

**BIOLOGY >> Cell Structure and Function**

1. A group of ribosomes attached to mRNA is known as?
- A. polymer
  - B. polypeptide
  - C. polysomes**
  - D. monomer

**BIOLOGY >> Evolution**

2. The severe reduction in population size is due to which of the following?
- A. genetic drift
  - B. outbreeding
  - C. inbreeding
  - D. bottleneck**

**BIOLOGY >> Evolution**

3. The frequency of allele if it is evolutionary successful is?
- A. increased**
  - B. decreased
  - C. no change
  - D. none of these

**BIOLOGY >> Biological Molecules Enzymes**

4. What percentage of water is found in brain cells?
- A. 70
  - B. 80
  - C. 85**
  - D. 90

**BIOLOGY >> Bio-Energetics**

5. Rate of photosynthesis does not depend upon:
- A. Quality of light
  - B. Intensity of Light
  - C. Duration of Light**
  - D. Temperature

**BIOLOGY >> Diversity among Animals**

6. The animals in which coelom is formed due to splitting of mesoderm are known as which of the following?
- A. Pseudocoelom
  - B. Enterocoelous
  - C. Amphicoelous
  - D. Schizocoelous**

**BIOLOGY >> Prokaryotes**

7. In cocci, three plane division result in formation of sarcine which is a

- A. cuba of 8 cocci**
- B. square of 4 cocci
- C. irregular structure
- D. triangular 6 cocci

**BIOLOGY >> Enzymes**

8. Pancreatic zymogens are only activated when they reached at?

- A. stomach
- B. pancreas
- C. small intestine**
- D. large intestine

**BIOLOGY >> Bio-Energetics**

9. Which of the following is a chemical link between catabolism and anabolism?

- A. AMP
- B. ATP**
- C. ADP
- D. All of these

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

10. The darker, outer portion of the brain is called:

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

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

11. Which element has function in opening and closing of stomata?

- A. K
- B. Mg**
- C. Cu
- D. Fe

**BIOLOGY >> Support and Movement**

12. During a muscular contraction, which of the following elements maintains constant length?

- A. I band
- B. H zone
- C. A band**
- D. sarcomere

**BIOLOGY >> Diversity among Animals**

13. The fate of each blastomere is foretold. What will that cleavage be?

- A. Spiral and indeterminate
- B. Radial and indeterminate
- C. Radial and indeterminate
- D. Spiral and determinate**

**BIOLOGY >> Reproduction**

14. In biennials and perennials, low temperature stimulus is not received by which of the following?

- A. Shoot apex of mature stem
- B. Embryo of the seed
- C. Leaves of the plants**
- D. all of these

**BIOLOGY >> Cell Structure and Function**

15. Shape of the maturing phase of the golgi apparatus is?

- A. biconcave
- B. convex
- C. spherical
- D. concave**

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

16. Choose the organ that filters the lymph:

- A. heart
- B. liver
- C. spleen**
- D. pancreas

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

17. The gene which cannot be determined by observing the organism is?

- A. dominant
- B. allele
- C. phenotype
- D. recessive**

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

18. Reflex action is controlled by:

- A. Peripheral nervous system
- B. Central nervous system**
- C. autonomic nervous system
- D. Circulatory system

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

19. A chemical component that is NOT found in all viruses is:

- A. protein
- B. Lipids**
- C. DNA
- D. RNA

**BIOLOGY >> Support and Movement**

20. What is the basic unit of muscle fiber?

- A. myofibril**
- B. Z-line
- C. M-line
- D. Fibroin

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

21. Out of 31 pairs of spinal nerves, how many pairs of lumbar nerves are there?

- A. 5**
- B. 10
- C. 12
- D. 15

**BIOLOGY >> Reproduction**

22. Where in the female reproductive system thousands of eggs are found?

- A. ovaries**
- B. vagina
- C. fallopian tube
- D. uterus

**BIOLOGY >> Bio-Energetics**

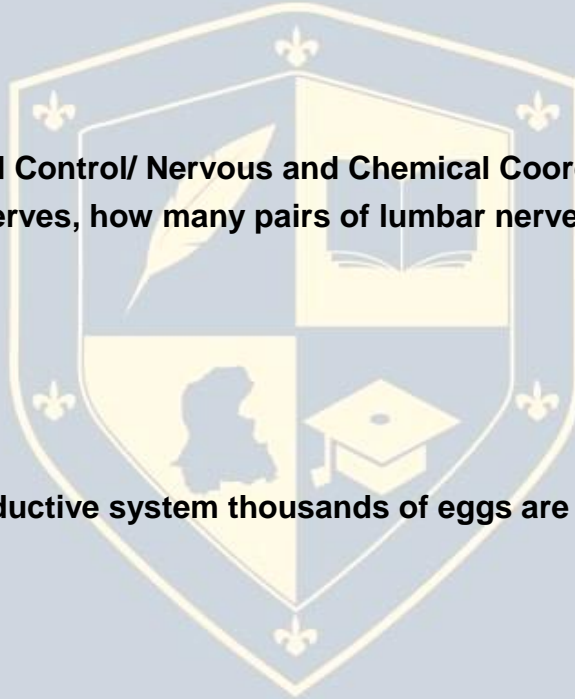
23. Where does the dark reaction of photosynthesis takes place?

- A. Thylakoid
- B. Grana
- C. Stroma**
- D. All of these

**BIOLOGY >> Bio-Energetics**

24. The breaking of terminal phosphate of ATP yields?

- A. 7 Kcal
- B. 8 Kcal
- C. 7,5 Kcal
- D. 7.3 Kcal**



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**BIOLOGY >> Evolution**

25. Which of the following statements reflecting Darwin's theory of evolution is false?

- A. Genetic variations can be inherited
- B. Members of a population produce more offspring than the environment can support

C. Accumulation of adaptations leads to speciation

**D. all are true**

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

26. Reverse transcriptase is a useful enzyme to have when

**A. RNA virus converts its RNA to DNA**

B. there are no host cells present

C. nutrients are scarce

D. spikes are forming in the new virus

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

27. Genotype ratio of Mendel's law of independent assortment is which of the following?

A. 3:1

B. 1:02:01

C. 9:3:3:1

**D. none of these**

**BIOLOGY >> Enzymes**

28. Ligases help in which of the following reactions?

A. splitting of two molecules

B. oxidation of molecules

**C. joining of molecules**

D. both a and b

**BIOLOGY >> Cell Structure and Function**

29. Which of the following can not be used to mediate the fusion of plasma membranes of two different cells?

A. electric shock

B. inactivated viruses

C. polyethylene glycol

**D. emulsifier**

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

30. How can hepatitis be controlled?

A. Adopting hygienic measures

B. Routine vaccinations

C. Screening of organ donors

**D. all of the above**

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

31. \_\_\_\_\_ is usual causative agent of genital herpes

- A. HSV-1
- B. HSV-2**
- C. both a and b
- D. none of these

**BIOLOGY >> Prokaryotes**

32. The existence of microbes was confirmed by

- A. Robert Kuch is work
- B. Louis Pasteur's work
- C. Linneaus's work**
- D. Ernst Hackel's work

