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- Q.7 Which axon would transmit an action potential most rapidly?**
A) 1 mm diameter neuron lacking myelin C) 2 mm diameter neuron lacking myelin
B) 1 mm diameter neuron with myelin D) 2 mm diameter neuron with myelin
- Q.8 Vasopressin is an example of:**
A) Steroid hormone C) Peptide hormone
B) Catecholamine D) Glycoprotein
- Q.9 Which function is NOT controlled by hypothalamus?**
A) Regular hunger C) Regulate water balance
B) Regular sleep D) Storing long time memories
- Q.10 Posterior lobe of pituitary gland produces:**
A) Oxytocin C) Adreno Corticotropic Hormone (ACTH)
B) Thyroid Stimulating Hormone (TSH) D) Follicle Stimulating Hormone (FSH)
- Q.11 In neurons the message is transmitted across synapse in the form of chemical messenger called:**
A) Communication C) Nerve impulse
B) Neurotransmitter D) Noci receptors
- Q.12 Microscopic gap between the two neurons is called:**
A) Synapsis C) Collapse
B) Synapse D) Synaptic knob
- Q.13 In a reflex are the cell body of sensory neurons is located in:**
A) Ventral root ganglion C) White matter of spinal cord
B) Gray matter of spinal cord D) Dorsal root ganglion
- Q.14 The feelings and emotion of love and hate are controlled by:**
A) Amygdalae C) Thalamus
B) Hippocampus D) Hypothalamus
- Q.15 Which of the following is TRUE about Amoebae?**
A) They have flagella
B) They are multicellular
C) They do not cause any disease in humans
D) They move by forming specialized cytoplasmic projections called pseudopod
- Q.16 Negative feedback mechanism is the characteristic of which class?**
A) Class Fish C) Class Reptilia
B) Class Amphibia D) Class Mammalia
- Q.17 The catalytic activity of an enzyme is restricted to its small portion:**
A) Active site C) Allosteric site
B) Passive site D) Regulation site
- Q.18 The maximum enzymatic activity of trypsin is shown at:**
A) pH 2 C) pH 6
B) pH 4 D) pH 8
- Q.19 Most enzymes have an optimum temperature of around:**
A) 30 °C C) 50 °C
B) 40 °C D) 20 °C
- Q.20 Enzymes work by lowering the _____ of the reactions they catalyse:**
A) Kinetic energy C) Heat energy
B) Activation energy D) Potential energy
- Q.21 In term of enzyme action maximum temperature refers to a temperature at which:**
A) Enzymes start to denature C) Enzymes work best
B) Enzymes start to re-nature D) Enzymes are reactivated
- Q.22 _____ reduces the enzyme productivity by blocking the substrate from entering into the active site due to similar shapes:**

- A) Competitive inhibitors
B) Non-Competitive inhibitors
- Q.23 He presented the theory of origin of species by means of natural reaction:**
A) Lamarck
B) Linnaeus
C) Hardy-Weinberg
D) Darwin
- Q.24 Among the oldest known fossils comes the:**
A) Prokaryotes
B) Amphibians
C) Reptiles
D) Fishes
- Q.25 What is the contribution of hormone cholecystokinin?**
A) Facilitates bile release from gall bladder
B) Mucus release from stomach
C) Production of bile from liver
D) Gastric juice release from stomach
- Q.26 Which of the following is NOT a component of bile?**
A) Digestive enzymes
B) Salts
C) Mucus
D) Lecithin
- Q.27 The first chemical digestion of proteins takes place in the:**
A) Mouth
B) Oesophagus
C) Stomach
D) Intestine
- Q.28 Select the duration of cardiac cycle:**
A) 0.6 sec
B) 0.4 sec
C) 0.7 sec
D) 0.8 sec
- Q.29 Select the hormone which increase the activity of parietal and chief cells:**
A) Cholecystokinin
B) Secretin
C) Gastrin
D) Acetylcholine
- Q.30 The pathways of water transport in which water moves through plasmodesmata is:**
A) Apoplast
B) Symplast
C) Vacuolar
D) Ascent of sap
- Q.31 Enzyme trypsinogen is activated by:**
A) HCL
B) Pepsin
C) Enterokinase
D) Erypsin
- Q.32 Emulsification of large fat globules is facilitated by:**
A) Lipase
B) Bile salts
C) Trypsin
D) Chymotrypsin
- Q.33 The area between the two lungs is called:**
A) Periosteum
B) Infundibulum
C) Mediastinum
D) Hilum
- Q.34 In human heart, the left atrium receives:**
A) The Superior Vena Cave
B) The Inferior Vena Cave
C) The Coronary Sinus
D) The Four Pulmonary Veins
- Q.35 All viruses are:**
A) Autotrophs
B) Heterotrophs
C) Parasites
D) Predators
- Q.36 Which of the following is transmitted through infected blood and hypo syringes?**
A) HIV
B) Influenza Virus
C) Morbilli Virus (Measles)
D) Vibrio Cholerae (Cholera)
- Q.37 Light independent phase of photosynthesis involves:**
A) Formation of energy rich carbohydrates
B) Hydrolysis of water
C) ATP generation
D) Production of reducing molecules
- Q.38 The element whose electrons are excited during light reactions of photosynthesis is:**
A) Carbon
C) Magnesium

