

**BIOLOGY >> Coordination and Control/ Nervous and Chemical Coordination**

1. The term that should be last in the reflex sequence is:

- A. Receptor
- B. Effector**
- C. Sensory neuron
- D. Motor neuron

**BIOLOGY >> Biodiversity (Acellular Life/Variety of Life)**

2. Where does the bacteriophage replicate?

- A. Human
- B. Animal
- C. Bacteria**
- D. Horse

**BIOLOGY >> Enzymes**

3. In non-competitive inhibition, the extent of inhibition depends only on?

- A. concentration of enzyme
- B. concentration of substrate
- C. concentration of ES complex
- D. concentration of inhibitor**

**BIOLOGY >> Life processes in animals and plants (Nutrition/Gaseous exchange/Transport)**

4. Which of these cells is not present in phloem?

- A. companion cell**
- B. sieve tube members
- C. vessels
- D. parenchyma

**BIOLOGY >> Reproduction**

5. What is the name of the tube that carries sperm and urine out of the human body?

- A. Penis
- B. seminal vesicles
- C. urethra**
- D. Ureter

**BIOLOGY >> Variation and Genetics / Inheritance**

6. An individual that is homozygous-dominant for a particular trait carries?

- A. 3 copies of allele
- B. 4 copies of allele
- C. 5 copies of allele
- D. 2 copies of alleles**

**BIOLOGY >> Coordination and Control/ Nervous and Chemical Coordination**

7. The lighter, inner section of the brain is called:

- A. white matter**
- B. Gray matter
- C. Reflex arc
- D. Medulla

**BIOLOGY >> Cell Structure and Function**

8. Which of the following is not the function of endoplasmic reticulum?

- A. transport of material
- B. mechanical support
- C. Synthesis of conjugated molecules**
- D. all of these

**BIOLOGY >> Bio-Energetics**

9. Which one is not an energy releasing process?

- A. Glycolysis
- B. Photosynthesis**
- C. Respiration
- D. Krebs Cycle

**BIOLOGY >> Bio-Energetics**

10. Which of the following pigment is Blue- green in colour?

- A. Chlorophyll a**
- B. chlorophyll b
- C. chlorophyll c
- D. none of these

**BIOLOGY >> Evolution**

11. The selection for a trait on one extreme is called which of the following?

- A. natural selection
- B. directional selection**
- C. stabilizing selection
- D. all of these

**BIOLOGY >> Reproduction**

12. In asexual reproduction offspring are produced by which of the following?

- A. meiosis**
- B. mitosis
- C. both a and b
- D. none of these

**BIOLOGY >> Biodiversity (Acellular Life/Variety of Life)**

13. Which of the following is not a component of HIV?

- A. RNA
- B. protein
- C. ribosomes**
- D. reverse transcriptase

**BIOLOGY >> Diversity among Animals**

14. Haemolymph is present in:

- A. Amphibians
- B. Reptiles
- C. Fish
- D. None of the above.**

**BIOLOGY >> Life processes in animals and plants (Nutrition/Gaseous exchange/Transport)**

15. The inflammation of bronchi or bronchioles is known as

- A. emphysema
- B. asthma
- C. pneumonia
- D. bronchitis**

**BIOLOGY >> Biological Molecules Enzymes**

16. Which one of the following biomolecules is most abundant in animals?

- A. Starch
- B. glycogen**
- C. cellulose
- D. both a and b

**BIOLOGY >> Support and Movement**

17. What is the specialized organelle in muscle cells that serves to sequester calcium?

- A. T-tubule
- B. Sarcolemma
- C. Sarcomere
- D. Sarcoplasmic reticulum**

**BIOLOGY >> Biological Molecules Enzymes**

18. Which is true regarding open chain structure of glucose

- A. there are six asymmetric carbon
- B. there are five asymmetric carbons
- C. there are four asymmetric carbon**
- D. there are three asymmetric carbon

**BIOLOGY >> Reproduction**

19. Which cells produce oogonia in ovary?

- A. Stromal cells
- B. Epithelial cells
- C. Germ cells**
- D. theca cells

**BIOLOGY >> Prokaryotes**

20. Flagella are basically composed of a

- A. protein**
- B. chemical
- C. enzyme
- D. None of above

**BIOLOGY >> Biological Molecules Enzymes**

21. Glycogen is how glucose is stored in the human body. Where is it most abundantly found?

- A. Liver
- B. Muscles
- C. kidneys
- D. both a and b**

**BIOLOGY >> Life processes in animals and plants (Nutrition/Gaseous exchange/Transport)**

**22. Thymus, spleen, tonsils and adenoids produce:**

- A. erythrocytes
- B. lymphocytes**
- C. phagocytes
- D. thrombocytes

**BIOLOGY >> Biodiversity (Acellular Life/Variety of Life)**

**23. Refers to the final changes within an immature virion that result in an infectious virus particle:**

- A. assembly
- B. coating
- C. integration
- D. maturation**

**BIOLOGY >> Enzymes**

**24. The number of water soluble vitamins is?**

- A. 3
- B. 6
- C. 9
- D. 12**

**BIOLOGY >> Support and Movement**

**25. Myosin filaments are contained within each:**

- A. Sarcomere**
- B. microtubules
- C. Filaments
- D. M-line

**BIOLOGY >> Prokaryotes**

**26. All of the following are characteristics of prokaryotic cells except for?**

- A. unicellularity
- B. lack of membrane-bound organelle
- C. lack of a nucleus
- D. they are usually found in protists and fungi**

**BIOLOGY >> Cell Structure and Function**

**27. Smooth endoplasmic reticulum is abundant in which types of cells?**

- A. lipid metabolism**
- B. protein metabolism
- C. glucose metabolism
- D. calcium metabolism

**BIOLOGY >> Cell Structure and Function**

**28. Secretion of insulin from beta cells of pancreas is an example of which membrane function?**

- A. Endocytosis
- B. Phagocytosis
- C. Exocytosis**
- D. Pinocytosis

**BIOLOGY >> Enzymes**

29. The reaction will proceed faster if the activation energy is?

- A. high
- B. low**
- C. remains same
- D. none of these

**BIOLOGY >> Evolution**

30. Which of the following processes had resulted in the production of different breeds of domestic dogs and pigeons?

- A. natural selection
- B. cross breeding
- C. artificial selection**
- D. self breeding

**BIOLOGY >> Biodiversity (Acellular Life/Variety of Life)**

31. What is the major cell infected by the AIDS HIV Virus?

- A. B lymphocyte
- B. T lymphocytes**
- C. Cancer cells
- D. stem cells

**BIOLOGY >> Diversity among Animals**

32. Mantle in molluscs is present over which of the following regions?

- A. head
- B. dorsal muscular foot
- C. dorsal visceral foot
- D. both a and b**

**BIOLOGY >> Life processes in animals and plants (Nutrition/Gaseous exchange/Transport)**

33. In the air passageway, the incoming air passes from the pharynx to

- A. bronchi
- B. bronchioles
- C. Windpipe
- D. larynx**

**BIOLOGY >> Enzymes**

34. Biological molecules which catalyze a biochemical reaction and remain unchanged after completion of reaction are called?