**BIOLOGY >> Evolution**

33. Homology means

- A. similiary in characteristics resulting from common ancestors**
- B. similarity in function from acquired characterists
- C. study of similar organs but with different functions
- D. study of similar ograms but with different functions

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

34. The largest part of forebrain which controls the intelligence, emotions and skeletal muscles is classified as?

- A. hypothalamus
- B. thalamus
- C. cerebellum
- D. cerebrum**

**BIOLOGY >> Diversity among Animals**

35. Which of the following combinations is incorrect?

- A. Nematoda- roundworms, pseudocoelomate
- B. Echinodermata- coelom present, bilateral symmetry
- C. Platyhelminthes- gastrovascular cavity, flatworms, acoelomate
- D. Calcareo- gastrovascular cavity, coelom present**

**BIOLOGY >> Biological Molecules Enzymes**

36. Which of the following constitute large organic molecules?

- A. Cellulose**
- B. glucose
- C. amino acids
- D. all of these

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

37. A botanist sees that when he breeds a plants with blue flowers with a plant with red flowers, the resulting generation are plants that all have a 1 : 1 ratio of blue : red flowers. He knows that the two parents are homozygous for the trait of color. What phenomenon most likely explains the 1 : 1 ratio in the filial generation?

- A . Incomplete dominance
- B. Independent assortment
- C. Penetrance
- D. Codominance**

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

38. Asthma releases a compound named as:

- A. Histamine**
- B. Heparin
- C. Epinephrine
- D. Antibodies

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

39. Amount of oxygen in inspired air is 21 % while in expired air is

- A. 0.11
- B. 0.12
- C. 0.15
- D. 0.16**

**BIOLOGY >> Diversity among Animals**

40. Free living example of platyhelminthes is?

- A. dugesia**
- B. fasciola
- C. taenia
- D. all of these

**BIOLOGY >> Biological Molecules Enzymes**

41. The element in basic structure of proteins which differentiate them from carbohydrates is?

- A. C
- B. H
- C. N**
- D. none of these

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

42. Skin colour in man is controlled by how many pairs of genes?

- A. 1
- B. 2
- C. 3**
- D. none of these

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

**43. Respiration involves the**

- A. Chemical process
- B. Biochemical process
- C. Mechanical process
- D. Both B and C**

**BIOLOGY >> Support and Movement**

**44. Which of these processes help in skeletal muscle relaxation after contraction?**

- A. Motor neurons send electrical signals to to muscles
- B. troponin binds calcium
- C. calcium is released from intracellular storage sites
- D. None of these**

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

**45. The number of functional parts in forebrain is:**

- A. 2
- B. 3**
- C. 4
- D. 5

**BIOLOGY >> Prokaryotes**

**46. Which of the following characteristics make plasmid DNA useful for researchers?**

- A. Readily incorporate cloned DNA
- B. Capable of autonomous replication
- C. Capable of being isolated from genomic DNA
- D. all of these**

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

**47. The process of intake of oxygen and release of carbon dioxide is classified as**

- A. Respiratory exchange
- B. Gaseous exchange**
- C. Diffusion
- D. Osmosis

**BIOLOGY >> Diversity among Animals**

**48. Sperms released in water are carried to the mesenchyme in sponges by?**

- A. Stipules
- B. Spicules
- C. Spines
- D. Amoeboid cell**

**BIOLOGY >> Enzymes**

**49. Optimal pH for working of enzymes is?**

- A. 5
- B. 7.5**
- C. 9
- D. 3



**BIOLOGY >> Prokaryotes**

50. Which of the following structures helps cyanobacteria to move?

- A. flagella
- B. capsule
- C. gas vesicles**
- D. all of these

**BIOLOGY >> Evolution**

51. How does inbreeding negatively impact a population?

- A. The frequency of alleles does not change within the population.
- B. It reduces the number heterozygous individuals, preventing beneficial alleles from being efficiently selected for.
- C. increases the number of homozygous individuals, allowing potentially harmful recessive alleles to express themselves more frequently.
- D. all of these**

**BIOLOGY >> Reproduction**

52. Which tissue attaches the embryo to the wall of uterus?

- A. Graafian follicle
- B. Corpus luteum
- C. Placenta**
- D. None of these

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

53. Lymph capillaries join together to form larger lymph vessels, that gives rise to:

- A. Thoracic duct
- B. lymph duct
- C. thoracic lymph duct**
- D. sperm duct

**BIOLOGY >> Enzymes**

54. Which of the following would most greatly increase the activity of an enzyme functioning in the small intestine?

- A. Decrease the temperature
- B. Increase the amount of enzymes
- C. Decrease the pH
- D. Increase the amount of substrate**

**BIOLOGY >> Cell Structure and Function**

55. The haploid number of chromosomes in the human eggs and sperms are?

- A. 22
- B. 23**
- C. 21
- D. 24

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

56. Which of these functions will be affected if the medulla oblongata is damaged?

- A. Thermoregulation
- B. Vision
- C. Memory
- D. Tactile sensation-response when pricked with a needle**

**BIOLOGY >> Reproduction**

57. All of the following statements are correct EXCEPT:

- A. The testicles produce millions of sperm.
- B. Hormones are produced by the testicles.
- C. Semen is produced in the seminal vesicles
- D. All males are born with one testicle**

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

58. How many types of gametes possible when  $rrYy$  is present?

- A. 1
- B. 2**
- C. 3
- D. 4

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

59. What types of viruses contain the enzyme lysozyme to aid in their infection?

- A. bacteriophage**
- B. animal viruses
- C. plant viruses
- D. fungal viruses

**BIOLOGY >> Bio-Energetics**

60. Net yield of  $H_2O$  in Photosynthesis is?

- A. 1
- B. 6
- C. 3
- D. 0**

**BIOLOGY >> Diversity among Animals**

61. Which group does not contain polyp?

- A. Anthozoa
- B. Hydrozoa
- C. Scyphozoa
- D. Calcarea**

**BIOLOGY >> Diversity among Animals**

62. Which of the following animals is NOT a protostome?

- A. Earthworm
- B. Cockroach
- C. Butterfly
- D. Sting ray**

**BIOLOGY >> Evolution**

63. The structures of the front flipper of a whale and the forearm of a wolf have similar bone structure and derive from a common ancestor. This is an example of which of the following?