- Q.39** Select an example of fibrous protein:
- | | |
|---|--|
| <input checked="" type="checkbox"/> A) Enzymes | <input type="checkbox"/> C) Hemoglobin |
| <input checked="" type="checkbox"/> B) Hydrogen | <input type="checkbox"/> D) Nitrogen |
| <input type="checkbox"/> C) Collagen | <input type="checkbox"/> D) Hormones |



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- Q.40** Which Function is NOT performed by proteins?
- | | |
|--|---|
| <input type="checkbox"/> A) Providing structural support to cell | <input type="checkbox"/> C) Transporting materials across cell membrane |
| <input type="checkbox"/> B) Catalyzing biochemical reactions | <input type="checkbox"/> D) Providing insulation against heat loss |
- Q.41** Three hydrophobic fatty acid tails and a glycerol molecule join to form a:
- | | |
|---|---|
| <input type="checkbox"/> A) Monoglyceride | <input checked="" type="checkbox"/> C) Triglyceride |
| <input type="checkbox"/> B) Diglyceride | <input type="checkbox"/> D) Phospholipid |
- Q.42** Which bond is the potential source of chemical energy for cellular activities?
- | | |
|--|-----------------------------------|
| <input type="checkbox"/> A) C = O | <input type="checkbox"/> C) C – R |
| <input checked="" type="checkbox"/> B) C – H | <input type="checkbox"/> D) C – N |
- Q.43** Which property of water enables it to act as temperature stabilizer in living organisms?
- | | |
|---|--|
| <input type="checkbox"/> A) High polarity | <input type="checkbox"/> C) High specific heat capacity |
| <input type="checkbox"/> B) Being non polar | <input checked="" type="checkbox"/> D) High heat of vaporization |
- Q.44** Which molecules do not contribute to the formation of biological membranes?
- | | |
|---|--|
| <input type="checkbox"/> A) Glycoproteins | <input checked="" type="checkbox"/> C) Phospholipids |
| <input type="checkbox"/> B) Glycolipids | <input type="checkbox"/> D) Nucleoproteins |
- Q.45** Which of the following carbohydrates are sweetest among all?
- | | |
|--|--|
| <input checked="" type="checkbox"/> A) Monosaccharides | <input type="checkbox"/> C) Oligosaccharides |
| <input type="checkbox"/> B) Disaccharides | <input type="checkbox"/> D) Polysaccharides |
- Q.46** Which organelles of animal cells are called suicidal bags?
- | | |
|---|--|
| <input type="checkbox"/> A) Peroxisomes | <input checked="" type="checkbox"/> C) Lysosomes |
| <input type="checkbox"/> B) Glyoxisomes | <input type="checkbox"/> D) Food Vacuoles |
- Q.47** Chemically cell wall of fungi is made up of:
- | | |
|---------------------------------------|---|
| <input type="checkbox"/> A) Cellulose | <input type="checkbox"/> C) Chitin |
| <input type="checkbox"/> B) Lignin | <input checked="" type="checkbox"/> D) Murein |
- Q.48** The organelle which provides neurotransmitters in nervous pathway is:
- | | |
|--|---|
| <input type="checkbox"/> A) Glyoxisome | <input type="checkbox"/> C) Golgi apparatus |
|--|---|

