cargo cars are being hitted together. The first car has a mass 15750 KG and is moving at a sped of 4m/sec. calculate the final velocity of the two cars.
✓ A. 1.8 m/sec

Q49. The chemical formula of urea is
✓ A. CO(NH■)■

Q50. Which of the following represents the electronic configuration of chlorine?
✓ B. 2,8,7

SECTION — ENGLISH

Q51. A detector with a surface area of 1 square meter is place 1m from an operating jackhammer. It measures the power of jackhammer sounds as being 10”3W. find the intensity of the jackhammer. a.
✓ B. 10-9 W/ m²

Q52. Ultra violet light is more likely to cause a a photoelectric effect than a visible light. This is because photons of ultraviolet light.
✓ A. Have a longer wavelength

Q53. If an object is released 196 meter above the ground. how long does it take the object to reach the ground? (g = 9.8 m/sec2)
✓ D. 8 seconds

Q54. Two tuning forks are sounded, one has a frequency of 250 Hz while the other has a frequency of 245 Hz. What is the frequency of the beats?
✓ C. 5 Hz

Q55. A rock is dropped from a high bridge at the en(I of 3 seconds of free fall the speed of he rock in cm/s. (A)30 (B)100 (C)500 (D)1000
✓ A. 2940

Q56. A body rolling freely on the surface of the earth eventually comes to rest because:
✓ B. It suffers friction

Q57. A 100 Kg car can accelerate from rest to Speed of 25 m/sec in 10s. What average power (in kilo watts) must the engine of the car produce in order to cause this acceleration? Neglect the friction loss. (A)33.25 (B)3625 (C)48.44 (D)3125
✓ A. 4125

Q58. The kinetic energy of a projectile at the highest point is half of its kinetic energy. The angle of projection is:
✓ D. 45°C

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Q93. Which contains on adverbs? c
✓ A. Fuel house

Q94. Which is not correct?
✓ D. Near me

Q95. The Km value of an enzyme represents the substrate concentration at which
✓ B. Reaction rate is half-maximum

Q96. Which of the following is NOT found in RNA?
✓ B. Thymine

Q97. The type of RNA that carries amino acids to ribosomes is
✓ C. tRNA

Q98. ASTOUND:
✓ A. Shock

Q99. SCOPE:
✓ C. Scrutinize

Q100. WISP:
✓ B. Pack

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SECTION 1 — PHYSICS (Q.1–Q.25)

Q1 **Ambition is one of those is never satisfied.**

A Ideas **B** Fancies
C Energies **D** Passions

Q2 **The opponents were out numbered, but still the commander refused to**

A Out **B** Way
C Over **D** In

Q3 **Spot the error: 'The news are very disturbing.'**

A The news **B** are very
C disturbing **D** No error

Q4 **Choose the word most similar in meaning to 'FRUGAL':**

A Generous **B** Thrifty
C Extravagant **D** Wasteful

Q5 **Choose similar meanings: Barbarian.**

A Uncivilized **B** Civilized
C Cultured **D** Vagabond

Q6 **Choose opposite meaning: Uncertain.**

A Vague **B** Doubtful
C Sure **D** Clownish

Q7 **Choose the opposite meaning: Quote.**

A Cite **B** Analyze
C Saying **D** Feel

Q8 **He was very polite.....me. (A)To**

A With (C)On (D)For

Q9 **Read the passage to answer the question: 9- 10. Doctors are people who examine other people in their clinics. When patients visit them, the doctors follow a certain procedure. They take the pulse. thumb the CE TEST – 2012 d: 150 Minutes Qs = 100 chest and listen to the heart beats through the stethoscope. and perhaps a miniature rubber tyre ¡s put around the patient's arm and is blown up to check what ¡s called blood pressure Who are the other people whom doctors examine?**

A Men **B** Women
C Patients **D** Children

Q10 **Patients visit doctors means:**

A They address them **B** They go to them as patients
C They visit their homes **D** They make courtesy calls on them

Q11 Two masses of 7 kg and 3kg respectively are hanging on a frictionless pulley. Calculate the acceleration due to gravity.