- A. cofactor
- B. coenzymes
- C. activator
- D. enzymes**

**BIOLOGY >> Diversity among Animals**

35. All of the following are true for platyhelminthes except?

- A. Flatworms
- B. Triploblastic
- C. Bilateral symmetry
- D. Coelomate**

**BIOLOGY >> Evolution**

36. Which organism would be considered the most biologically fit?

- A. Lives 45 years and produces 3 offspring
- B. Lives 70 years and produces no offspring
- C. Lives 27 years and produces 1 offspring
- D. Lives 36 years and produces 6 offspring**

**BIOLOGY >> Support and Movement**

37. The fibrous connective tissue which attaches bone to bone is called:

- A. Tendon
- B. Ligament**
- C. reticular tissue
- D. Cartilage

**BIOLOGY >> Variation and Genetics / Inheritance**

38. Which of the following is true regarding a test cross?

- A. The traits of a test cross are homozygous dominant
- B. Test cross can only be used for monohybrid and dihybrid crosses
- C. It is a tool used by researchers to determine the genotype of earlier generations**
- D. both a and b

**BIOLOGY >> Cell Structure and Function**

39. A chromosome in which a centromere stays at one end is called?

- A. metacentric
- B. telocentric**
- C. acrocentric
- D. all of these

**BIOLOGY >> Reproduction**

40. The primary spermatocytes undergo meiotic division to form:

- A. Spermatozoa
- B. secondary spermatocyte**
- C. primary oocyte
- D. mature sperms

**BIOLOGY >> Reproduction**

41. Human testes produce how many million sperms every day?

- A. 10
- B. 20
- C. 30**
- D. 26

**BIOLOGY >> Life processes in animals and plants (Nutrition/Gaseous exchange/Transport)**

42. The external solution having more concentration than the cell sap is known as:

- A. Hypertonic solution**
- B. Hypotonic solution
- C. Isotonic solution
- D. All A,B and C

**BIOLOGY >> Reproduction**

43. The animals in which there are separate male and female individuals are called?

- A. unisexual
- B. bisexual
- C. asexual
- D. hermaphrodite**

**BIOLOGY >> Evolution**

44. Which characteristic is least likely to affect an organism's biological fitness in the tundra?

- A. Exothermic versus endothermic regulation
- B. size
- C. fur
- D. Nocturnal versus diurnal activity**

**BIOLOGY >> Prokaryotes**

45. The cell wall is not present in which of the following bacteria?

- A. cocci
- B. bacilli
- C. Mycobacterium
- D. Mycoplasma**

**BIOLOGY >> Diversity among Animals**

46. The Venus flower basket is also known as which of the following?

- A. Sycon
- B. Leucosolenia
- C. Spongilla
- D. Euplectella**

**BIOLOGY >> Biological Molecules Enzymes**

47. In molecules such as glycine, the function R group of amino acids is replaced by?

- A. H**
- B. COOH
- C. CH<sub>2</sub>
- D. CH<sub>3</sub>

**BIOLOGY >> Biodiversity (Acellular Life/Variety of Life)**

48. The size of viruses is usually measured in?

- A. centimeters
- B. micrometers
- C. nanometers**
- D. millimeters

**BIOLOGY >> Biodiversity (Acellular Life/Variety of Life)**

49. When HIV becomes AIDS?

- A. when it attacks the T cells
- B. when it replicates at maximum level
- C. when it destroys the body cells
- D. all of these**

**BIOLOGY >> Evolution**

50. During aristotle time, it was thought that

- A. oranisms ranged from simple to complex
- B. one type of organism give rise to another type of organism
- C. both a & b**
- D. all living things specially created by nature

**BIOLOGY >> Coordination and Control/ Nervous and Chemical Coordination**

51. The stretch reflex, the Golgi tendon reflex, the crossed extensor reflex, and the withdrawal reflex are included in:

- A. stretch reflex
- B. spinal reflex**
- C. golgi tendon reflex
- D. Crossed Extensor Reflex

**BIOLOGY >> Enzymes**

52. A three dimensional cavity bearing a specific charge by which the enzyme reacts with its substrate is called?

- A. active site**
- B. binding site
- C. catalytic site
- D. allosteric site

**BIOLOGY >> Cell Structure and Function**

53. 60S and 40S subunit combine to form what size particle?

- A. 80S**
- B. 90S
- C. 100S
- D. 110S

**BIOLOGY >> Reproduction**

54. Which of the following would not be expected during pregnancy?

- A. Maintenance of the corpus luteum
- B. Formation of the placenta
- C. Blastocyst implantation
- D. Formation of the corpus albicans**

**BIOLOGY >> Biodiversity (Acellular Life/Variety of Life)**

55. A common polyhedral capsid shape of viruses is a?

- A. pentagon
- B. cube
- C. icosahedron**
- D. pyramid

**BIOLOGY. >> Bio-Energetics**

56. Out of the 6 molecules of G3P, how many molecules are used to make glucose?

- A. 1**
- B. 2
- C. 3
- D. 6



**BIOLOGY >> Evolution**

57 Pidgeon, platypus and panda are all representatives of which of the following?

- A. Homeothermic
- B. Hyperthermic
- C. Poikilothermic**
- D. none of these

**BIOLOGY >> Diversity among Animals**

58. Periplaneta belongs to which phylum?

- A. Mollusca
- B. Annelida
- C. Echinodermata
- D. Arthropoda**

**BIOLOGY >> Evolution**

59. Which condition can be explained by Lamarckism?

- A. How giraffes got their long neck
- B. How humans lost their tail
- C. How humans became bipedal
- D. all of these**

**BIOLOGY >> Biological Molecules Enzymes**

60. Which of the following statement is incorrect for fats containing unsaturated fatty acid?

- A. They contain double bond
- B. They are lighter than water
- C. Their specific gravity is less than 1
- D. They are usually solid at room temperature**

**BIOLOGY >> Cell Structure and Function**

61. What is the property of the part of a cell membrane which is in contact with external and internal environment?

- A. hydrophobic
- B. hydrophilic**
- C. neutral
- D. both a and b

**BIOLOGY >> Enzymes**

62. Which statement correctly identifies a competitive inhibitor and a substrate molecule?

- A. They have the same chemical properties.
- B. They have the same physical properties.
- C. They have the same chemical structure.
- D. None of the above.**

**BIOLOGY >> Biodiversity (Acellular Life/Variety of Life)**

63 Which of the following is not a viral disease?

- A. smallpox
- B. mumps
- C. tetanus**
- D. cowpox

**BIOLOGY >> Diversity among Animals**

64. Chitinous Setae are the locomotory organs of annelids which are present on?

- A. cell wall
- B. prostomium
- C. nucleolus
- D. parapodia**

**BIOLOGY >> Support and Movement**

65. Inflammation of the joint is known as

- A. Sciatica
- B. Arthritis**
- C. Spondylosis
- D. Disc-slip

**BIOLOGY >> Reproduction**

66. To form a female zygote, the sperm cell must contribute which chromosome?

- A. X**
- B. 2X
- C. Y
- D. XY

**BIOLOGY >> Bio-Energetics**

67. The part of chlorophyll molecule is embedded in the core of thylakoid membrane which is?

- A. Hydrophilic
- B. Hydrophobic**
- C. both of these
- D. none of these

**BIOLOGY >> Variation and Genetics / Inheritance**

68. Your neighbor has a flower garden in which there are red flowers and white flowers. These flowers are diploid organisms, and flower color is an autosomal trait. The gene for red flowers (R) is dominant, while the gene for white flowers (r) is recessive. Which of the following could be the genotype of a red flower?