- B) Peroxisome
D) Endoplasmic reticulum
- Q.49 The inner membrane of the mitochondria is folded to form finger like:**
A) Cisternae
B) Cristae
C) Chromatin
D) Chloroplast
- Q.50 Adenylate cyclase, in the cell membrane acts as:**
A) Channel protein
B) Carrier protein
C) Enzyme
D) Receptor
- Q.51 Glycogen, lipid, droplets form the most important _____ of the cell.**
A) Channel protein
B) Cell inclusions
C) Cytoplasmic matrix
D) Non membranous organelles
- Q.52 Vaccination is an example of:**
A) Natural passive immunity
B) Natural active immunity
C) Acquired/Artificial active immunity
D) Acquired/Artificial passive immunity
- Q.53 Lymphatic system contains all of the following organs / structures except:**
A) Lymphoid
B) Lymph vessels
C) Spleen
D) Lungs
- Q.54 The unique macro-molecule in the bacterial cell wall is:**
A) Polysaccharides
B) Proteins
C) Peptidoglycan
D) Cholesterol
- Q.55 Transfer of genetic material from one bacterium to another through a third party usually bacteriophage is called _____:**
A) Conjugation
B) Transformation
C) Transduction
D) Transportation
- Q.56 All of the followings are physical methods to control bacterial except:**
A) Sterilization
B) Boiling
C) Radiation
D) Antiseptics
- Q.57 Which of the following helps in developing immunity against germs?**
A) Radiotherapy
B) Chemotherapy
C) Vaccination
D) Antibiotics
- Q.58 After fertilization zygote takes _____ for its journey from fallopian tube to uterus:**
A) 6 – 7 days
B) 3 – 6 days
C) 10 – 12 days
D) 12 – 15 days
- Q.59 The best temperature for spermatogenesis:**
A) 37°C
B) 30°C
C) 32°C
D) 35°C
- Q.60 In human females FSH stimulates:**
A) Follicle development
B) Ovulation
C) Embryo implantation
D) Menstruation
- Q.61 Leydig cells in testes are responsible for:**
A) Testosterone production
B) FSH production
C) Sperm production
D) Testosterone inhibition
- Q.62 The muscle contraction involve the breakdown of cross bridges of actin and myosin filaments due to the following process:**
A) ATP is oxidised
B) ATP is reduced
C) ATP is hydrolysed
D) ATP is synthesized
- Q.63 _____ is the inflammation of joints:**
A) Osteoarthritis
B) Osteoporosis
C) Arteriosclerosis
D) Osteosclerosis
- Q.64 Tetany is caused by _____ in blood:**
A) Low Ca⁺⁺
B) High Ca⁺⁺
C) Low Mg⁺⁺
D) High Mg⁺⁺

Q.65 What is the function of myoglobin?

- A) Store oxygen
- B) Store CO₂
- C) Transport Oxygen
- D) Transport CO₂

Q.66 A joint in which ends of bones are covered with hyaline cartilage and held together by surrounding tube like capsule of dense fibrous tissue:

- A) Cartilaginous Joint
- B) Synovial Joint
- C) Fibrous Joint
- D) Immoveable Joints



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Q.67 These are the genes which tend to be inherited together and do not assort independently:

- A) Linked genes
- B) Dependent genes
- C) Recombinant genes
- D) Independent genes

Q.68 Mendelian inheritance follows which form of dominance relation?

- A) Complete dominance
- B) Incomplete dominance
- C) Co-dominance
- D) Multiple allelic dominance

PHYSICS

Q.69 The unit of kinetic energy is same as that of:

- A) Work
- B) Power / Time
- C) Time / Power
- D) Work / Time

Q.70 Which one of the following provides centripetal force in a circular motion of the body?

- A) Vertical component of weight
- B) Horizontal component of weight
- C) Weight of the body
- D) Force of friction

Q.71 How many radians are in one degree?

- A) 0.0174 rad
- B) 0.174 rad
- C) 1.745 rad
- D) 0.00174 rad

Q.72 Which one of the following is the angular velocity of an electric motor if it run at 400 rpm

- A) 51.2 rad/s
- B) 41.9 rad/s
- C) 45.2 rad/s
- D) 38.5 rad/s

Q.73 The tension is string at top of vertical circle is:

- A) Zero
- B) mg
- C) 2 mg
- D) 3 mg

Q.74 The centripetal force in terms of angular velocity is give by:

- A) $F_c = m r w$
- B) $F_c = m r w^2$
- C) $F_c = m r \alpha^2$
- D) $F_c = m r \alpha$