- A. convergent evolution
- B. analogous structures
- C. homologous structures**
- D. bottleneck affect

**BIOLOGY >> Cell Structure and Function**

64. Under microscopic examination, which cellular structure would differentiate a plant cell from an animal cell?

- A. nucleus
- B. cell membrane
- C. cytoplasm
- D. cell vacuole**

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

65. The flow of sap from cut plants is :

- A. bleeding
- B. plasmolysis
- C. imbibition**
- D. guttation

**BIOLOGY >> Prokaryotes**

66. The flagella of a prokaryotic and eukaryotic cell vary in which of the following?

- A. Mode of functioning and location in the cell
- B. Types of movement and placement in the cell
- C. Microtubular organization and function
- D. Microtubular organization and type of movement**

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

67. The ventral root of the spinal cord contains axons of

- A. Sensory neuron
- B. Motor neuron**
- C. Mixed neuron
- D. Spinal neuron

**BIOLOGY >> Bio-Energetics**

68. What is the product of the ETC in animals?

- A. oxygen
- B. carbon dioxide
- C. water**
- D. all of these

**PHYSICS >> Electromagnetic Induction**

69. The root mean square value of the alternating current is equal to

- A. twice the peak value
- B. half the peak value
- C. equal to the peak value
- D.  $(1/\sqrt{2})$  times the peak value**

**PHYSICS >> Current Electricity**

70. Basically a potentiometer is a device for

- A. Comparing two voltages**
- B. Measuring a current
- C. Comparing two currents
- D. Measuring a voltage

**PHYSICS >> Force and Motion**

71. The displacement between A and B is defined as:...

- A. change in position of an object from A to B**
- B. any distance between two points
- C. longest distance from A to B
- D. longest distance between two points

**PHYSICS >> Dawn of Modern Physics**

72. Momentum of a photon is

- A. 0
- B.  $\alpha$
- C.  $hf/c$**
- D.  $mv$

**PHYSICS >> Nuclear Physics**

73. In fusion reaction of sun which element isotopes are used

- A. O
- B. C
- C. U
- D. H**

PHYSICS >> Thermodynamics

74. What does the constant  $n$  represent in the equation of state for an ideal gas  $PV=nRT$ ?

- A. number of atoms in the gas
- B. number of moles of the gas**
- C. number of nucleons
- D. number of molecules of gas

PHYSICS >> Atomic spectra

75. The black body always \_\_\_\_\_ radiations

- A. emit
- B. absorb
- C. both a and b**
- D. reflects

PHYSICS >> Nuclear Physics

76. The \_\_\_\_\_ reaction is an example of renewable source of energy

- A. fission
- B. fusion
- C. both a and b**
- D. none of these

PHYSICS >> Waves

77. The maximum value of displacement from the mean position is called:

- A. height
- B. amplitude**
- C. frequency
- D. distance

PHYSICS >> Waves

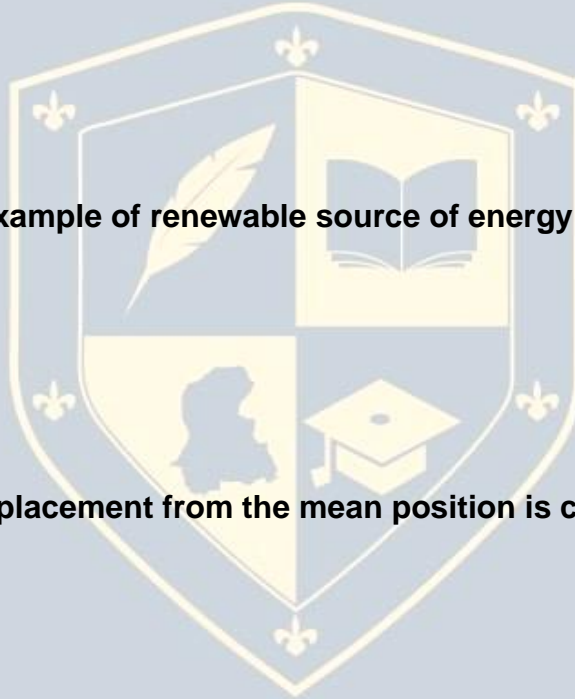
78. The object oscillates due to:

- A. a restoring force**
- B. its weight
- C. centripetal force
- D. force of friction

PHYSICS >> Electromagnetism

79. Work done by the magnetic force on charged particle in presence of perpendicular magnetic field is

- A. positive
- B. zero**
- C. negative
- D. none of these



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PHYSICS >> Electromagnetic Induction

80. For a coil self inductance  $L$  and current  $I$  then flux passing through it is

A.  $LI$

B.  $LI_2$

C.  $L^2I$

D.  $(LI)^2$

PHYSICS >> Rotational and Circular Motion

81. What is 30 degrees in radians?

A.  $\pi/3$

B.  $\pi/6$

C.  $\pi/2$

D.  $\pi/4$

PHYSICS >> Force and Motion

82. If one body is at rest then if we try to move it then it will resist by

A. inertia of motion

B. inertia of rest

C. inertia of turning

D. inertia of acceleration

PHYSICS >> Nuclear Physics

83. If a photon is absorbed by a electron the energy of electron

A. increase

B. decrease

C. remain same

D. another photon will be released by electron

PHYSICS >> Electro-statistics

84. Energy stored in a parallel plate capacitor:...

A.  $CV$

B.  $CV^2$

C.  $\frac{1}{2} CV$

D.  $\frac{1}{2} CV^2$

PHYSICS >> Atomic spectra

85. Sun spectra also has dark lines in pattern which corresponds to

A. absorption

B. emission

C. release

D. free particle

PHYSICS >> Thermodynamics

86. Which of the following is the statement of first law of thermodynamics?

- A. difference between heat given to the system and work done by the system appears as internal energy of the system
- B. difference between work done and change in internal energy is equal to the heat absorbed by the system
- C. sum of heat absorbed and the increase in internal energy is equal to the work done by the system
- D. sum of heat absorbed and the work done by the system is equal to the decrease in internal energy of the system