- A. Rr
- B. RR, Rr, or rr
- C. rr
- D. RR or Rr**

**PHYSICS >> Work and Energy**

69. If the speed of the body is doubled, then

- A. KE doubled
- B. PE doubled
- C. momentum doubled**
- D. acceleration is doubled

**PHYSICS >> Thermodynamics**

70. Which of the terms is related with thermodynamics

- A. System
- B. Surrounding
- C. Boundary
- D. All of these**

PHYSICS >> Thermodynamics

71. "The heat required to raise the temperature of one mole of the substance through 1 K" is called:...

- A. specific latent heat
- B. molar heat capacity
- C. molar specific heat
- D. specific heat capacity

PHYSICS >> Rotational and Circular Motion

72. For an object moving in a circle, the angle between linear velocity and the position vector is:

- A. 0 degrees
- B. 30 degrees
- C. 90 degrees
- D. 60 degrees

PHYSICS >> Dawn of Modern Physics

73. Black body radiations are :

- A. Infrared and visible light rays
- B. All radiations
- C. Visible light and ultraviolet rays
- D. Ultraviolet and X-rays

PHYSICS >> Waves

74. In a stationary wave, the distance between a node and an adjacent antinodes is equal to:

- A.  $\lambda$
- B.  $2\lambda$
- C.  $\lambda/2$
- D.  $\lambda/4$

PHYSICS >> Electronics

75. Full wave rectifier uses

- A. one diode
- B. two diode
- C. three diodes
- D. Four diodes

PHYSICS >> Electro-statistics

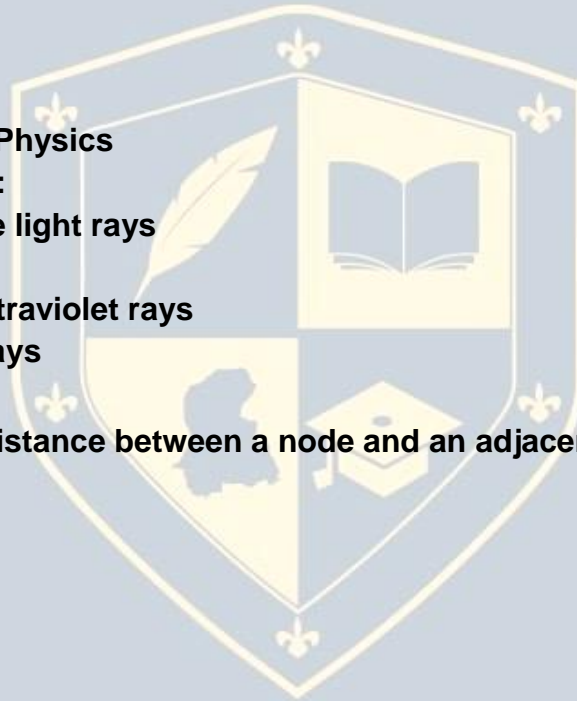
76. The electron volt is the unit of:....

- A. electric current
- B. electric potential
- C. electric energy
- D. electric flux

PHYSICS >> Nuclear Physics

77. Iodine-131 is used to trace which cancer

- A. lungs
- B. thyroid gland
- C. breast
- D. liver



HANDEH ACADEMY  
UMERKOT

PHYSICS >> Current Electricity

78. A wire of uniform area of cross-section A and length L is cut into two equal parts, the resistivity of each part is

- A. Doubled
- B. Half
- C. Remains the same**
- D. increase three times

PHYSICS >> Electromagnetism

79. A solenoid bent into a circle is called

- A. Resistor
- B. capacitor
- C. inductor
- D. toroid**

PHYSICS >> Force and Motion

80. If a car starts from rest and reaches 20 m/s velocity in 10 m distance then acceleration is

- A. 20 m/s<sup>2</sup>**
- B. 10 m/s<sup>2</sup>
- C. 5 m/s<sup>2</sup>
- D. 2m/s<sup>2</sup>

PHYSICS >> Rotational and Circular Motion

81. For angular acceleration anti-clockwise rotations means torque is

- A. positive**
- B. negative
- C. zero
- D. infinite

PHYSICS >> Thermodynamics

82. Which of the following is not an assumption of the kinetic model of an ideal gas?

- A. collisions between molecules and walls of container are elastic
- B. the duration of collision between molecules is very short
- C. all particles of gas has same speed**
- D. all particles of gas have same mass

The use of a capacitor filter in a rectifier circuit gives satisfactory performance only when the load

- A. Current is high
- B. Current is low**
- C. Voltage is high
- D. Voltage is low

PHYSICS >> Thermodynamics

84. An ideal gas has a volume of 20 ml, a temperature of 10 °C and a pressure of 100 kPa. The volume of the gas is reduced to 10 ml and the temperature is raised to 20 °C. What is the new pressure of the gas?

- A. 370 kPa
- B. 207 kPa**
- C. 400 kPa
- D. 27 kPa

PHYSICS >> Current Electricity

85. Which one of the following does not have negative temperature coefficient?

- A. Aluminium
- B. Paper
- C. Rubber
- D. Mica

PHYSICS >> Force and Motion

86. The distance and displacement can be equal if:...

- A. an object moves on a circular path
- B. an object oscillates
- C. an object moves in a straight line
- D. an object moves on a parabolic path

PHYSICS >> Electromagnetic Induction

87. A sinusoidal current has rms value of 10A. What is the peak value of current?

- A. 144.4A
- B. 1.4A
- C. 0.1414A
- D. 14.4A

PHYSICS >> Electromagnetism

88. If a charge particle enters in a region where electric and magnetic field are parallel to its motion, then it will

- A. deflect upwards
- B. deflect downward
- C. speed up
- D. speed down

PHYSICS >> Atomic spectra

89. The spectrum of perfect black body is

- A. line
- B. continuous
- C. band
- D. all of these

PHYSICS >> Nuclear Physics

90. The source of gamma radiation is

- A. outside nucleus
- B. inside nucleus
- C. electron transition
- D. none of these

PHYSICS >> Work and Energy

91. \_\_\_\_ work on arbitrary system means a transfer of energy to the system

- A. Positive
- B. negative
- C. Can be positive or negative
- D. None of the above

PHYSICS >> Current Electricity

92. Reciprocal of resistivity is called

- A. Resistance
- B. Inductance
- C. Conductivity
- D. Flexibility

PHYSICS >> Electro-statistics

93. You have three capacitors and a battery. In which of the following combinations of the three capacitors is the maximum possible energy stored when the combination is attached to the battery?

