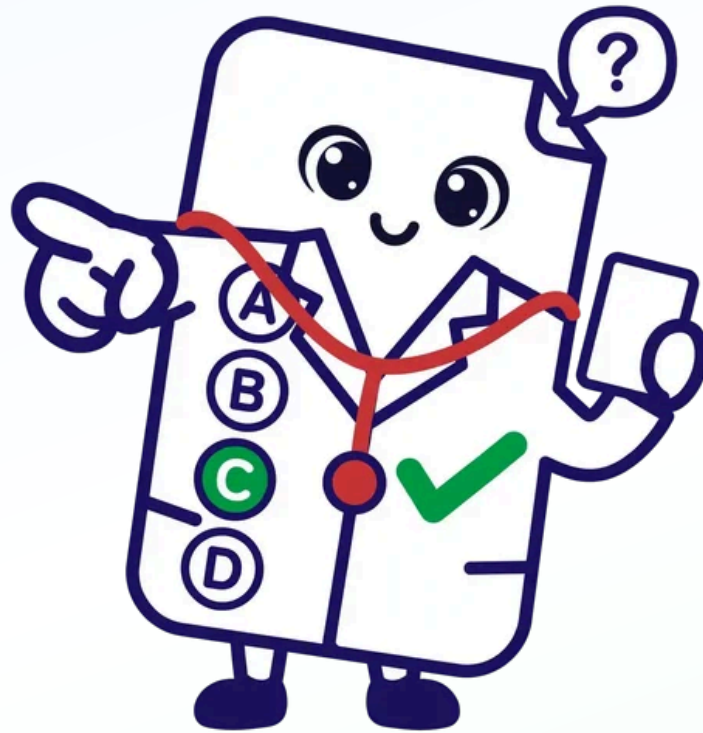




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DUHS Entry Test Preparation Book 2026

A full model paper in the real DUHS pattern, with answer key



180 MCQs

Real DUHS subject split

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2. Mark yourself with the answer key at the back.
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What is in this book

180 MCQs across one paper, each drawn in the same subject split as the real DUHS paper:

- Biology: 81 MCQs per paper
- Chemistry: 45 MCQs per paper
- Physics: 36 MCQs per paper
- English: 9 MCQs per paper
- Analytical and Logical Reasoning: 9 MCQs per paper



MODEL PAPER 1 OF 1

DUHS Entry Test

180 MCQs · 216 minutes · answer key at the back



Biology

81 MCQs

1. Which of the following is NOT TRUE about interferons?

- ☐ A Belong to cytokines
- ☐ B Activate natural killer cells
- ☐ C Activate immune cells
- ☐ D Secrete interleukin

2. The flow of lymph in lymphatic vessels is maintained by:

- ☐ A Heart, activity of smooth muscles and valves
- ☐ B Activity of skeletal muscles, heart and breathing movements
- ☐ C Breathing movements, activity of skeletal muscles and valves
- ☐ D Exercise, breathing movements and heart

3. For which purpose are myeloma cells (cancerous B lymphocytes) used in the production of monoclonal antibodies?

- ☐ A Increased rate of cell division
- ☐ B Immunization with antigen
- ☐ C To avoid contamination
- ☐ D As nutrient in media

4. What is the drawback of nuclear energy?

- ☐ A It causes radiation pollution
- ☐ B It is very expensive
- ☐ C It is not long lasting
- ☐ D It pollutes the air

5. Which of the following shows evidence from evolution through molecular biology?

- ☐ A Development of branchial arches invertebrate embryo.
- ☐ B Distribution of species
- ☐ C Comparison of genes and proteins in different species
- ☐ D Study of vestigial organs

6. Trophoblast cells begin to display _ selection adhesion molecules on their surface soon after the blastocyst hatching.

- ☐ A X selection
- ☐ B D selection
- ☐ C L selection
- ☐ D C selection

7. Lipids contain double amount of energy as compared to the same amount of carbohydrates due to the presence of:

- ☐ A Higher proportion of C-H
- ☐ B Higher proportion of C-O
- ☐ C Higher proportion of Oxygen
- ☐ D Low proportion of C-H bonds

8. The conversion of excess glucose into fat is known as:

- ☐ A Glycolysis
- ☐ B Lipogenesis
- ☐ C Ketogenesis
- ☐ D Glycogenesis

9. All of the following characteristics applies to cartilage except

- ☐ A No blood circulation
- ☐ B mostly contain type II collagen
- ☐ C They can be shaped
- ☐ D No inorganic salts

10. Which of the following would increase the rate of heat exchange between an animal and its environment?

- ☐ A Feather or fur
- ☐ B Vasoconstriction
- ☐ C Wind blowing across the body surface
- ☐ D Counter current heat exchange