- Q.75 Which one of the following is angular speed in radian per hour for daily rotation of our earth?**
 A) 2π C) $\pi/6$
 B) 4π D) $\pi/12$
- Q.76 Wavelength of wave is defined as:**
 A) Distance between two consecutive crests C) Distance between two alternate trough
 B) Distance between two alternate crest D) Distance between two crest and two trough
- Q.77 Which of the following factor does not affect the speed of sound in air?**
 A) Pressure C) Temperature
 B) Density D) Medium
- Q.78 Maximum displacement of particles from its mean position is called:**
 A) Frequency C) Wavelength
 B) Amplitude D) Crest
- Q.79 The ultrasonic waves have frequency higher than:**
 A) 20 Hz C) 200 Hz
 B) 20 KHz D) 2000 KHz
- Q.80 The increase in the speed of sound for each degree rise above 0°C is:**
 A) 0.61 m/s C) 0.41 m/s
 B) 0.51 m/s D) 0.31 m/s
- Q.81 Continuous, regular and rhythmic disturbance in a medium resulting periodic vibration of a source causes _____ in the medium.**
 A) Complex waves C) Electromagnetic waves
 B) Stationary waves D) Periodic waves
- Q.82 The thermodynamic process during which volume of remain constant is called:**
 A) Isothermal C) Isochoric
 B) Isobaric D) Adiabatic
- Q.83 The conditions for application of Boyle's law holds good in:**
 A) Adiabatic process C) Isobaric process
 B) Isothermal process D) Isochoric process
- Q.84 The internal energy of a system during an isothermal process:**
 A) Decreases C) Become zero
 B) Increases D) Remain constant
- Q.85 Electric intensity due to charge distributions are calculated using which of the following law?**
 A) Ohm's law C) Gauss's law
 B) Faraday's law D) Ampere's law
- Q.86 The capacitance of capacitor does not depend on:**
 A) Area of plates C) Distance between plates
 B) Medium D) Thickness of plates
- Q.87 The SI unit of potential difference is:**
 A) Volt C) Watt
 B) Coulomb D) eV
- Q.88 Electric potential is defined as:**
 A) Work per unit charge C) Power per unit charge
 B) Force per unit charge D) Force
- Q.89 Ohm meter is the unit of:**
 A) Resistance C) Conductance
 B) Resistivity D) Conductivity
- Q.90 1eV is equal to:**
 A) 1.602×10^{-19} J C) 1620 J
 B) 16.02×10^{-19} J D) 162.0×10^{-19} J
- Q.91 The total resistance of wire inversely proportional to:**
 A) Length C) Temperature

- B) Area
Q.92 Kilowatt hour is a unit of:
 A) Energy
 B) Energy \times time
Q.93 The force exerted on charge particle will be maximum when it enter the magnetic field at:
 A) 60°
 B) 90°
- D) Time
 C) Power
 D) (Power)(Energy)
 C) 0°
 D) 45°



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- Q.94 When a charged particle enters the magnetic field parallel, then it will:**
 A) Deflect toward north
 B) Deflect toward south
 C) Move straight
 D) Move in circular path
- Q.95 The SI unit for magnetic induction B is tesla (T). 1 Tesla is equal to:**
 A) $\text{NA}^{-1}\text{m}^{-1}$
 B) NmA^{-1}
 C) N^{-1}mA
 D) NmA
- Q.96 Two balls collides each other, it has been observed that the collision is elastic. Which statement advocates the observation?**
 A) K.E before collision = K.E after collision
 B) Momentum before collision = Momentum after collision
 C) K.E before collision \neq K.E after collision
 D) Momentum before collision \neq momentum after collision
- Q.97 The gradient of velocity time is equal to:**
 A) Distance
 B) Force
 C) Acceleration
 D) Speed
- Q.98 At what pair of angles for a projectile the ranges are equal?**
 A) $20^\circ, 60^\circ$
 B) $60^\circ, 30^\circ$
 C) $40^\circ, 60^\circ$
 D) $25^\circ, 55^\circ$
- Q.99 Two car traveling on straight road in opposite direction with 70 kmh^{-1} and 60 kmh^{-1} , their relative velocity will be:**
 A) 10 kmh^{-1}
 B) 130 kmh^{-1}
 C) 65 kmh^{-1}
 D) 5 kmh^{-1}
- Q.100 Two bodies having same mass undergo elastic collision then their velocities after collision will be:**
 A) $v_1' = 0 \quad v_2' = v_1$
 B) $v_1' = v_2 \quad v_2' = 0$
 C) $v_1' = v_1 \quad v_2' = v_2$
 D) $v_1' = v_2 \quad v_2' = v_1$