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

Q12 A body is moving upward with a velocity of 500m/sec². what will be the height?

A 12.7 km
B 13.7 km
C 15 km
D 16 km

Q13 A ball is brown vertically upward with a velocity of 98 m/s. how high does the ball rise? G = 9.8 m/sec².

A 360m
B 380m
C 490m
D 510m

Q14 Which quantity can be described in terms of only two base quantities?

A Current
B Charge
C Force
D Temperature

Q15 If in a parallel plate capacitor we insert a metal sheet of half the thickness as compared with spacing between the plates of the capacitor, the capacitance becomes:

A %
B |
C 2c
D 4c

Q16 At given t taken a body at rest which then moves with an acceleration, after 3sec, its momentum: (A)2 (B)3

A I (D)0.5

Q17 Which pair includes a scalar quantity and a vector quantity?

A Kinetic energy and momentum
B Potential energy and work
C Velocity and acceleration
D Weight and force

Q18 A stone ¡s whirled, it experiences an inward force by string which is:

A Centrifugal force
B Proportional to square of speed
C Tangent
D Inverse of square of speed

Q19 One volt can be defined as:

A One joule work done in moving unit positive charge from one point to another
B Ratio of energy dissipated at one and other point
C Ratio of power dissipated at one and oilier point
D All of these

Q20 work done by a constant source of 1Kw power that ¡s 1000 J per sec ¡n one hour ¡s:

A Kwh
B Watt
C Watt hour
D M Watt

Q21 The focal length (f 10cm). At what distance object should be placed to get an image twice size of object?

A 15cm
B 20cm
C 25cm
D 30cm

Q22 In diffraction experiment, something done by moving apparatery away from screen such that plane wavelengths obtained. This describes:

A Michelson diffraction
B Newton's diffraction (Cl Einstein's diffraction
C None of the above

Q23 **Which of the following electromagnetic phenomenon wave nature ¡s not enough to explain?**

A Photoelectric effect **B** Interference
C Diffraction **D** Polarization

Q24 **A freely falling objects is an example of:**

A Newton's first law **B** Newton's 2nd law
C Archimedes principle **D** All of these

Q25 **if resulting intensity is greater than individual intensities of two waves then it is:**

A Constructive interference **B** Destructive interference
C Instinctive interference **D** None

SECTION 2 — CHEMISTRY (Q.26–Q.50)

Q26 **For 0 to 10 degree Celsius rise in temperature, volume of water will:**

A Increase **B** Decreases
C First increases then decreases **D** No effect

Q27 **In an organ pipe, ¡fa person blows ¡t fast then Q what change will occurs ¡n sound waves? (I) speed (ii) Amplitude (iii) Frequency (iv) Intensity**

A I and II **B** I only
C Ill only **D** I. II, III and IV

Q28 **A gas has a volume of 500m I at 760 torr. What will be the pressure if the volume is reduced to 300m1.**

A 1266.67 torr **B** 1366.67 torr
C 1 566 torr **D** 1 866 torr

Q29 **A student calculates the result of an experiment as 1.65, 1.72 and 1.89. But when he checks its answer comes out to be 2.35. What would it be called?**

A Precision and no accuracy **B** No precision but accurate
C No accuracy but precise **D** Accurate and precise

Q30 Heating a gas at constant volume will cause:

A Increase in temperature
B Increase ¡n temperature and internal energy
C Increase in internal energy
D Decrease ¡n internal energy and increase ¡n temperature

Q31 Light passes through two Parallel slits and falls on a screen. The pattern produced is due to interference and:

A Reflection
B Refraction
C Polarization
D Diffraction

Q32 A racing car accelerates uniformly through three gears, changes with the following aerage speed: 20 for 25, 40 for 2.05, 60 for 6 sec what is the over all average speed of the car'?