- A. in parallel
- B. in series
- C. either way because both combinations have the same capacitance
- D. we can not determine, because presence of resistance in th

PHYSICS >> Waves

94. Which of the following phenomenon proves that light waves are transverse waves?

- A. polarization
- B. refraction
- C. interference
- D. diffraction

PHYSICS >> Thermodynamics

95. Two identical gases expand i) isothermally ii) adiabatically. Work done is more in

- A. Isothermal process
- B. Adiabatic process
- C. Neither of them
- D. equal in both cases

PHYSICS >> Dawn of Modern Physics

96. Radiation can cause

- A. burning
- B. cancer
- C. flu
- D. all of these

PHYSICS >> Electromagnetic Induction

97. A device that consumes electrical energy in the external circuit of generator is known as

- A. appliances
- B. machines
- C. motors
- D. load

PHYSICS >> Force and Motion

98. Instantaneous velocity is defined at

- A. particular displacement
- B. instant acceleration
- C. instant time
- D. average time

PHYSICS >> Force and Motion

99. Consider a car is travelling for one hour. In which of the following cases the average velocity is zero?

- A. car travels 20 km due east
- B. car travels 60 km due east, then turns around and travels 40 km due west
- C. car travels 70 km due east
- D. car travels 30 km due west, then turns around and travels 30 km due east**

PHYSICS >> Electromagnetism

100. When a charge experience a force, there will be \_\_\_\_\_ field developed

- A. magnetic
- B. electric**
- C. static
- D. all of these

PHYSICS >> Current Electricity

101.  $R_{eq} = R_1 + R_2 + R_3 + \dots + R_n$  is the combination in

- A. Series**
- B. Parallel
- C. Both of them
- D. None of them

PHYSICS >> Work and Energy

102. A stone of mass 1 kg dropped from a height of 10m with the speed of 14 m/s, approximate kinetic energy is

- A. 10 J
- B. 0 J
- C. 100 J**
- D. 1000 J

PHYSICS >> Waves

103. Michelson's interferometer works on the principle of:

- A. interference of light**
- B. refraction of light
- C. reflection of light
- D. diffraction of light

PHYSICS >> Electromagnetism

104. Strength of magnetic field is called

- A. strength
- B. flux
- C. magnetic flux density**
- D. density

PHYSICS >> Electromagnetic Induction

105. The maximum instantaneous value measured from zero value is known as?

- A. peak value**
- B. peak to peak value
- C. cycle
- D. period

PHYSICS >> Electro-statistics

106. The electric field inside a spherical shell of uniform surface charge density is

- A. Zero
- B. Infinite
- C. Constant less than zero
- D. Directly proportional to distance

PHYSICS >> Electro-statistics

107. Two point charges attract each other with an electric force of magnitude  $F$ . If the charge on one of the particles is reduced to one-half its original value and the distance between the particles is doubled, what is the resulting magnitude of the electric force between them?

- A.  $F$
- B.  $F/2$
- C.  $F/4$
- D.  $F/8$

PHYSICS >> Electronics

108. The maximum efficiency of full wave rectifier is

- A. 80.60%
- B. 40.60%
- C. 70%
- D. 50%

PHYSICS >> Electronics

109. Ripple factor of full wave rectifier is

- A. 1.21
- B. 0.6
- C. 0.482
- D. 0.9

PHYSICS >> Dawn of Modern Physics

110. Planck's constant is analogous to :

- A. Inertia
- B. Wave nature
- C. Angular momentum
- D. Linear momentum

PHYSICS >> Current Electricity

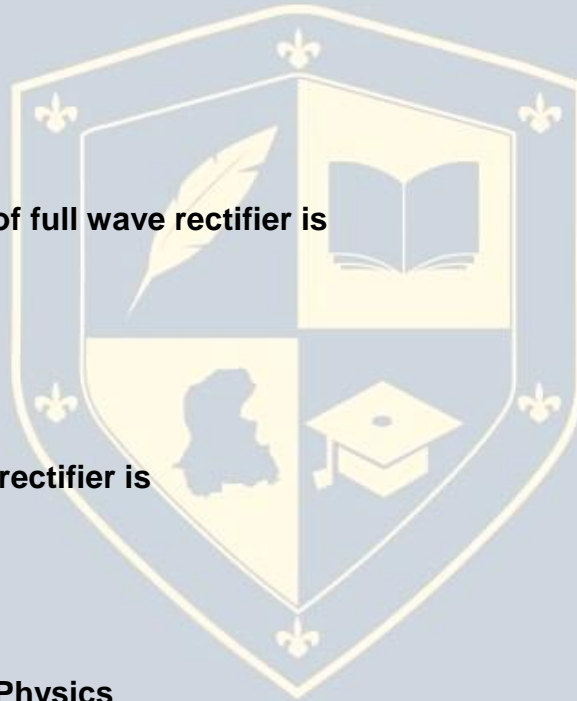
111. Find the resistance if voltage of the circuit is 45 volts and current 30 Amp?

- A. 1.6 ohm
- B. 1.5 ohm
- C. 1.7 ohm
- D. 1.8 ohm

PHYSICS >> Work and Energy

112. The linear momentum is increased by 10%, percentage change in the kinetic energy will be

- A. 0.21
- B. 0.11
- C. 0.22
- D. 0.1





PHYSICS >> Waves

113. A tuning fork A produces 4 beats with another tuning fork B. if the frequency of tuning fork B is 320 Hz, then the frequency of tuning fork A is:

- A.  $320 * 4$
- B.  $320 / 4$
- C.  $320 + 4$
- D. 320

PHYSICS >> Thermodynamics

114. In which of the following processes the heat is neither absorbed nor released by a system?

- A. isochoric
- B. isothermal
- C. adiabatic
- D. isobaric

PHYSICS >> Nuclear Physics

115. The isotope of  $^{235}\text{U}_{92}$  has \_\_\_\_\_ number of neutrons

- A. 141
- B. 142
- C. 143
- D. 144

PHYSICS >> Force and Motion

116. Acceleration can be seen in

- A. uniformly moving frame of reference
- B. rest frame of reference
- C. rotating frame of reference
- D. none of these

PHYSICS >> Electro-statistics

117. A positive point charge  $q_1$  creates an electric field of magnitude  $E_1$  at a spot located at a distance  $r_1$  from the charge. The charge is replaced by another positive point charge  $q_2$ , which creates a field of magnitude  $E_2 = E_1$  at a distance of  $r_2 = 2r_1$ . How is  $q_1$  related to  $q_2$ ?

- A.  $q_2 = 4 q_1$
- B.  $q_2 = 2 q_1$
- C.  $q_2 = 0.5 q_1$
- D.  $q_2 = 0.25 q_1$

PHYSICS >> Electromagnetic Induction

118. A real transformer does not change

- A. voltage level
- B. current level
- C. power level
- D. frequency level

PHYSICS >> Waves

119. A stationary wave is formed in a pipe which is open at one end. If length of pipe is 5 cm, then what is the maximum possible wavelength of the wave.?