- Q.101** The angle of a projection of a projectile for which its maximum height and horizontal range are equal is:
 A) 86° C) 66°
 B) 46° D) 76°
- Q.102** Slope of distance time graph can never be:
 A) Positive C) Constant
 B) Negative D) Zero
- Q.103** At highest point in a projectile motion, the velocity will be:
 A) $v_x = 0$ $v_y = 0$ C) $v_x = \text{constant}$ $v_y = \text{constant}$
 B) $v_x = 0$ $v_y = \text{constant}$ D) $v_x = \text{constant}$ $v_y = 0$
- Q.104** The unit of power in British engineering system is:
 A) Horse power C) J s^{-1}
 B) Watt D) Js
- Q.105** Work done will be negative if the angle between force and displacement is:
 A) 0° C) 60°
 B) 45° D) 180°
- Q.106** $1 \text{ Nms}^{-1} = \underline{\hspace{2cm}}$
 A) 1 Kilo watt hr C) 1 watt
 B) 1 J.s D) 1 J.s^{-2}
- Q.107** In inter-conversion of energy, the work done against the friction is:
 A) $f + h$ C) fh
 B) $f - h$ D) f / h
- Q.108** A car of mass 800 Kg accelerates from 20 m^{-1} to 30 m^{-1} , the increase in K.E
 A) 2J C) 200J
 B) 200KJ D) 2KJ
- Q.109** In Fleming's right hand rule the middle finger indicates:
 A) Force C) Induced current
 B) Magnetic field D) Volt
- Q.110** Transformer works on the principle of:
 A) Lenz's Law C) Mutual Induction
 B) Faraday's Law D) Ampere's Law
- Q.111** The efficiency of transformer is:
 A) 60% C) 80%
 B) 70% D) 90%
- Q.112** Lenz's law is also a statement of law of conservation of:
 A) Charge C) Momentum
 B) Energy D) Mass
- Q.113** A process in which only one half of alternating current is converted into direct current such process is called:
 A) Full wave rectification C) Half wave rectification
 B) Amplification D) Magnification
- Q.114** Efficiency of full wave rectifier circuit is almost _____ than half wave rectifier circuit:
 A) Four times C) Sixteen times
 B) Same as D) Double
- Q.115** The conversion of Alternating Current into Direct Current is called rectification and circuit is called rectifier. Which component of electronics acts as a rectifier?
 A) Diode C) Transformer
 B) Transistor D) Inductor
- Q.116** Red light is used in photographic dark room because of:
 A) More frequency, less wavelength C) Less frequency, more wavelength
 B) Less frequency, less wavelength D) More frequency, more wavelength

- Q.117 Which photons carries the most energy?**
 A) Blue B) Violet C) Red D) Green
- Q.118 Which one of the following series lies in the ultraviolet region?**
 A) Balmer series B) Pascher series C) Lyman series D) Bracket series
- Q.119 Which X-ray photon will have longest wavelength?**
 A) $K\alpha$ B) $K\beta$ C) $K\gamma$ D) $M\alpha$



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- Q.120 The half-life of Iodine –31 is:**
 A) 10 days B) 8 days C) 45 days D) 60 days
- Q.121 The half-life of carbon is 5730 years. How much carbon will left after 22920 years.**
 A) $1/32^{\text{th}}$ B) $1/16^{\text{th}}$ C) $1/64^{\text{th}}$ D) $1/4^{\text{th}}$
- Q.122 Skin burns, loss of hair, drop in the white blood cells etc. are example of:**
 A) Somatic effect B) Genetic effect C) Metabolism effect D) Mutation effect

LOGICAL REASONING

- Q.123 Read the passage and the following statements below. The choose the option, basing your answer only on the information provided.**
 The Early Medieval period (642–1219 CE) witnessed the spread of Islam region which is now known as Pakistan. During this period, Sufi missi played a pivotal role in converting a majority of the regional Buddhist and population to Islam.
- Statements:**
- I. Islam was spread in the Pakistan region during the Early Medieval period
 - II. Sufi missionaries converted a lot of people to Islam during this time by
 - III. It can be said that the Sufis were responsible for Pakistan ultimately by an Islamic country.
- A) Only I is correct
 B) Only I and II are correct
 C) I, II and III; all are correct

D) Only I and III are correct

Q.124 Observe the pattern and select the next term in the sequence



A) • Smiley Face Square

B) Smiley Face Square •

C) Smiley Face Frowny • Square

D) Smiley Face Frowny Square •

Q.125 Read the following and choose the correct answer:

“X, Y and Z are three whole numbers less than 24 but greater than 11 smallest prime number. Y is the largest number divisible by 2. Z is the number divisible by 11”?

A) X is 13, Y is 24, Z is 11

B) X is 13, Y is 21, Z is 22

C) X is 11, Y is 21, Z is 11

D) X is 11, Y is 24, Z is 22

Q.126 I. The government has increased the taxes on all businesses in Pakistan

II. Many small businesses will have to close their operations in Pakistan

A) Statement I is the cause and statement II is its effect

B) Statement II is the cause and statement I is its effect

C) Both the statements I and II are independent causes

D) Both the statements I and II are effects of independent causes

Q.127 Read the following statement, assuming everything in it to be true. The which of the given suggested courses of action logically follow and pursuing.