A 12 m/sec
B 13.3 m/sec
C 40 m/sec (D)48 m/sec (E)37

Q33 Radiations the chief method of energy transfer:

A From the sun to an earth satellite
B From a gas flame to water ¡n a tea Kettle
C From a soldering iron to metals being soldered.
D From water to an ice cube floating on ¡t.

Q34 A Rocket moves according to the principle of conservation of:

A Mass
B Force
C Energy
D Momentum

Q35 The property of bending of light around obstacles is called:

A Reflection
B Refraction
C Diffraction
D Interference

Q36 If a wire of resistance R is stretched to double its length, its new resistance will be

A R/2
B R
C 2R
D 4R

Q37 Weber is a unit of:

A Magnetic force
B Magnetic flux
C Electric flux
D Magnetic induction

Q38 To observer the position of micro particle with greatest accuracy, one must use light of:

A Long wavelength
B Short wavelength
C Low intensity
D 1-ugh intensity

Q39 The unit of electromotive force ¡s:

A Newton
B Newton/Coulomb
C Wait
D Volt

Q40 The cross products of two parallel vectors is:

A A null vector
B Unit vector
C Zero
D The products of magnitudes

Q41 The difference between the rough endoplasmic reticulum and smooth endoplasmic reticulum is due to the presence of:

A Mesosomes
B Ribosomes
C Golgi bodies
D Mitochondria

Q42 Which of the following is correctly paired with its function?

A Mitochondria: store lipids
B Golgi bodies: formation of polysaccharides
C Lysosomes, is a single celled organelle for packing
D Ribosome: work more efficiently in acidic medium

Q43 Which of the following hormones of c endocrine system is not paired correctly?

A Anterior pituitary gland = LH
B Adrenal cortex = Glucocorticoids
C Posterior pituitary' gland FSh
D Adrenal medulla = Epinephrine

Q44 Ascaris belongs to the phylum:

A Annelida
B Arthropoda
C Nematoda
D Echinodermata

Q45 The process of formation of RNA from DNA is called:

A Translation
B Transcription
C Mutation
D Replication

Q46 Loss of water through Hydathodes is called:

A Guttation
B Transpiration
C Photosynthesis
D Respiration

Q47 Which of the following is the part of pectoral girdle?

A Patella
B Pubis
C Femur
D Glenoid cavity

Q48 Antibodies are not present in:

A Blood
B Lymph
C Plasma
D Saliva

Q49 Two or more populations of different species living and inter active ¡n same area are called:

A Group
B Community
C Habitat
D Population

Q50 Apple trees oaks and palm trees are:

A Angiosperms
B Gymnosperms
C Chordates
D Bryophytes

SECTION 3 — ENGLISH (Q.51–Q.65)

Q51 Cerebellum causes:

A Muscle contraction
B Blinking of eyes
C Dilation and constriction of pupil
D Knee jerking

Q52 If a man is color blind and marry with normal woman, what will be correct?

A 100% of females will be carrier and 100% males will be normal.
B 50% normal males 100% affected females.
C 50% males affected 50% females carriers.
D 100% females normal. 50% males affected.

Q53 Pepsin is a.....and secreted by.....

A Acid-intestine
B Enzyme-stomach
C Protein-Jejunum
D Secretion-pancreas

Q54 **Which of the following is the correct outline of the main events in photosynthesis:**

A Oxygen reacts with carbohydrates to produce water and carbon dioxide in the presence of light.
B Lights join carbon dioxide to an acceptor compound which is then reduced by hydrogen obtained from water.
C Light splits water and the resulting hydroxyl group combines with a compound
D Light splits water and the resulting carbon then combines with a oxygen and hydrogen obtained from water.