- A. 5 cm
- B. 10 cm
- C. 15 cm
- D. 20 cm

PHYSICS >> Nuclear Physics

120. Radioactive material decays by simultaneous emission of two particles with respective half-lives 1620 and 810 years. The time, in years, after which one-fourth of the material remains?

- A. 1080
- B. 2430
- C. 3240
- D. 4860

PHYSICS >> Electromagnetism

121. A circular loop of area  $0.05 \text{ m}^2$  rotates in a uniform magnetic field of 0.2 T. If the loop rotates about its diameter which is perpendicular to the magnetic field, find flux linked with loop when its plane is inclined 60 degree to the field

- A. 0.01wb
- B. 0 Wb
- C.  $8.66 \times 10^{-3} \text{ Wb}$
- D. 0.86wb

PHYSICS >> Thermodynamics

122. A heater is used for 5 minutes to heat 500 g of water from 20C to 50C. What is the power of heater? Specific heat capacity of water is 4.2 J/gC.

- A. 1260 W
- B. 12.6 kW
- C. 210 kW
- D. 12.6 W

PHYSICS >> Electronics

123. To get a peak load voltage of 40V out of a bridge rectifier, what should be the approximate rms value of secondary voltage?

- A. 0V
- B. 14.4V
- C. 28.3V
- D. 56.6 V

PHYSICS >> Atomic spectra

124. A body at temperature T radiates heat according to relation

- A.  $T^{-2}$
- B.  $T^4$
- C.  $T^{-4}$
- D. None of these

CHEMISTRY >> Thermochemistry and Energetic of Chemical Reactions

125. Kinetic energy of the molecule may be all of the following except?

- A. Vibrational
- B. Translational
- C. Rotational
- D. Static**

CHEMISTRY >> Alcohol and Phenols

127. Which of the following enzyme is not used during fermentation process for making ethanol?

- A. Diastase
- B. Zymase
- C. Protease**
- D. Maltase

CHEMISTRY >> Chemical Equilibrium

128. Strong Electrolytes are those which ionizes

- A. Slowly
- B. Do not ionize
- C. Ionize rapidly**
- D. None of these

CHEMISTRY >> Transition Elements

129. Transition elements form complexes because \_\_\_\_\_?

- A. They have empty d orbitals
- B. They show variable oxidation states
- C. Both a and b**
- D. They have strong bonding

CHEMISTRY >> Macromolecules

130. Enzymes that catalyze hydrolysis:

- A. Oxidoreductase
- B. Hydrolases**
- C. Ligases
- D. Transferases

CHEMISTRY >> Atomic Structure

131. The equation  $E_n = -2.17 \times 10^{-18} [1/n^2]$  J gives the energy associated with electron in nth orbit of hydrogen atom. Its negative sign shows that electron is

- A. away from nucleus
- B. bound by nucleus**
- C. closer to nucleus
- D. all of these

CHEMISTRY >> Chemistry of Hydrocarbons

132. The reaction in which one of the group of a compound is replaced by another group of atoms is called as \_\_\_\_\_?

- A. Substitution**
- B. Elimination
- C. Addition
- D. Condensation

CHEMISTRY >> Alkyl Halides

133. What is the order of  $S_N2$  reactions?

- A. 1st order
- B. zero order
- C. 2nd order
- D. 3rd order

CHEMISTRY >> Liquids

134. H-bonding is stronger than \_\_\_\_\_?

- A. Dipole dipole forces
- B. Debye forces
- C. London forces
- D. All of these

CHEMISTRY >> Fundamental Principles of Organic Chemistry

135. The organic compounds having all C-C single bonds are called as \_\_\_\_\_?

- A. Alkanes
- B. Alkenes
- C. Alkynes
- D. All of these

CHEMISTRY >> Electrochemistry

136. In Balancing Redox equation the first thing is to

- A. balance out all the Reactants
- B. Write the skeleton Equation
- C. Calculate the oxidation Number
- D. Identify the elements

CHEMISTRY >> Transition Elements

137. Any process of chemical decay of metals due to the action of the surrounding medium is called

- A. Activation
- B. Enamelling
- C. Corrosion
- D. Coating

CHEMISTRY >> Aldehydes and ketones

138. In the reaction of  $NaBH_4$  with aldehyde and ketones, which of the following act as Nucleophile?

- A.  $B^-$
- B.  $H^-$
- C.  $BH_2^-$
- D.  $NaBH_3^-$

CHEMISTRY >> Electrochemistry

139. Voltaic Cell can be converted into a Reverse galvanic Cell by

- A. Changing positions of electrodes
- B. Replacing Salt Bridge with a Wire
- C. Providing an External Source of electricity
- D. All of these

**CHEMISTRY >> Thermochemistry and Energetic of Chemical Reactions**

140. Hess law is a simple application of

- A. Law of Mass Action
- B. Law of conservation of energy**
- C. Law of conservation of mass
- D. Dalton's Law of partial pressure

**CHEMISTRY >> Chemical Bonding**

141. There are just only a few stable compounds, formed by noble gases like

- A. XeF<sub>2</sub>
- B. XeOF<sub>2</sub>
- C. XeO<sub>3</sub>
- D. all of these**

**CHEMISTRY >> S and P Block elements**

142. Which sulphates is not soluble in water?

- A. Sodium sulphate
- B. Potassium sulphate
- C. Zinc sulphate
- D. Barium sulphate**

**CHEMISTRY >> Alcohol and Phenols**

143. Formation of picric acid by phenols is called

- A. Decomposition
- B. Halogenation
- C. Sulphonation**
- D. Nitration

**CHEMISTRY >> Alcohol and Phenols**

144. Which of the following compounds are added to ethanol to make it unfit for drinking?

- A. Pyridine
- B. Methanol
- C. Acetone
- D. All of these**

**CHEMISTRY >> Alcohol and Phenols**

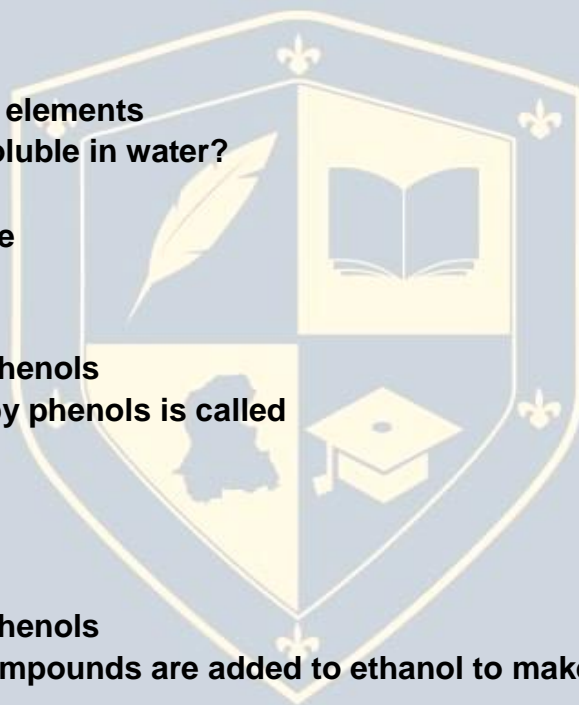
145. Which of the following alcohol undergoes dehydration fastly?