PHYSICS >> Electronics

87. Maximum efficiency of half wave rectifier is

- A. 80.6 %
- B. 40.60%
- C. 70%
- D. 50%

PHYSICS >> Current Electricity

88. The length of a conductor is halved. Its resistance will be :

- A. halved
- B. doubled
- C. unchanged
- D. quadrupled

PHYSICS >> Waves

89. A wave have the speed 0.50 m/s. If its wavelength is 1.5 m. What is the period of the wave?

- A. 0.33 m
- B. 3 m
- C. 1.5 m
- D. 6 m

PHYSICS >> Dawn of Modern Physics

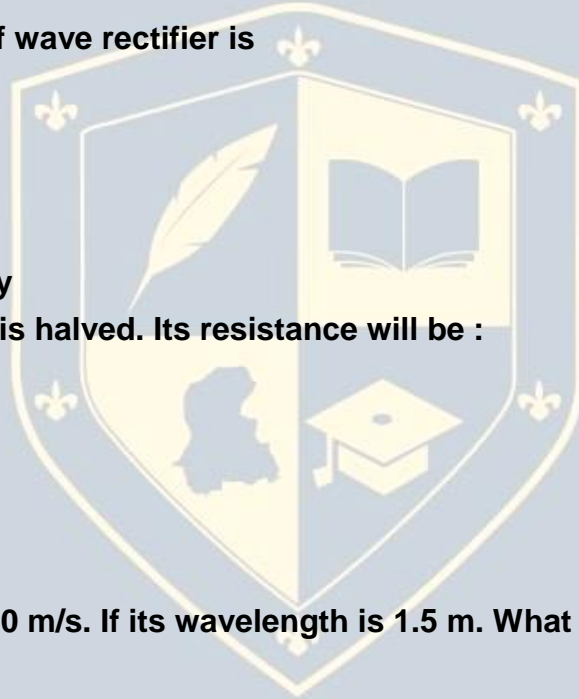
90. When white light is used in Double Slit experiment then

- A. non interference fringes observed
- B. only central bright fringe is observed
- C. only red and white fringes are observed
- D. central bright and few coloured fringes are observed

PHYSICS >> Thermodynamics

91. If  $P = P_0$  and  $V = V_0$  gas expands isothermally to  $P = 3P_0$  then Volume is

- A.  $3V_0$
- B.  $2V_0$
- C.  $V_0/3$
- D.  $V_0/2$



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PHYSICS >> Current Electricity

92. A neon flashlight cell with an emf of 1.5V gives a current of 15A when connected directly to an ammeter of resistance 0.04Ω. The internal resistance of the cell is:

- A. 0.0004Ω
- B. 0.06Ω**
- C. 0.10Ω
- D. 0.13Ω

PHYSICS >> Nuclear Physics

93. What is the atomic number and mass number of Helium?

- A. A=4, Z=2**
- B. A=2 Z=4
- C. A=1 Z=1
- D. A=3, Z=1

PHYSICS >> Electromagnetism

94. If a force of 2 N is applied on charge of Coulomb, the electric field becomes

- A. 3/2 N/C
- B. 2/3 N/C**
- C. 1/2 N/C
- D. none of these

PHYSICS >> Waves

95. An object is undergoing simple harmonic motion. It's time period is T and total energy is E. The amplitude of vibration is reduced to half. What is the new time period and total energy of the system?

- A. time period = T/2 total energy = E/4
- B. time period = T total energy = E/4**
- C. time period = T/2 total energy = E/2
- D. time period = T total energy = E/2

PHYSICS >> Waves

96. What is an optically active medium?

- A. which absorbs light
- B. which absorbs polarized light
- C. which rotates plane of polarization**
- D. which refract polarized light

PHYSICS >> Force and Motion

97. If the velocity varies linearly with time then acceleration is called

- A. nonuniform
- B. discrete
- C. instantaneous
- D. uniform**



PHYSICS >> Nuclear Physics

98. What will be the decay constant of a material whose half life is 1600 years in  $(\text{year})^{-1}$ ?

- A.  $4.33 \times 10^{-4}$
- B.  $2.33 \times 10^{-4}$
- C.  $4.33 \times 10^4$
- D.  $2.33 \times 10^4$

PHYSICS >> Electromagnetic Induction

99. Lenz law is in accordance with conservation of

- A. momentum
- B. charge
- C. current
- D. energy

PHYSICS >> Electro-statistics

100. A particle carrying a charge  $3e$ , accelerates through a potential difference of  $2V$ . The energy acquired by it is:

- A.  $6eV$
- B.  $1.5eV$
- C.  $0.66eV$
- D.  $12eV$

PHYSICS >> Work and Energy

101. A particle of mass 'm' is projected from the ground with an initial speed  $u_0$  at an angle 'a' with the horizontal. At the highest point of its trajectory it makes a completely inelastic collision with another particle of mass which was thrown vertically upward from the ground with the same initial speed  $u_0$ . The angle that the composite system makes with the horizontal immediately after the collision is

- A.  $37^\circ$
- B.  $45^\circ - a$
- C.  $45^\circ + a$
- D.  $90^\circ$

PHYSICS >> Electromagnetic Induction

102. Identify the factor on which mutual inductance does not depend.

- A. relative orientation
- B. relative separation of two coils
- C. reciprocity
- D. permeability of the core material

PHYSICS >> Dawn of Modern Physics

103. \_\_\_\_\_ is conserved in pair production

- A. charge
- B. momentum
- C. both a & B
- D. none of these

PHYSICS >> Work and Energy

104 .When work done by force of gravity is negative (only gravity is acting)

- A. KE decreases
- B. PE increases
- C. both (A) and (B)**
- D. none of these

PHYSICS >> Nuclear Physics

105. According to Bohr's principle, what is the relation between the principal quantum number and the radius of the orbit?

- A.  $r \propto n$
- B.  $r \propto 1/n$
- C.  $r \propto n^2$**
- D.  $r \propto 1/n^2$

PHYSICS >> Waves

106. Whenever a transverse wave travelling in a denser medium, is reflected from the boundary of the rarer medium.

- A. An incident crest on reflection disappears
- B. An incident trough on reflection becomes double
- C. An incident crest on reflection becomes a trough
- D. An incident crest on reflection remains crest**

PHYSICS >> Electromagnetism

107.  $e/m =$

- A.  $mv/Br$
- B.  $v/Br$**
- C.  $r/Bv$
- D.  $B/vr$

PHYSICS >> Dawn of Modern Physics

108. The reverse process of pair production is known as :

- A. Annihilation of energy**
- B. Anti Pair production
- C. materialization of matter
- D. Annihilation of practical into its antiparticle

PHYSICS >> Rotational and Circular Motion

109. For constant linear acceleration, angular acceleration and radius are

- A. equal
- B. inversely related**
- C. directly related
- D. no relation

PHYSICS >> Nuclear Physics

110. The charge and mass of photon is

- A. 0,0
- B.  $1+,0$
- C.  $1-,0$
- D. 1,1

PHYSICS >> Electromagnetism

111. Find the magnetic flux through a 1000 turn solenoid of radius 10 cm and length equal to 30 cm and a current 3 A pass through it:

- A.  $0.4 \cdot 10^{-3}$  Wb
- B. 4000 Wb
- C. 0.4 Wb
- D. 4 Wb

PHYSICS >> Electronics

112. Half wave voltage multiplier can provide any degree of voltage multiplication by cascading diodes and capacitors.

- A. any doubler
- B. any tripler
- C. any multiplication
- D. none of them

PHYSICS >> Electro-statistics

113. If the magnitude of charges on two point objects and the distance between them is doubled, then force will be:...

- A. two times
- B. four times
- C. unchanged
- D. halved

PHYSICS >> Thermodynamics

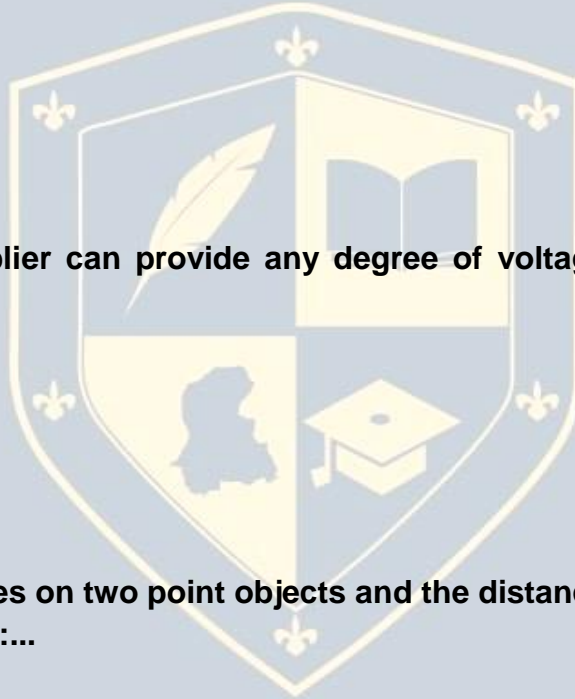
114. Amount of heat supplied to 0.02 kg of nitrogen to raise its temperature by 45 degree is

- A. 935J
- B. 934J
- C. 967J
- D. 954J

PHYSICS >> Rotational and Circular Motion

115. Find angular acceleration when  $\Delta\omega$  is 250 rpm and  $\Delta t$  is 5.00 s.

- A.  $5.24 \text{ rad/sec}^2$
- B.  $6 \text{ rad/sec}^2$
- C.  $10 \text{ rad/sec}^2$
- D. none of these



SINDH ACADEMY  
UMERKOT

PHYSICS >> Force and Motion

116. Mass  $m_1$  has a velocity of  $0\text{ m/s}$  and mass  $m_2$  has a velocity of  $5\text{ m/s}$ . Mass  $m_1 > m_2$ . Which one has larger interior?

- A.  $m_2$
- B.  $m_1$**
- C. both  $m_1$  and  $m_2$
- D. not enough information

PHYSICS >> Nuclear Physics

117. The deuterium atom has \_\_\_\_\_ quarks

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

PHYSICS >> Atomic spectra

118. A person with dark skin will feel

- A. more heat
- B. more cold
- C. both a and b**
- D. heat doesn't depend on skin color

PHYSICS >> Current Electricity

119. Two wires of copper are of the same length but have different diameters. When they are connected in series across a battery, the heat generated is  $H_1$ . When connected in parallel across the same battery, the heat generated during the same time is  $H_2$ . Then :

- A.  $H_1 = H_2$
- B.  $H_1 < H_2$**
- C.  $H_1 > H_2$
- D.  $H_1 > H_2$

PHYSICS >> Electromagnetic Induction

120. Energy stored in an inductor is

- A. electric energy
- B. magnetic energy**
- C. electromagnetic energy
- D. both a) and b)

PHYSICS >> Dawn of Modern Physics

121. What is the de Broglie wavelength associated with an electron, accelerated through a potential difference of  $200\text{ volts}$ ?

- A.  $1\text{ nm}$
- B.  $0.5\text{ nm}$
- C.  $0.0056\text{ nm}$
- D.  $0.086\text{ nm}$**

PHYSICS >> Thermodynamics

122. What is the internal energy change in system that has absorbed 800J of heat and work done is 500J?

- A. 200J
- B. 550J
- C. 600J
- D. 300J**

PHYSICS >> Current Electricity

123. A wire has a resistance of 5.5  $\Omega$  at 19°C and 21.5  $\Omega$  at 200°C. Find the temperature coefficient of resistivity( $\alpha$ ) of the material.

- A. 0.016 per degree celsius**
- B. 32 per degree celsius
- C. 0.018 per degree celsius
- D. 0.00106 per degree Celsius

PHYSICS >> Waves

124. The phase angle between two points is 3 pi. The distance between these points is 15 cm. What is the wavelength of the wave?

- A. 30 cm
- B. 45 cm
- C. 5 cm
- D. 10 cm**

CHEMISTRY >> Gases

125. Ethyl alcohol is a non polar solvent but can dissolve in water because of formation of:

- A. polar bond
- B. non-polar bond
- C. H-bond**
- D. all of these

CHEMISTRY >> Fundamental Principles of Organic Chemistry

126. The compounds which belongs to same functional group forms a \_\_\_\_\_?

- A. Class
- B. Group
- C. Homologous series**
- D. None of these

CHEMISTRY >> Macromolecules

127. Which of the following element is present in all proteins ?

- A. S
- B. C
- C. N**
- D. O

CHEMISTRY >> Chemical Equilibrium

128. Suppression of ionization means

- A. Decreasing Ionization
- B. Increasing Ionization
- C. Maintaining Ionization
- D. None of these

CHEMISTRY >> Chemistry of Hydrocarbons

129. Which of the following suffix is used for the common naming of alkene?

- A. -ene
- B. -ylene
- C. -yne
- D. -eylene

CHEMISTRY >> Introduction to Fundamental Concepts of Chemistry

130. Formula mass is considered for \_\_\_\_\_ compounds instead of their molecular mass.

- A. metallic
- B. ionic
- C. covalent
- D. polar covalent

CHEMISTRY >> Solids

131. In Powdered form the angles and faces in a crystal are

- A. Ruptured
- B. Changed
- C. Unchanged
- D. None of these

CHEMISTRY >> Reaction Kinetics

132. Specific Rate constant changes its value with

- A. Time Constant
- B. Change in Temperature
- C. Change in Concentration
- D. Change in Pressure