Q55 **Progesterone causes:**

A Makes uterus ready for implantation
B Release FSH
C Produce follicle
D Inhibits LH

Q56 **Which one is not a respiratory organ of arthropods'?**

A Cills
B Book hung
C Trachea
D Antenna

Q57 **What is that response in which organism does iiot show any differences on repeated UN-harmful effect?**

A Imprinting
B Habituation
C Instinct learning
D Learning

Q58 **Which one ¡s the correct for the theory of Darwin? (I) Struggle for existence (ii) Survival (iii) Over production (iv) Evolution**

A I,II, III, IV
B III, I, IV
C IV III. II
D II, I, III IV

Q59 **Which one is not an STD?**

A Gonorrhea
B Syphilis
C AIDs
D Meningitis

Q60 **The common disease caused by lack of vitamin C is called:**

A Diabetes mellitus
B Typhoid
C Scurvy
D Malaria

Q61 **The cells transmits impulses from the:**

A Effectors organ to the spinal cord
B Receptor cells tot he effectors organ
C Receptor cells to the spinal cord cells
D Spinal cord to the effectors organ

Q62 **How many bones are present in the wrist?**

A Four bones
B Six bones
C Eight bones
D Ten bones

Q63 **Molds and yeast are classified as**

A Rhodophytes
B Bryophytes
C Fungi
D Ciliates

Q64 **A gamete without any sex chromosome termed as**

A Nullo gamete
B Neo-gamete
C Homozygous
D None

Q65 **Phosph-di-ester bond is present in**

A ATP
B GTP
C NAD
D ALL

SECTION 4 — BIOLOGY (Q.66–Q.100)

Q66 Pick the opposite working pair

A RBC and platelet
B Neutrophil and monocytes
C Basophils and eosinophil's
D Lymphocytes and monocytes

Q67 Protein found in highest concentration in blood is

A Albumin
B Globulin
C Prothrombin
D Fibrinogen

Q68 A page virus is a virus that infects

A Other virus
B Protozoa
C Bacteria
D Algae

Q69 Which one of the following does not change when the mucle contracts?

A A-band
B I-band
C H-zone
D Length of muscles

Q70 The swelling of structure due to absorption of water is called

A Guttation
B Plasmolysis
C Deplasmolysis
D Imbibition

Q71 The PH of 1 molar KOH is

A 8
B 7
C 14
D 1

Q72 The electronic configuration 1s2, 2s2, 2p6, 3s², 3p6, 4s², 3d7depiets an atom of the element.

A Br
B CO
C Ga
D Mg

Q73 Oxidation of secondary alcohol gives:

A Aldehyde
B Ketone
C Ethane
D Mineral acid

Q74 If two atoms of different elementrs having different electro negativities combine such a way that they share electreons ……. Then the bond between them is

A Polar covalent
B Non polar covalent
C Hydrogen bond
D Ionic bond

Q75 The genetic material in a bacteriophage is

A Protein
B DNA
C RNA
D Both DNA and protein

Q76 Which of the following is most highly reactive metal?

A Na
B Cl
C Mg
D Fe

Q77 There is a chemical under consideration. We do not know if it is HCl or H SO . Which of 2 4 the following compounds will react with the chemical under consideration to produce a precipitate and hence confirming the fact that the chemical is H2SO4.

A UNO3
B Ba(N0) 3 2
C AgNO 3
D NaCI

Q78 Shiny, electricall non conducting and brittles these characteristics depiets that under consideration is:

A Halogen
B Transition metal
C Alkali metals
D Alkaline earth metals

Q79 How many electrons are in Cl-37 with charge minus 1?

A 18 B 19
C 20 D 21

Q80 A gaseous organic compound C, was burnt in an excers of oxygen. A = 0.112dm sample of C measured at S.T.P, produced 0.88 g of carbon dioxide. How many carbon atoms are there is one molecular?

A 1 B 2
C 3 D 4

Q81 In neutralization

A The base is neutralized B The acid is neutralized
C Salt is formed D All of the above

Q82 a-ray (Alpha) are

A Fast moving electrons B Protons
C Neutrons D Positively charged helium nuclei

Q83 Which orbital has lowest energy?

A 3d B 4s
C 3p D 4f

Q84 Which one of the following one has largest ionic radius?