Statement:

My laptop's battery is low and needs to be charged.

Courses of Action:

I. Stop using the laptop to save power

II. Get a new fully charged battery and replace it with my old one.

A) I

B) II

C) Both I and II

D) Neither I nor II

Q.128 All hammers are tools. Some tools are useless things. All useless trash. Which of the following conclusions is NECESSARILY TRUE given information above?

Conclusions:

I. Some hammers are trash.

II. Some tools are trash.

III. All useless things are tools.

A) I and III

B) I and II

C) II and III

D) II

CHEMISTRY

Q.129 The molecules of iodine (I_2) form the:

A) Molecular crystals

B) Covalent crystals

C) Ionic crystals

D) Metallic crystals

Q.130 When 2 ice cubes are pressed over each other they unite to form one cube due to:

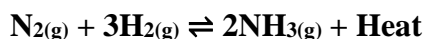
A) Dipole dipole attraction

C) Van Der Waal's forces

B) Covalent attraction

D) H – bonding

Q.131 For the chemical reaction



We can maximize the yield of NH₃:

A) By increasing the temperature

B) By decreasing the pressure

C) By increasing the volume of the reaction vessel

D) By continuous withdrawal of ammonia after intervals



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Q.132 The high pressure of 200 atm in Haber process is used for:

A) Better yield

C) Lower rate

B) Lower yield

D) Cost decrease

Q.133 By which of the following factors equilibrium state is attained earlier?

A) Temperature

C) Concentration

B) Pressure

D) Catalyst

Q.134 Which of the following is not the use of the Buffer solution?

A) Used for the calibration of pH meters

C) Maintain the pH of the human blood

B) Used to preserve biological specimen

D) Predict the concentration of a substance

Q.135 What is incorrect about activated complex?

A) It is a high energy specie

B) It is a stable specie

C) It is an unstable specie

D) Potential energy is maximum at activated complex stage

Q.136 The unit of rate constant is the same as that of the rate of reaction in which of the following order of reaction?

A) Zero

C) Second

B) First

D) Third

Q.137 If a reaction is first order with respect to a reactant then the rate will be if concentration of reactant is doubled:

A) Doubled

C) One fourth

B) Halved

D) Quadrupled

Q.138 The correct equation for the first law of thermodynamics is:

A) $\Delta E = q + w$

C) $\Delta E = \Delta q - p \Delta v$

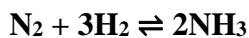
- B) $\Delta E = w - q$ D) $\Delta E = \Delta q + p \Delta v$
- Q.139 One calorie is equal to:**
 A) 4.18 KJ C) 0.418 KJ mol⁻¹
 B) 4.18 J D) 0.418 KJ
- Q.140 The thermal energy at constant pressure is called:**
 A) Enthalpy C) Heat capacity
 B) Internal energy D) Work done
- Q.141 Which statement correctly describes the term Standard Electrode Potential?**
 A) It is the electrode potential determined at room temperature and pressure
 B) It is the electrode potential determined under standard conditions using Standard Hydrogen Electrode as the other electrode
 C) It is the electrode potential of an element and its solution compared to a standard value
 D) It is the potential which is measured when two half cells are connected together
- Q.142 Oxidation number of an element in free state is:**
 A) Negative C) Zero
 B) Positive D) ± 1
- Q.143 The branch of science which deals with conversion of electrical energy to chemical energy and vice versa is called:**
 A) Electrochemistry C) Stereochemistry
 B) Thermochemistry D) Biochemistry
- Q.144 Which of the following has greatest difference of electronegativity?**
 A) HF C) HBr
 B) HCl D) HI
- Q.145 Ionization energy decreases down the group because:**
 A) Shielding remains constant C) Proton number increases
 B) Atomic radius remains constant D) Atomic radius increases
- Q.146 Carbon atoms in ethane are _____ hybridized:**
 A) sp³ C) sp
 B) sp² D) sp³d
- Q.147 The type of bonding in Zinc is:**
 A) Ionic C) Dative
 B) Covalent D) Metallic
- Q.148 Which one of the following is semiconductor?**
 A) Al C) P
 B) Si D) Mg
- Q.149 Which of the following property decreases in Group 2 as we go down the group:**
 A) Shielding C) Proton number
 B) Atomic radius D) Ionization energy
- Q.150 Which of the following alkali metal can form normal oxide as well as peroxide:**
 A) Na C) Li
 B) K D) Cs
- Q.151 The transition element which doesn't show variable valency:**
 A) Cu C) Zn
 B) Sc D) Cr
- Q.152 The binding energy of transition metals increases upto group:**
 A) II B C) III B
 B) IV B D) VI B
- Q.153 Homo-cyclic organic compounds are sub divided into two types namely:**
 A) Alicyclic and Aromatic C) Aromatic and non-aromatic
 B) Open chain and branched chain D) Anti-aromatic
- Q.154 The type of isomerism arising due to shifting of proton from one atom in the same molecule is:**