- A. Primary alcohol
- B. Secondary alcohol
- C. Dihydric alcohol
- D. Tertiary alcohol**

**CHEMISTRY >> Carboxylic Acids**

146. Acetaldehyde oxidation will lead to formation of

- A. Acetic acid**
- B. Butanoic acid
- C. Propanoic acid
- D. Ester



**CHEMISTRY >> Liquids**

147. Presence of Process of diffusion in liquids is due to \_\_\_\_\_?

- A. Definite volume
- B. Strong intermolecular forces
- C. Smaller distance
- D. Constant motion**

**CHEMISTRY >> Thermochemistry and Energetic of Chemical Reactions**

148. In the reaction;  $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$ , Which of the following change shoes that redox reaction takes place at once ?

- A. Blue color appears
- B. Blue color disappears**
- C. Temperature of the surrounding decreases
- D. None of these

**CHEMISTRY >> Solids**

149. The size and shape of a crystal depends upon some crystallographic elements which are

- A. 3
- B. 4
- C. 6**
- D. 8

**CHEMISTRY >> S and P Block elements**

150. The group 1 elements are named as alkali metals because

- A. Their oxides are basic
- B. Their oxide and hydroxides are water soluble
- C. Both a & b
- D. They are found in the earth**

**CHEMISTRY >> Reaction Kinetics**

151. The average and instantaneous rate can be equal

- A. Throughout the reaction
- B. Near Reaction Completion
- C. At one instant Only**
- D. At start of reaction

**CHEMISTRY >> Gases**

152. Liquid is \_\_\_\_\_ to release the entrapped air in liquid in manometric method

- A. melted
- B. boiled
- C. condensed
- D. freeze**

**CHEMISTRY >> Transition Elements**

153. When the central atom of coordination compound is  $sp^3d^2$  hybridization the expected geometry will be

- A. Tetrahedral
- B. Square planar
- C. Trigonalbipyramidal
- D. Octahedral**

CHEMISTRY >> Aldehydes and ketones

154. Which of the following reaction of carbonyl system is used to distinguish between carbonyl system from alcohols?

- A. Cyanohydrin formation
- B. Bisulfite adduct formation**
- C. Haloform formation
- D. None of these

CHEMISTRY >> Fundamental Principles of Organic Chemistry

155. Octane number of n-heptane is \_\_\_\_\_?

- A. 0**
- B. 100
- C. 40
- D. 98

CHEMISTRY >> Gases

156. London forces are present in

- A. ammonia
- B. water
- C. kerosene oil**
- D. HCl

CHEMISTRY >> Aldehydes and ketones

Q 157. Ketones can be oxidized by \_\_\_\_\_?

- A. Dil. HNO<sub>3</sub>**
- B. Tollen's reagent
- C. Benedict reagent
- D. Fehling's reagent

CHEMISTRY >> Thermochemistry and Energetic of Chemical Reactions

158. Enthalpy of a system is also called as \_\_\_\_\_?

- A. Entropy
- B. Work function
- C. Total heat content**
- D. Internal energy

CHEMISTRY >> Chemical Bonding

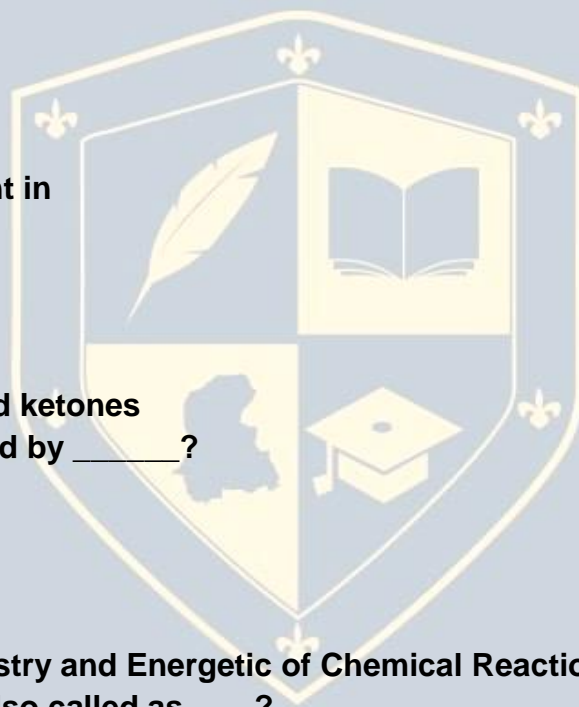
159. The minimum amount of energy required to remove an electron from its gaseous atom to form an ion is known as

- A. electron affinity
- B. ionization energy**
- C. electronegativity
- D. potential energy

CHEMISTRY >> Atomic Structure

160. The arrangement of sub shells or orbitals is according to \_\_\_\_\_ rule

- A. 2(l+1)
- B. l+1
- C. n+l**
- D. 2(n+l)



SINDH ACADEMY  
UMERKOT

CHEMISTRY >> Introduction to Fundamental Concepts of Chemistry

161. What is the empirical formula for the following molecular formula  $C_5H_{12}$

- A.  $C_5H_{12}$
- B.  $C_5H_6$
- C.  $CH_2$
- D.  $C_{2.5}H_6$

CHEMISTRY >> Carboxylic Acids

162. Which of the carboxylic acid is used in medicine as local irritant;

- A. formic acid
- B. acetic acid
- C. benzoic acid
- D. amino acid

CHEMISTRY >> Carboxylic Acids

163. All are aliphatic carboxylic acid except ?

- A. Benzoic acid
- B. Methanoic acid
- C. Ethanoic acid
- D. Acetic acid

CHEMISTRY >> Fundamental Principles of Organic Chemistry

164. Fuels with higher octane number can be produce by \_\_\_\_\_?

- A. Cracking
- B. Reforming
- C. Decomposition
- D. Isomerisation

CHEMISTRY >> Solids

165. in solid iodine, I-I bond distance is

- A. 77.1 pm
- B. 271.5 pm
- C. 11 pm
- D. 166.7 pm

CHEMISTRY >> Chemical Equilibrium

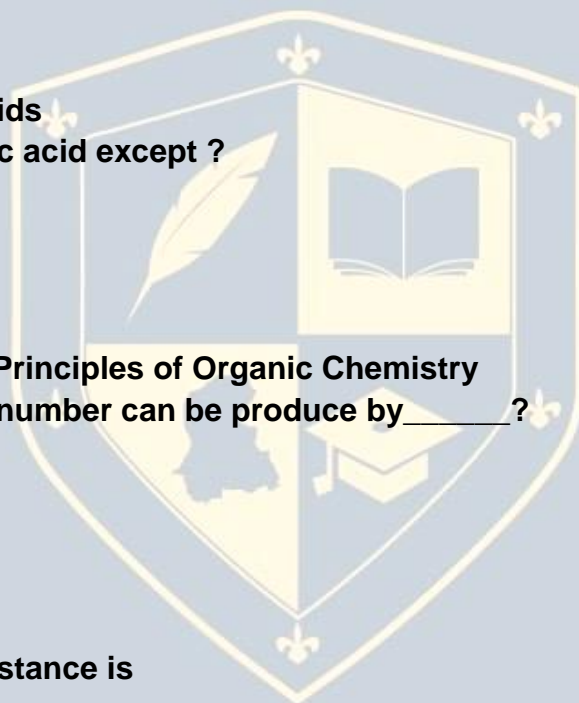
166. Suppression in ionization is done for