A Pb-3 B Cr-1
C K+ D Na+

Q85 Which of the following has greatest energy in the reaction?

A Transition state B Reactant
C Products D None

Q86 Coinage metals are

A Ni, Pd, Pt B Cu, Ag, Au
C An, Al, Pb D Fe, Si, Sn

Q87 Orbital of same energy are called as ……. orbital.

A Atomic B Molecular
C Degenerate D All

Q88 Which of the following does not form alcohol with Grignard reagent?

A HCHO B CH CHO 3
C CH COCH3 3 D CO 2

Q89 In gas and liquid temperature is measure of

A Vibrational kinetic energy
B Transitional kinetic energy
C Rotational kinetic energy
D Potential energy

Q90 Which one of the following has lowest critical temperature?

A CO 2
B Ar
C N 2
D O 2

Q91 Purity of solid substances can be checked by

A Shape
B Melting point
C Density
D Color

Q92 Boiling point of water depends upon

A Amount of water
B Surface area
C Vapour pressure
D Atmospheric pressure

Q93 Bond present in diamond is c

A Ionic
B Molecular
C Covalent
D Metallic

Q94 Aluminum does not corrode due to the formation of

A O layer 2
B H2O layer
C H2O layer
D Ai2O3 layer

Q95 AI2O3.2SiO2.2H2O is the formula of

A Feldspar
B Corundum
C Clay
D Gypsum

Q96 Dissociation of solute does not depend on

A Size of solvent
B Temperature
C Nature of solute
D Concentration of solute

Q97 Shape of the orbital is given by:

A Principle quantum number
B Azimuthal quantum number
C Magnetic quantum number
D Spin quantum number

Q98 Electrical energy is converted into chemical energy by

A Electrical cell
B Electrolytic cell
C Galvanic cell
D Daniel cell

Q99 When strong acid is added to the buffer solution, it results in the formation of

A Strong acid
B Weak acid
C Weak acid
D Weak base

Q100 Vapour pressure of water and ethanol is

A Greater than water
B Lesser than water
C Equal to water
D None

QUICK ANSWER GRID — Check all answers at a glance

PHYSICS

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
D	D	B	B	A	C	B	A	C	C
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
D	A	C	B	C	A	A	A	A	C
Q21	Q22	Q23	Q24	Q25					
A	A	A	A	A					

CHEMISTRY

Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35
C	C	A	A	B	D	C	A	D	C
Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45
D	B	B	D	C	B	E	A	C	B
Q46	Q47	Q48	Q49	Q50					
A	D	D	B	A					

ENGLISH

Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60
A	A	B	E	A	D	B	C	D	C
Q61	Q62	Q63	Q64	Q65					
D	C	C	A	D					

BIOLOGY

Q66	Q67	Q68	Q69	Q70	Q71	Q72	Q73	Q74	Q75
C	A	C	A	D	C	B	B	A	B
Q76	Q77	Q78	Q79	Q80	Q81	Q82	Q83	Q84	Q85
A	B	A	A	D	D	D	C	C	A
Q86	Q87	Q88	Q89	Q90	Q91	Q92	Q93	Q94	Q95
B	C	D	B	C	B	C	A	D	C
Q96	Q97	Q98	Q99	Q100					
D	A	B	D	A					

COMPLETE ANSWER KEY WITH DETAILED EXPLANATIONS

SECTION — PHYSICS

Q1. Ambition is one of those is never satisfied.
✓ D. Passions

Q2. The opponents were out numbered, but still the commander refused to
✓ D. In

Q3. Spot the error: 'The news are very disturbing.'
✓ B. are very

Q4. Choose the word most similar in meaning to 'FRUGAL':
✓ B. Thrifty

Q5. Choose similar meanings: Barbarian.
✓ A. Uncivilized

Q6. Choose opposite meaning: Uncertain.
✓ C. Sure

Q7. Choose the opposite meaning: Quote.
✓ B. Analyze

Q8. He was very polite.....me. (A)To
✓ A. With (C)On (D)For

Q9. Read the passage to answer the question: 9- 10. Doctors are people who examine other people in their clinics. When patients visit them, the doctors follow a certain procedure. They take the pulse. thumb the CE TEST – 2012 d: 150 Minutes Qs = 100 chest and listen to the heart beats through the stethoscope. and perhaps a miniature rubber tyre ¡s put around the patient's arm and is blown up to check what ¡s called blood pressure Who are the other people whom doctors examine?
✓ C. Patients