- A) Chain isomerism
B) Metamerism
C) Tautomerism
D) Position isomerism

Q.155 In alkanes each Carbon has hybridization:

- A) sp^3
B) sp
C) sp^2
D) dsp

Q.156 For the reaction given below



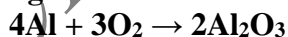
How many moles N_2 are required for synthesis of 4 moles of NH_3 ?

- A) 4 moles of N_2
B) 2 moles of N_2
C) 3 moles of N_2
D) 4.5 moles of N_2



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Q.157 Al reacts with O_2 according to following reaction



27g of Al will react with how much of O_2 ?

- A) 8g
B) 16g
C) 24g
D) 32g

Q.158 One mole of a substance is the amount of that substance that has the same number of particles (atom, ions or molecules) as there are atoms in exactly:

- A) 1.008g of hydrogen gas (H_2)
B) 16g of oxygen gas (O_2)
C) 12g of carbon –12 isotopes
D) 12g of magnesium

Q.159 Principle quantum number is represented by the symbol:

- A) m
B) n
C) s
D) l

Q.160 Shape of the sub shell is explained by which quantum number:

- A) Principal quantum number
B) Azimuthal quantum number
C) Magnetic quantum number
D) Spin quantum number

Q.161 The electronic configuration for degenerated orbitals is explained by:

- A) Aufbau Principle
B) $n + l$ rule
C) Hund's rule
D) Pauli exclusion principle

Q.162 Maximum number of electrons which can placed in one orbital is:

- A) 1
B) 2
C) 3
D) 4

Q.163 Air is a mixture of gases. The molecules of air do not settle down due to:

- A) Different molar mass
B) Non polar nature of gases
C) Presence of dust particles in air
D) Elastic collision of gas molecules

- Q.164 Collision shown by gases involve the following:**
A) No energy change
B) No pressure change
C) Small energy change
D) large energy change
- Q.165 According to Charles law volume of gas reduces to zero at:**
A) $-12\text{ }^{\circ}\text{C}$
B) $-0\text{ }^{\circ}\text{C}$
C) $-273.15\text{ }^{\circ}\text{C}$
D) $-210\text{ }^{\circ}\text{C}$
- Q.166 The strongest hydrogen bond is present in:**
A) H_2S
B) HF
C) H_2O
D) NH_3
- Q.167 Which of the following has highest surface tension?**
A) Benzene
B) Alcohols
C) Ether
D) Water
- Q.168 Which of the following has highest boiling point?**
A) C_4H_{10}
B) C_6H_{14}
C) $\text{C}_{10}\text{H}_{22}$
D) C_3H_8
- Q.169 Ice floats on the surface of water due to:**
A) Larger bond length
B) Cubic structure of ice
C) Weak intermolecular forces
D) Empty spaces in the structure of ice
- Q.170 Which of the following is not oxidized by any oxidizing agent?**
A) Benzene
B) Toluene
C) Ethylbenzene
D) Xylene
- Q.171 The correct order of reactivity of hydrocarbons is:**
A) Alkanes > Alkynes > Alkenes
B) Alkenes > Alkanes > Alkynes
C) Alkynes > Alkenes > Alkanes
D) Alkenes > Alkynes > Alkanes
- Q.172 Reactivity order of halogen acid is:**
A) $\text{HF} > \text{HCl} > \text{HBr} > \text{HI}$
B) $\text{HBr} > \text{HCl} > \text{HI}$
C) $\text{HCl} > \text{HBr} > \text{HI} > \text{HF}$
D) $\text{HI} > \text{HBr} > \text{HCl} > \text{HF}$
- Q.173 Alkyl halides are also known as Halogen derivatives of:**
A) Alkanes
B) Alkenes
C) Alkynes
D) Alcohols
- Q.174 Grignard reagent is formed when alkyl halide reacts in presence with:**
A) Calcium
B) Potassium
C) Sodium
D) Magnesium
- Q.175 Phenols are very reactive towards:**
A) Oxidizing agent
B) Reducing agent
C) Dehydrating agent
D) Hygroscopic agent
- Q.176 Both alcohols and phenols contain:**
A) $-\text{OH}$ group
B) $-\text{COOH}$ group
C) $-\text{CH}_3$ group
D) $-\text{CHO}$ group
- Q.177 Select the correct order of relative acidic strength of phenol, alcohol, carboxylic acid:**
A) Carboxylic acid > Water > Phenol > Alcohol
B) Carboxylic acid > Phenol > Water > Alcohol
C) Carboxylic acid > Alcohol > Phenol > Water
D) Carboxylic acid > Water > Alcohol > Phenol
- Q.178 Carboxylic Acid reacts with Alcohol to form:**
A) Ester
B) Aldehyde
C) Ketones
D) Alkyl Halide
- Q.179 Catalytic reduction of Aldehyde & Ketone forms:**
A) Alcohol
B) Carboxylic acid
C) Alkane
D) Aldehyde
- Q.180 When Aldehyde reacts with 50% NaOH, this reaction is called as:**