11. The integumented indehiscent megasporangium is called:

- ☐ A Seed
- ☐ B Archegonium
- ☐ C Megagametophyte
- ☐ D Ovule

12. Which of the following is the lowest level of biological organization with respect to others?

- ☐ A Multicellular organisms
- ☐ B Biosphere
- ☐ C Species
- ☐ D Population

13. Non-competitive inhibitors react with enzymes at:

- ☐ A Allosteric site
- ☐ B Active site
- ☐ C Passive site
- ☐ D Regulatory site

14. Down's syndrome is characterized by _ at chromosome 21.

- ☐ A Trisomy
- ☐ B Monosomy
- ☐ C Polysomy
- ☐ D Disomy

15. Phage virus secretes an enzyme called "lysozyme" from its

- ☐ A Head region
- ☐ B Tail region
- ☐ C Neck region
- ☐ D Capsule region

16. Size of the flower of chrysanthemum may be enlarged by removing

- ☐ A All leaves
- ☐ B A few leaves
- ☐ C All branches except one
- ☐ D All floral bud except one

17. The estrogen hormone secretion during oogenesis is stimulated by:

- ☐ A Luteinizing Hormone
- ☐ B Inhibin
- ☐ C Follicle-Stimulating Hormone
- ☐ D Testosterone

18. In which case the genotypic and phenotypic ratio will be 1:2:1?

- (A) Option A: Complete dominance
- (B) Option B: Incomplete dominance
- (C) Option C: Co-dominance
- (D) Option D: None

19. Which of the following receptors produce sensation of pain?

- (A) Mechanoreceptor
- (B) Nociceptors
- (C) Chemoreceptors
- (D) Thermoreceptors

20. The low levels of surfactant produced by the alveolar epithelium cause:

- (A) Respiratory distress syndrome
- (B) Emphysema
- (C) Bronchitis
- (D) Asthma

21. Much of mechanical digestion takes place in the

- (A) oesophagus
- (B) mouth
- (C) stomach
- (D) duodenum

22. The antibody molecule consists of _ polypeptide chains.

- (A) Eight
- (B) Four
- (C) Six
- (D) Two

23. The valve between left ventricle and aorta is called:

- (A) Semi lunar valve
- (B) Bicuspid valve
- (C) Tricuspid valve
- (D) Pulmonary valve

24. The enzyme that is responsible for the formation of bonds between two double-stranded DNA fragments is:

- (A) Endonuclease
- (B) Urease
- (C) Ligase
- (D) Helicase

25. Food is renewable resource due to:

- (A) Mechanical forming
- (B) Improved crop varieties
- (C) Continuous photosynthesis
- (D) Pest control

26. Archaeopteryx is a connecting link between:

- (A) Amphibians and reptiles
- (B) Reptiles and birds
- (C) Birds and mammals
- (D) None of these

27. Microcephaly, the small sized skull is due to:

- (A) Nutritional Cause
- (B) Hormonal Causes
- (C) Skeleton Damage
- (D) Genetic Defect

28. Tay-Sach''s disease is due to the presence of an enzyme that is inverted in the catabolism of:

- ☐ A Proteins
- ☐ B Ascorbic Acid
- ☐ C Carbohydrates.
- ☐ D Lipids

29. What happens to oxygen in the electron transport chain?

- ☐ A It is reduced to water
- ☐ B It is converted to gas
- ☐ C It is used as an electron carrier
- ☐ D It supplies energy to produce ATP

30. Which of the following is a part of the pectoral girdle:

- ☐ A Sternum
- ☐ B Clavicle
- ☐ C Pelvic bone
- ☐ D Hyoid bone

31. The target organ for vasopressin is:

- ☐ A Heart
- ☐ B Liver
- ☐ C Stomach
- ☐ D Kidneys

32. Double fertilization occurs in:

- ☐ A Pinus
- ☐ B Ferns
- ☐ C Marchantia
- ☐ D Maize

33. In humans, the largest body organ is:

- ☐ A Liver
- ☐ B Skin
- ☐ C Brain
- ☐ D Lungs

34. Most enzymes work the best at the following temperature:

- ☐ A 30oC
- ☐ B 40oC
- ☐ C 50oC
- ☐ D 20oC

35. Which one of the following diseases caused by enveloped RNA virus and spread in epidemic form?

- ☐ A Influenza
- ☐ B Herpes Simplex
- ☐ C Polio
- ☐ D Smallpox

36. Potassium fertilizers are especially useful for:

- ☐ A Mango
- ☐ B Tobacco
- ☐ C Wheat
- ☐ D Rice

37. Mature ovum in human beings is surrounded by:

- ☐ A Plasma membrane
- ☐ B Vitelline membrane
- ☐ C Corona radiata
- ☐ D All of the above

38. Which one of the following diseases is due to point mutation?

- (A) Down syndrome
- (B) Klinefelter syndrome
- (C) Phenylketonuria
- (D) Turner syndrome

39. Resting membrane potential measures:

- (A) -70 mv
- (B) -70 Volt
- (C) 70mv
- (D) -90 mv

40. Each nasal cavity is lined with mocus membrane of:

- (A) Flagellated endothelium
- (B) Flagellated epithelium
- (C) Ciliated epithelium
- (D) All of the above