- A. Weak Electrolyte
- B. Strong Electrolyte
- C. Only Reactants
- D. Dissociated Ions

CHEMISTRY >> Reaction Kinetics

167. Reaction which are completed in steps must contain

- A. Rate determining Step
- B. Slowest step
- C. fastest step
- D. Both A and B



SINDH ACADEMY  
UMERKOT



CHEMISTRY >> Macromolecules

168. Protein part attached with non-protein part in enzymes belongs to which class of proteins?

- A. Simple
- B. **Conjugated/compound**
- C. Derived
- D. All of these

CHEMISTRY >> Thermochemistry and Energetic of Chemical Reactions

169. What is the value of enthalpy of neutralization when one mole of base reacts with one mole of acid?

- A. - 60.5 kJ/mol
- B. -46.5kJ/mol
- C. -70.5 kJ/mol
- D. **-57.4kJ/mol**

CHEMISTRY >> Fundamental Principles of Organic Chemistry

170. propene exhibit

- A. Cis-isomerism
- B. Trans-isomerism
- C. geometric isomerism
- D. **none**

CHEMISTRY >> Alkyl Halides

171. First step in the SN<sub>1</sub> reaction is \_\_\_\_\_ ?

- A. Dehydration
- B. Protonation
- C. **Ionization**
- D. Attack of nucleophile and departure of leaving group

CHEMISTRY >> Reaction Kinetics

172. Hydrolysis of Tertiary Butyl bromide gives

- A. Carboxylic Acid
- B. **Alcohol**
- C. Aldehyde
- D. Ketone

CHEMISTRY >> Gases

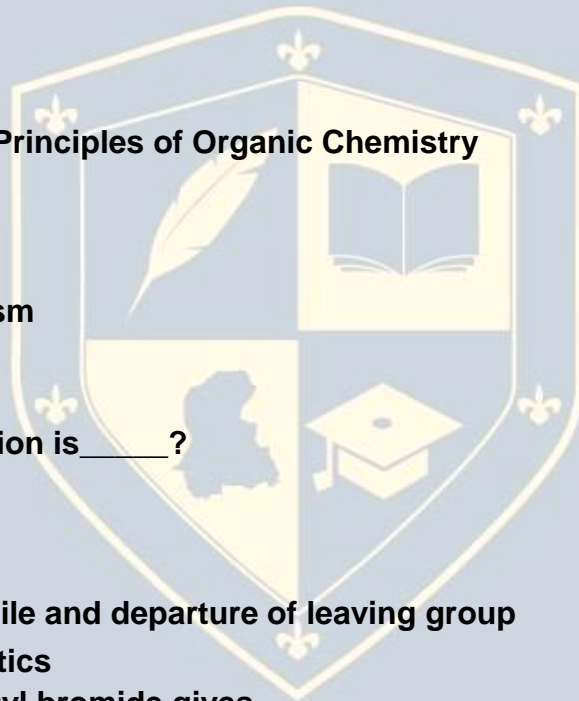
173. Which gas among them shows maximum ideal behavior

- A. Ammonia
- B. **Hydrogen**
- C. Helium
- D. Radon

CHEMISTRY >> Electrochemistry

174. Caustic Soda is made by electrolysis of concentrated solution of NaCl in

- A. Nelson's Cell
- B. Hg - Cell
- C. CastnerKellner Cell
- D. **All of these**



SINDH ACADEMY  
UMERKOT

**CHEMISTRY >> Solids**

175. It consist of discrete molecules

- A. sodium chloride
- B. dry ice**
- C. copper
- D. CaCl<sub>2</sub>

**CHEMISTRY >> Introduction to Fundamental Concepts of Chemistry**

176. The \_study of composition of pure substance in 17th century clearly shows that few elements are components of many substances

- A. qualitative
- B. quantitative**
- C. both A & B
- D. extensive

**CHEMISTRY >> Macromolecules**

177. The enzyme which is used in treatment of cancer in children?

- A. Thrombin
- B. L- asparaginase**
- C. Both
- D. None of these

**CHEMISTRY >> S and P Block elements**

178. Isoelectronic species have same

- A. electronic configuration**
- B. Ionic size
- C. Reactivity
- D. PH

**CHEMISTRY >> Chemical Bonding**

179. The valence electron pairs are arranged around the central atom to remain at maximum distance apart to keep repulsion

- A. maximum
- B. moderate
- C. zero
- D. minimum**

**CHEMISTRY >> Chemical Equilibrium**

180. When Number of moles of reactants and products are same Equilibrium constant will have

- A. negative value
- B. Large value
- C. No units**
- D. Units

**ENGLISH >> Structure of Sentence**

Demonstrate control of tenses and sentence structure

181. I \_\_\_\_\_ English since my childhood.

- A. study
- B. am studying
- C. have been studying**
- D. studied

ENGLISH >> Correct use of articles and prepositions

Demonstrate correct use of articles and prepositions

182. Do you wear \_\_\_\_\_ uniform to school?

- A. a
- B. an
- C. the
- D. no article

ENGLISH >> Correct use of Subject Verb Agreement

Demonstrate correct use of subject-verb agreement

183. He \_\_\_\_\_ books these days.

- A. sells
- B. sell
- C. has sold
- D. sold

ENGLISH >> Use of writing conventions of spelling, capitalization and punctuation

Demonstrate correct use of articles and prepositions Demonstrate correct use of subject-verb agreement Demonstrate correct use of writing conventions of spelling, capitalization and punctuation to clarify meaning

184. Choose the correct sentence.

- A. Why can't I speak to Ms. Parvin today!
- B. Why can't I speak to Ms. Parvin today?
- C. Why cant I speak to Ms. Parvin today?
- D. Why can't i speak to Ms. Parvin today?