- A) 2, 4 –DNPH reaction
B) Aldol condensation reaction
- C) Clemmensen reaction
D) Cannizarro's reaction

Q.181 Based on function, thyroxin can be classified as:

- A) Hormonal protein
B) Structural protein
- C) Transport protein
D) Genetic protein

Q.182 Enzyme is a natural substance that:

- A) Increases the rate of chemical reaction
B) Decreases the rate of chemical reaction
- C) Has no effect on the rate of chemical reaction
D) Stops the chemical reaction



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ENGLISH

Q.183 The word 'RITUL' means:

- A) Original
B) Religion
- C) Routine
D) Custom

Q.184 Choose the correct spelling:

- A) Renaissance
B) Renaissance
- C) Renaisance
D) Reniassance

Q.185 Choose the correct spelling:

- A) Expident
B) Expedient
- C) Expedient
D) Expediant

Q.186 Choose correct option from the following.

Finally the accused was found guilty _____ the crime.

- A) From
B) Of
- C) For
D) To

Q.187 Choose the correct spelling:

- A) Defficiency
B) Daficiency
- C) Deficiency
D) Defeciency

Q.188 Hundreds of years old palace could not withstand the _____ of heavy rain.

- A) Aftermath
B) Havoc
- C) Annoyance
D) Massacre

Q.189 He began to _____ the heap of corns very carefully.

- A) Assess
B) Inspect
- C) Analyze
D) Evaluate

Q.190 How cold the night is! Which kind of sentence is it?

- A) Interrogative
B) Declarative
C) Exclamatory
D) Imperative

Q.191 Identify the errors in the sentence to choose the correct option from below.

Tennis gives you plenty of exercise it develops quickness of eye and limb and your brain your thinking power into action

- A) Tennis gives you plenty of exercise, it develops quickness of eye and limb calls your brains, your thinking power into action
B) Tennis gives you plenti off exercise; It develops quickness of eye; limb your brain, your thinking power over action
C) Tennis gives you plenty of exercise; it develops quickness of eye; limb upon your brane, your thinking power over the action
D) Tennis gives you plenty of exercise; it develops quickness of eye and calls your brain, your thinking power into action.

Q.192 It _____ good players who bring good name to a country.

- A) was
B) were
C) is
D) are

Q.193 I don't think I _____ be able to go.

- A) can
B) should
C) shall
D) must

Q.194 Ethics _____ important for a peaceful and loving society.

- A) have
B) has
C) are
D) is

Q.195 Engineers _____ working on a new project for the last three days.

- A) are
B) has been
C) have been
D) ought to be

Q.196 The word 'CREDENTIALS' means:

- A) Trust
B) Qualifications
C) Credits
D) Beliefs

Q.197 Identify the errors and choose the correct option.

The wind blew the rein fell the lightning flashed

- A) The wind blew, the rain fell, and the lightning flashed
B) The wind blue the rain fell, and the lightening flashed
C) The wind blew, the rain fell and the lightening flashed
D) The wind blew, the rain fell; and the lightening Flashed

Q.198 Identify the errors and choose the correct option.

Time and tyde wait for no man

- A) Time, tide wait for no men
B) Time and tide waits for no man
C) The time and the tide weight for no man
D) Time tide, wait over know man

Q.199 Choose the correct option.

Negotiations between the two sides have _____.

- A) Broken off
B) Broken down
C) Broken up
D) Broken in

Q.200 Choose the correct sentence.

- A) Your voice was recognized by me at once.
B) All her boats has been lost in the storm.
C) A committee of five were appointed.
D) The crowd were very big.



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