CHEMISTRY >> Chemical Bonding

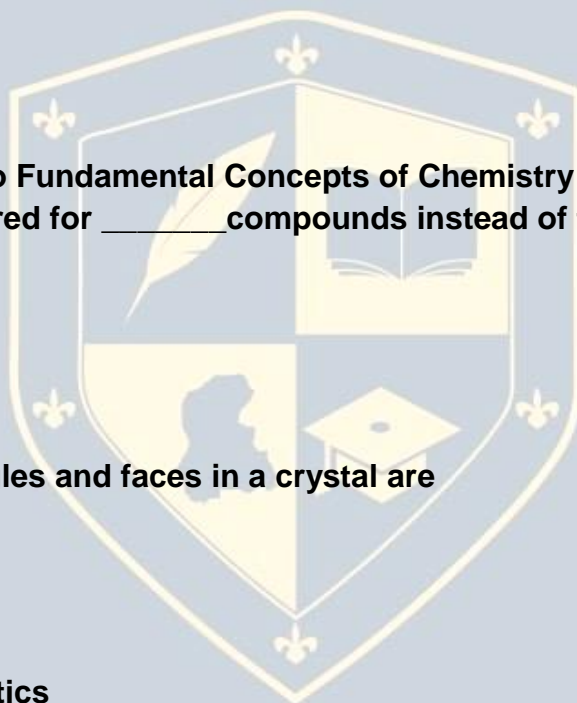
133. A \_\_\_\_\_ bond may be polar or nonpolar

- A. Ionic bond
- B. covalent bond
- C. metallic bond
- D. co-ordinate bond

CHEMISTRY >> Liquids

134. K.E of the liquids is directly proportional to \_\_\_\_\_?

- A. Pressure
- B. Temperature
- C. Mass
- D. Nature



HANIF ACADEMY  
UMERKOT

CHEMISTRY >> Carboxylic Acids

135. Reduction of ethanoic acid with  $\text{LiAlH}_4$  produces \_\_\_\_\_?

- A. Propanol
- B. Ethanal
- C. Ethanol**
- D. Ethane

CHEMISTRY >> Electrochemistry

136. For a Voltaic Cell containing Zn and Copper electrodes the cell potential at standard conditions is

- A. 2 Volts
- B. 2.2 Volts
- C. 1 Volt
- D. 1.1 Volt**

CHEMISTRY >> Alcohol and Phenols

137. What is IUPAC name of isopropyl alcohol

- A. 2 - propanol**
- B. 1 - propanol
- C. 2 - ethanol
- D. 2 - propane-1-ol

CHEMISTRY >> Solids

138. The study of crystalline solids determines the

- A. mole
- B. Avogadro's number**
- C. atomic mass
- D. atomic number

CHEMISTRY >> Alkyl Halides

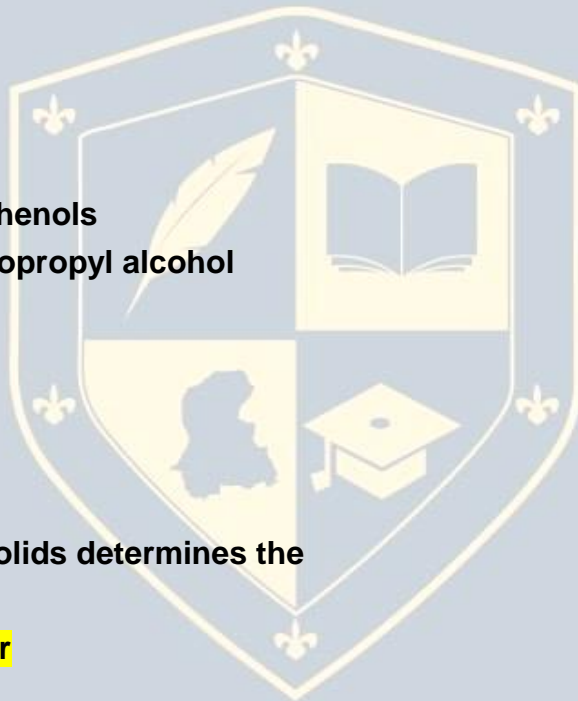
139. Which one of the following is not a secondary alkyl halide?

- A. 2-Chloropropane
- B. 3-Bromobutane
- C. 2,3-dichloropentane
- D. 2-chloro,2-methylpentane**

CHEMISTRY >> Gases

140. Which inert gas is mixed with oxygen gas by deep sea divers to adjust the partial pressure of oxygen gas.

- A. Neon
- B. Helium**
- C. Argon
- D. Krypton



SINDH ACADEMY  
UMERKOT

CHEMISTRY >> Liquids

141. Dipole dipole forces are stronger between the molecule when?

- A. **Electronegativity difference is higher**
- B. Electronegativity difference is less
- C. Molecules are far from each other
- D. Electronegativity difference is zero

CHEMISTRY >> Solids

142. In a cubic close packed system, the number of octahedral void per atom is/are

- A. **1**
- B. 3
- C. 8
- D. 5

CHEMISTRY >> Electrochemistry

143. Platinum Foil is coated with finely divided platinum black in SHE to give larger

- A. Mass
- B. Volume
- C. **Surface Area**
- D. Temperature difference

CHEMISTRY >> Introduction to Fundamental Concepts of Chemistry

144. During combustion analysis  $MgClO_4$  is used to absorb \_\_\_\_\_

- A. oxygen gas
- B. hydrogen gas
- C. **water vapors**
- D. alcohol

CHEMISTRY >> Introduction to Fundamental Concepts of Chemistry

145. A full stop may have \_\_\_\_\_ atoms present in it

- A. one million
- B. **two millions**
- C. one billion
- D. two billions

CHEMISTRY >> Aldehydes and ketones

146. Why oxidation of ketones is not easy \_\_\_\_\_ ?

- A. Because they involve breaking of C-O bond
- B. **Because it involve breaking of C-C bond**
- C. Because it involve breaking of C-H bond
- D. Because it involve breaking of C=C bond

CHEMISTRY >> Atomic Structure

147. The shapes of subshells is \_if value of azimuthal quantum number 'l' is 2

- A. spherical
- B. dumbbell
- C. **complicated**
- D. all of these



CHEMISTRY >> Chemical Bonding

148. The bond formed b/w homonuclear diatomic molecule is \_\_\_ in nature

- A. polar
- B. non-polar**
- C. may be polar or nonpolar
- D. ionic

CHEMISTRY >> Thermochemistry and Energetic of Chemical Reactions

149. SI unit for energy change in a chemical reaction is

- A. Joule/mole
- B. KJ/mole
- C. KJ mol<sup>-1</sup>
- D. All of these**

CHEMISTRY >> Chemical Equilibrium

150. To avoid long reaction time and to get equilibrium mixture quickly we add

- A. More reactants
- B. catalyst**
- C. inhibitors
- D. enzymes

CHEMISTRY >> Chemistry of Hydrocarbons

151. The hydrocarbon in which all the 4 valencies of carbon are fully occupied is called as:

- A. Alkene
- B. Alkyne
- C. Alkane**
- D. Cycloalkane

CHEMISTRY >> Aldehydes and ketones

152. Reaction of Aldehydes with Tollen's reagent results in formation of \_\_\_\_\_?

- A. Red precipitate
- B. Yellow precipitate
- C. Silver mirror**
- D. Brick red precipitate