ENGLISH >> Mistakes in Sentences or short written texts

Demonstrate correct use of writing conventions of spelling, capitalization and punctuation to clarify meaning

185. Choose the correct spelling of the word

- A. goas
- B. gose
- C. goes
- D. gois

ENGLISH >> Structure of Sentence

Demonstrate control of tenses and sentence structure

186. Identify the tense used in the underlined phrase. "He bought a new house last month".

- A. Present
- B. Past
- C. Future
- D. None

ENGLISH >> Vocabulary

Comprehend key vocabulary

187. Your political ideas are \_\_\_\_\_ to mine.

- A. same
- B. identical
- C. exact
- D. exactly

**ENGLISH >> Correct use of articles and prepositions**

**Demonstrate correct use of articles and prepositions**

188. Shall I turn \_\_\_\_\_ radio off?

- A. a
- B. an
- C. the**
- D. no article

**ENGLISH >> Tenses**

**Demonstrate control of tenses and sentence structure**

189. The national anthem \_\_\_\_\_ after the performance.

- A. is sung
- B. was sung**
- C. would sing
- D. had sing

**ENGLISH >> Correct use of Subject Verb Agreement**

**Demonstrate correct use of subject-verb agreement**

190. A container of nuts and bolts \_\_\_\_\_ found in the cellar.

- A. was**
- B. were
- C. would be
- D. is

**ENGLISH >> Correct use of Subject Verb Agreement**

**Demonstrate correct use of subject-verb agreement**

191. Rahul and his friends \_\_\_\_\_ also invited to the party.

- A. is
- B. was
- C. had
- D. were**

**ENGLISH >> Vocabulary**

**Comprehend key vocabulary**

192. Ahmad is always \_\_\_\_\_ about showing up for work because he feels that tardiness is a sign of irresponsibility.

- A. tolerable
- B. punctual**
- C. legible
- D. delayed

**ENGLISH >> Use of writing conventions of spelling, capitalization and punctuation**

**Demonstrate correct use of writing conventions of spelling, capitalization and punctuation to clarify meaning**

193. these have

- A. theseve'
- B. thes'eve
- C. these've**
- D. the'seve

ENGLISH >> Tenses

Demonstrate control of tenses and sentence structure

194. By the next month, we shall \_\_\_\_\_ (have) the project.

- A. have
- B. have had
- C. has
- D. having

ENGLISH >> Tenses

Demonstrate control of tenses and sentence structure

195. We \_\_\_\_\_ (see) lots of things.

- A. see
- B. saw
- C. will see
- D. have seen

ENGLISH >> Correct use of articles and prepositions

Demonstrate correct use of articles and prepositions

196. We have \_\_\_\_\_ small house in \_\_\_\_\_ village in \_\_\_\_\_ Netherlands.

- A. the... an...a
- B. an...a... the
- C. a...a...the
- D. a...an... the

ENGLISH >> Use of writing conventions of spelling, capitalization and punctuation

Demonstrate correct use of articles and prepositions Demonstrate correct use of subject-verb agreement Demonstrate correct use of writing conventions of spelling, capitalization and punctuation to clarify meaning

197. Choose the correct sentence.

- A. The Return of the King which is a popular movie made a huge amount of money
- B. "The Return of the King", which is a popular movie made a huge amount of money.
- C. "The Return of the King", which is a popular movie, made a huge amount of money.
- D. "The return of the king", which is a popular movie, made a huge amount of money.

ENGLISH >> Vocabulary

Comprehend key vocabulary

198. prune

- A. lend
- B. reduce
- C. expand
- D. prolong

ENGLISH >> Mistakes in Sentences or short written texts

Demonstrate correct use of writing conventions of spelling, capitalization and punctuation to clarify meaning

199. Choose the correct spelling of the word

- A. adress
- B. address
- C. adres
- D. address

**ENGLISH >> Structure of Sentence**

**Demonstrate control of tenses and sentence structure**

**200. Find the error?**

- A. They talked through the entire movie.
- B. The plants in this garden does not require much water.**
- C. She always brings turkey sandwiches for lunch.
- D. No mistakes

**LOGICAL REASONING >> Letter and Symbol Series**

**Complete the series**

**201. Which one of the following have four sides**

- A. triangle
- B. square**
- C. circle
- D. right triangle

**LOGICAL REASONING >> Logical Problems**

**Fact Checking**

**202. Fact 1 Ayesha said Hamza and I both have cats Fact 2 Hamza said I don't have a cat Fact 3 Ayesha always tells the truth but hamza sometimes lies If the above three statements are facts than which of the following statement will also be a fact I. Ayesha has a cat II. Hamza has a cat III. Hamza is lying IV. All the statements are the facts**

- A. Only 1
- B. Only II
- C. Only III
- D. Statement 4**

**LOGICAL REASONING >> Critical Reasoning**

**Statements and Conclusions**

**203. Statements No cities are countries. No countries are villages. Conclusions (I) Some countries are cities. (II) No villages are the city.**

- A. Only conclusion (I) follows
- B. Only conclusion (II) follows
- C. Both conclusions follow
- D. Both of them do not follow**

**LOGICAL REASONING >> Course of Action**

**Statements and Actions**

**204. Statement The availability of imported fruits has increased in the indigenous market and so the deand for indigenous fruits has been decreased. I. To help the indigenous producers of fruits, the Government should impose high import duty on these fruits, even if these are not of good quality. II. The fruit vendors should stop selling imported fruits. So that the demand for indigenous fruits would be increased.**

- A. both of them follows
- B. None of them follows**
- C. Only I follows
- D. Only II follows

**LOGICAL REASONING >> Critical Reasoning**

**Essential parts**

205. What should come next to it Recipe

- A. Desserts
- B. spoon
- C. Utensils
- D. Cookbook**

**LOGICAL REASONING >> Cause & Effect**

**Dependent Causes/ Independent Causes/**

206. Statement: There is considerable reduction in the number of people affected by water borne diseases in city A during this rainy season. The government has opened four new civil hospitals in City A in the beginning of the year.

- 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

**LOGICAL REASONING >> Course of Action**

**Statements and Actions**

207. Statement The Management of School M has decided to give free breakfast from next academic year to all the students in its primary section through its canteen even though they will not get any government grant. Courses of Action (I) The school will have to admit many poor students who will seek admission for the next academic year. (II) The canteen facilities and utensils have to be checked and new purchases to be made to equip it properly. (III) Funds will have to be raised to support the scheme for years to come.

- A. Only II and III follows**
- B. Only III and I follow
- C. Only I and II follow
- D. Only I follows

**LOGICAL REASONING >> Cause & Effect**

**Dependent Causes/ Independent Causes/**

208. Statement: The life today is too fast, demanding and full of variety in all aspects which at times leads to stressful situations. Number of suicide cases among teenagers is on increase.

- 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

**LOGICAL REASONING >> Cause & Effect**

**Dependent Causes/ Independent Causes/**

209. I. There has been a decline in the prices of the personal computers. II. School going kids are expressing interests in learning how the computer operates.

- 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 statements I and II are independent causes
- D. Both statements I and II are the effects of independent cause.**

**LOGICAL REASONING >> Critical Reasoning**

**Statement and Argument**

210. Here are some words translated from an artificial language. granamelke means big tree pinimelke means little tree melkehoon means tree house Which word could mean big house?

- A. granahoon**
- B. pinishur
- C. pinihoon
- D. melkegrana