Q10. Patients visit doctors means:
✓ C. They visit their homes

Q11. Two masses of 7 kg and 3kg respectively are hanging on a frictionless pulley. Calculate the acceleration due to gravity.
✓ D. 4ms-2

Q12. A body is moving upward with a velocity of 500m/sec². what will be the height?
✓ A. 12.7 km

Q13. A ball is brown vertically upward with a velocity of 98 m/s. how high does the ball rise? G = 9.8 m/sec².
✓ C. 490m

Q14. Which quantity can be described in terms of only two base quantities?
✓ B. Charge

Q15. If in a parallel plate capacitor we insert a metal sheet of half the thickness as compared with spacing between the plates of the capacitor, the capacitance becomes:
✓ C. 2c

Q16. At given t taken a body at rest which then moves with an acceleration, after 3sec, its momentum: (A)2 (B)3
✓ A. I (D)0.5

Q17. Which pair includes a scalar quantity and a vector quantity?
✓ A. Kinetic energy and momentum

Q18. A stone ¡s whirled, it experiences an inward force by string which is:
✓ A. Centrifugal force

Q19. One volt can be defined as:
✓ A. One joule work done in moving unit positive charge from one point to another

Q20. work done by a constant source of 1Kw power that ¡s 1000 J per sec ¡n one hour ¡s:
✓ C. Watt hour

Q21. The focal length (f 10cm). At what distance object should be placed to get an image twice size of object?
✓ A. 15cm

Q22. In diffraction experiment, something done by moving apparatery away from screen such that plane wavelengths obtained. This describes:
✓ A. Michelson diffraction

Q23. Which of the following electromagnetic phenomenon wave nature ¡s not enough to explain?
✓ A. Photoelectric effect

Q24. A freely falling objects is an example of:
✓ A. Newton's first law

Q25. if resulting intensity is greater than individual intensities of two waves then it is:
✓ A. Constructive interference

SECTION — CHEMISTRY

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✓ C. First increases then decreases

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✓ C. IV Ill. II

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✓ A. 18

Q80. A gaseous organic compound C, was burnt in an excers of oxygen. A = 0.112dm sample of C measured at S.T.P, produced 0.88 g of carbon dioxide. How many carbon atoms are there is one molecular? ✓ D. 4	**Q81. In neutralization** ✓ D. All of the above
Q82. a-ray (Alpha) are ✓ D. Positively charged helium nuclei	**Q83. Which orbital has lowest energy?** ✓ C. 3p
Q84. Which one of the following one has largest ionic radius? ✓ C. K+	**Q85. Which of the following has greatest energy in the reaction?** ✓ A. Transition state
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Q90. Which one of the following has lowest critical temperature? ✓ C. N 2	**Q91. Purity of solid substances can be checked by** ✓ B. Melting point
Q92. Boiling point of water depends upon ✓ C. Vapour pressure	**Q93. Bond present in diamond is c** ✓ A. Ionic
Q94. Aluminum does not corrode due to the formation of ✓ D. Ai2O3 layer	**Q95. Al2O3.2SiO2.2H2O is the formula of** ✓ C. Clay
Q96. Dissociation of solute does not depend on ✓ D. Concentration of solute	**Q97. Shape of the orbital is given by:** ✓ A. Principle quantum number
Q98. Electrical energy is converted into chemical energy by ✓ B. Electrolytic cell	**Q99. When strong acid is added to the buffer solution, it results in the formation of** ✓ D. Weak base
Q100. Vapour pressure of water and ethanol is ✓ A. Greater than water	

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