CHEMISTRY >> Chemistry of Hydrocarbons

153. The reactivity of alkenes is due to the presence of?

- A. Sigma bond
- B. Two Pi bond
- C. One Pi bond**
- D. Due to electrophilic nature

CHEMISTRY >> Transition Elements

154. Which oxidation is possessed by all the elements of group III B ?

- A. 2**
- B. 3
- C. 5
- D. 7

CHEMISTRY >> Fundamental Principles of Organic Chemistry

155. Formyl group belongs to which class of compounds ?

- A. Aldehydes
- B. Ketones
- C. Alkanals
- D. Both a and c**

CHEMISTRY >> Fundamental Principles of Organic Chemistry

156. Which of the following is not aromatic?

- A. Anthracene
- B. Naphthalene
- C. Phenol
- D. None of these**

CHEMISTRY >> Macromolecules

157. In nature fatty acids occur as \_\_\_\_\_ of glycerol?

- A. Acid halides
- B. Binary compounds
- C. Esters**
- D. Alkanes

CHEMISTRY >> Reaction Kinetics

158. For 3rd order reactions the half-life is

- A. inversely proportional to square of concentration**
- B. directly proportional to cube of concentration
- C. inversely proportional to concentration
- D. directly proportional to concentration

CHEMISTRY >> Carboxylic Acids

159. Boiling point of carboxylic acids are high due to?

- A. Polarity of carbonyl group
- B. Due to methyl group
- C. Due to H-Bonding**
- D. Due London forces

CHEMISTRY >> Macromolecules

160. Activator of phosphatase enzyme is \_\_\_\_\_.

- A.  $Mn^{2+}$**
- B.  $Mg^{2+}$
- C.  $Zn^{2+}$
- D. None of these

CHEMISTRY >> Carboxylic Acids

161. Propanoic acid is produced when \_\_\_\_\_?

- A. Methyl MgBr react with  $CO_2$
- B. Isopropyl MgBr react with  $CO_2$
- C. Ethyl MgBr react with  $CO_2$**
- D. Propyl MgBr react with  $CO_2$

CHEMISTRY >> Carboxylic Acids

162. Carboxylic acids turn ?

- A. Red litmus blue
- B. Blue litmus red**
- C. Neutral to litmus
- D. No effect

CHEMISTRY >> Liquids

163. What is the relationship between boiling point and External pressure?

- A. Boiling point increases if external pressure is increased**
- B. boiling point increases if external pressure decreases
- C. Boiling point is not affected by external pressure
- D. Boiling point decreases if external pressure increased

CHEMISTRY >> Atomic Structure

164. The 'm' quantum number describes the \_\_\_\_\_ of electron

- A. energy level
- B. orbital or subshell
- C. orientation of orbital**
- D. Spin of electron

CHEMISTRY >> Alcohol and Phenols

165 .Who first extracted phenol?

- A. Wohler
- B. Runge**
- C. Wittig
- D. Wurtz

CHEMISTRY >> Reaction Kinetics

166.  $dx/dt$  is rate of reaction expression where dx is

- A. Concentration
- B. Change in Concentration
- C. Very small change in Concentration**
- D. All of these

CHEMISTRY >> S and P Block elements

167. The last subshell of alkaline earth metals

- A. 2s**
- B. 1s
- C. 2d
- D. 3d

CHEMISTRY >> Transition Elements

168. The oxidation state of transition elements is usually

- A. Variable**
- B. Constant
- C. Single
- D. Infinite

CHEMISTRY >> Chemical Equilibrium

169. Effect of Change in Pressure for a reaction with different number of moles at reactant and product side are:

- A. Irreversible Reactions
- B. Reversible reactions
- C. Reversible gaseous reactions
- D. All of these

CHEMISTRY >> Carboxylic Acids

170. 2-hydroxy propanoic acid is also called as \_\_\_\_\_?

- A. Stearic acid
- B. Butyric acid
- C. Maleic acid
- D. Lactic acid

CHEMISTRY >> Alcohol and Phenols

171. When O-H bond breaks in alcohol is the order of reactivity

- A. Primary alcohol ) secondary alcohol ) tertiary alcohol
- B. methyl alcohol ) primary alcohol ) secondary alcohol ) tertiary alcohol
- C. Primary alcohol ( secondary alcohol ( tertiary alcohol
- D. ethanol ) primary alcohol ) secondary alcohol ) tertiary alcohol

CHEMISTRY >> Chemistry of Hydrocarbons

172. In which of the following benzene is isolated?

- A. Naphthalene
- B. Diphenyl ethane
- C. Phenanthrene
- D. Anthracene

CHEMISTRY >> Reaction Kinetics

173. The slope determined by drawing a right angled triangle drawn with tangent as hypotenuse will be same

- A. with different sizes of triangles drawn
- B. at different point on curve
- C. at the start and end of curve
- D. All of these

CHEMISTRY >> Thermochemistry and Energetic of Chemical Reactions

174. Energy change is governed by

- A. Heat
- B. Work
- C. Enthalpy
- D. None of these

CHEMISTRY >> Liquids

175. At which temperature water boils at Murree Hills?

- A. 50°C
- B. 100°C
- C. 98°C
- D. 67°C

CHEMISTRY >> Electrochemistry

176. Number of Electrons added on both sides of oxidation and reduction half reactions are balanced:

- A. At the start of procedure
- B. Somewhere in the middle of balancing
- C. After Adding two Half reactions
- D. Before Adding two Half Reactions

CHEMISTRY >> Atomic Structure

177. The order of size of 's' orbital is as follows:

- A. ...4s<3s<2s<1s
- B. ...4s>3s>2s>1s
- C. constant
- D. none of these

CHEMISTRY >> S and P Block elements

178. Lighter the Oxidation state of Metal more will be \_\_\_\_\_ ?

- A. Acidity of metal
- B. Polarization power
- C. Basicity of metal
- D. None of these

CHEMISTRY >> Introduction to Fundamental Concepts of Chemistry

179. Glucose(C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>) is the most important nutrient in a cell for generating chemical potential energy, what is the mass percent of carbon in 1.5g of sample:

- A. 33%
- B. 40%
- C. 53.3%
- D. 6.67%

CHEMISTRY >> Aldehydes and ketones

180. Which one of the following does not give iodoform test ?

- A. Acetaldehyde
- B. 3-hexanone
- C. Butanone
- D. Acetone

**ENGLISH >> Mistakes in Sentences or short written texts**

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

181. When the dentist came in (A), my tooth was stopped aching (B)/ out of fear (C) that I might loose my tooth. (D)

- A. When the dentist came in
- B. my tooth was stopped aching**
- C. out of fear
- D. that i might loose my tooth.

**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

182. Choose the correct sentence.

- A. ali lives in dubai, the United arab emirates.
- B. Ali lives in dubai, the united arab emirates.
- C. Ali lives in Dubai, in the United Arab Emirates.**
- D. Ali lives in Dubai, the United Arab Emirates.

**ENGLISH >> Vocabulary**

Comprehend key vocabulary

183. How are you doing? I'm \_\_\_\_\_ to meet you.

- A. calm
- B. lovely
- C. pleased**
- D. helpful

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

Demonstrate correct use of articles and prepositions

184. \_\_\_\_\_ apple a day keeps the doctor away.

- A. A
- B. An**
- C. The
- D. No article

**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. nite
- B. nigt
- C. nighte
- D. night**

**ENGLISH >> Mistakes in Sentences or short written texts**

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

186. I had just entered (A) / the station (B)/ than I met (C)/ my friends (D).

- A. I had just entered
- B. the station
- C. than I met**
- D. my friends.

**ENGLISH >> Structure of Sentence**

Demonstrate control of tenses and sentence structure

187. Identify the tense used in the given sentence. "Everyone shall be reaching by tomorrow."

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

**ENGLISH >> Tenses**

Demonstrate control of tenses and sentence structure

188. My friend \_\_\_\_\_ (suffer) from cholera since August.

- A. suffer
- B. suffered
- C. suffering
- D. is suffering**

**ENGLISH >> Vocabulary**

Comprehend key vocabulary

189. sentiment

- A. practical
- B. emotion**
- C. dispassionate
- D. realistic

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

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

190. will not

- A. wont
- B. won't**
- C. wont'
- D. won't

ENGLISH >> Vocabulary

Comprehend key vocabulary

191. Father must \_\_\_\_\_ left his briefcase at the office.

- A. of
- B. had
- C. have**
- D. opt

ENGLISH >> Correct use of articles and prepositions

Demonstrate correct use of articles and prepositions

192. Everyone hopes to get a job with prospects \_\_\_\_\_ promotion, but not many people manage to do so.

- A. on
- B. of**
- C. in
- D. around

ENGLISH >> Tenses

Demonstrate control of tenses and sentence structure

193. I \_\_\_\_\_ (am) working all afternoon and have just finished the assignment.

- A had been
- B. have been**
- C. am
- D. shall be

ENGLISH >> Structure of Sentence

Demonstrate control of tenses and sentence structure

194. She is a successful writer.

- A. Declarative**
- B. Imperative
- C. Interrogative
- D. Exclamatory

ENGLISH >> Correct use of articles and prepositions

Demonstrate correct use of articles and prepositions

195. This is \_\_\_\_\_ good company to work with.

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



ENGLISH >> Vocabulary

Comprehend key vocabulary

196. Sana became \_\_\_\_\_ at typing because she practiced every day for six months.

- A. reflective
- B. redundant
- C. proficient**
- D. dormant

ENGLISH >> Structure of Sentence

Demonstrate control of tenses and sentence structure

197. Find the error?

- A. No, it's not true.
- B. The curtain closed, and the people will applaud.**
- C. My sister is a medical practitioner.
- D. No mistakes.

ENGLISH >> Mistakes in Sentences or short written texts

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

198. If I had been thirsty (A)/ I would have (B)/ drank the lemonade (c)/ without waiting for you. (D)

- A. If i had been thirsty
- B. I would have
- C. drank the lemonade**
- D. without waiting for you.

ENGLISH >> Correct use of articles and prepositions

Demonstrate correct use of articles and prepositions

199. There is \_\_\_\_\_ institution for \_\_\_\_\_ blind in this city.

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

ENGLISH >> Vocabulary

Comprehend key vocabulary

200. catalyst

- A alluring
- B. person or thing that causes a change**
- C. enticing
- D. absolving

LOGICAL REASONING >> Logical Deduction

Verbal Classification

201. Which one of the following is a different one?

- A. Skin
- B. Lungs
- C. Heart
- D. Life**

LOGICAL REASONING >> Cause & Effect

Dependent Causes/ Independent Causes/

202. Statement: The private medical colleges have increased the tuition fees in the current year by 200 per cent over the last year's fees to meet the expenses. The government medical colleges have not increased their fees in spite of price escalation.

- 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 some common cause

LOGICAL REASONING >> Critical Reasoning

Statements and Conclusions

203. Statements Nutritious food is delicious and good for health. Apple is nutritious.  
Conclusions (I) Apple is good for health. (II) Delicious foods are nutritious.

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

LOGICAL REASONING >> Letter and Symbol Series

Identify the number that follows the series.

204. Look at this series: 36, 34, 30, 28, 24, ... What number should come next?

- A. 20
- B. 22**
- C. 23
- D. 26

LOGICAL REASONING >> Logical Problems

Verbal Classification

205. At what time between 4 and 5 o'clock will the hands of a watch point in opposite directions?

- A.  $(54 + \frac{6}{11})$  past 4**
- B.  $(54 + \frac{8}{11})$  past 4
- C.  $(53 + \frac{7}{11})$  past
- D. Both A and B

## LOGICAL REASONING >> Logical Deduction

### Statements and conclusions

206. All benches are chairs. Some chairs are roads. All roads are pillars. Conclusions: I– Some pillars are benches II – Some pillars are chairs. III–Some roads are benches IV –No pillar is bench:

- A. A . None follows
- B. Only either I or IV , and III follows
- C. Only either I or IV follows
- D. Only either I or IV, and II follows**

## LOGICAL REASONING >> Cause & Effect

### Dependent Causes/ Independent Causes/

207. I) The third-degree criminal was imprisoned for three life sentences.  
II) The security arrangements by the police were more than adequate.
- 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 >> Logical Problems

### Making Judgements

208. In the word 'DOORSTEP' if all the vowels are replaced with the letter immediate next to it in the English alphabet series and all the consonants are replaced with the letter immediate before it in the English alphabet series, then how many vowels are there in the new word?

- A. None
- B. One**
- C. Two
- D. More than two

## LOGICAL REASONING >> Cause & Effect

### Dependent Causes/ Independent Causes/

209. Statement: Rural and semi urban areas in the country have been suffering due to load shedding for quite some time. If the government is not able to overcome the power crisis, load shedding will be extended even to the urban areas.

- 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 some common cause**

## LOGICAL REASONING >> Letter and Symbol Series

### Complete the series

210. Complete the series A25, B625, C15625, \_\_\_\_\_ ?

- A. D390625**
- B. D364748
- C. D390524
- D. D390525