41. An acrinus is composed of:

- (A) 10-20 Acinars
- (B) 20-40 Acinars
- (C) 20-30 Acinars
- (D) 30-40 Acinars

42. B.C.G vaccines are usually given to:

- (A) Children
- (B) Adults
- (C) Special populations
- (D) All of the above

43. Which of the following blood vessels have lowest blood velocity with correct reason for low blood velocity?

- (A) Arteries: Due to thick walls
- (B) Capillaries: due to highest overall cross-sectional area
- (C) Veins: due to blood flow against the gravity
- (D) Capillaries: Due to two-way blood flow in capillaries

44. During PCR which enzyme is used to do polymerization of DNA fragments

- (A) RNA polymerase
- (B) DNA polymerase
- (C) Taq polymerase
- (D) DNA ligase

45. The association in which an organism gets advantage and the other suffers is called:

- (A) Symbiosis
- (B) Parasitism
- (C) Predation
- (D) Mutualism

46. An inherited characteristic that increases an organism's ability to survive and produce in its specific environment is called

- (A) Radiation
- (B) Adaptation
- (C) Vestigial organ
- (D) Speciation

47. Healing of a wound and repair is the phenomenon which takes place by the process of:

- (A) Mitosis
- (B) Meiosis
- (C) Cell Growth
- (D) Mitosis & Meiosis

48. Fatty acid are the organic compounds containing hydrogen, oxygen and one of the following are:

- (A) -COOH
- (B) -NH₂
- (C) Acyl
- (D) Sucrose

49. The molecule formed after first phosphorylation during glycolysis is:

- (A) Fructose-6-phosphate
- (B) Glucose-1-phosphate
- (C) Fructose-1, 6-bisphosphate
- (D) Glucose-6-phosphate

50. Hip joint and shoulder joint are the examples of:

- (A) Ball and Socket Joint
- (B) Hinge Joint
- (C) Fibrous Joint
- (D) Cartilaginous Joints

51. The capillaries of glomerulus rejoin to form an _.

- (A) Efferent arteriole
- (B) Afferent arteriole
- (C) Peritubular capillaries
- (D) Collecting duct

52. Which one of the following animals is viviparous?

- (A) Rat
- (B) Kangaroo
- (C) Duckbilled platypus
- (D) Spiny ant eater

53. The part of the body which forms a structural and functional unit and is composed of more than one tissue is called

- (A) Organ
- (B) Organelle
- (C) Organ system
- (D) Whole organism

54. _ reduce the enzymes productivity by blocking the sun entering into the active site due to similar shapes:

- (A) Competitive inhibitors
- (B) Non-competitive inhibitors
- (C) Co-enzymes
- (D) Activators

55. Condensation of chromosomes reaches to the maximum during:

- (A) Zygotene
- (B) Pachytene
- (C) Diplotene
- (D) Diakinesis

56. The protein coat of virus is called:

- (A) Capsid
- (B) Cosmid
- (C) Capsomere
- (D) Chromophore

57. The critical day length of Hyoscyamus for flowering is :

- (A) 15.5 hours
- (B) 9 hours
- (C) 11 hours
- (D) 13 hours

58. Which of the following sequence is correct?

- (A) LH → FSH → Estrogen → Progesterone
- (B) FSH → LH → Progesterone → Estrogen
- (C) FSH → Estrogen → Progesterone → LH
- (D) FSH → Estrogen → LH → Progesterone

59. Haemophilia affects males than females because of:

- (A) X linked recessive
- (B) X linked dominant
- (C) Dominant autosomes
- (D) Y linked inheritance

60. Hormones produced from cholesterol are called

- (A) Protein hormones
- (B) Non-steroid hormones
- (C) Steroid hormones
- (D) Peptide hormones

61. Which of the following ions play important role in the transportation of carbon dioxide?

- (A) Sodium
- (B) Potassium
- (C) Bicarbonate
- (D) Chloride

62. An enzyme in the gastric juice of many infant mammals that precipitates milk protein is:

- (A) Rennin
- (B) Pepsinogen
- (C) Gastrin
- (D) Renin

63. Diphtheria vaccines are an example of:

- (A) Inactivated vaccine
- (B) Toxoid vaccine
- (C) Subunit vaccine
- (D) Live, attenuated vaccine

64. Blood group which is known as a universal donor is:

- (A) A+ve
- (B) O-ve
- (C) AB+ve
- (D) O+ve

65. Restriction enzymes are of great use in genetic engineering because:

- (A) They cut DNA at specific base sequences
- (B) They cut DNA at multiple random sites
- (C) They help in joining the pieces of DNA
- (D) They are a type of nuclease

66. Bacteria living in the gut form the association of:

- (A) Mutualism
- (B) Predation
- (C) Parasitism
- (D) Commensalism

67. The theory of uniformitarianism was proposed by:

- (A) Hutton and Lyell
- (B) Lamarck
- (C) Georges Cuvier
- (D) Darwin

68. Internal program of events and sequences of morphological changes by which cell commit a suicide is collectively called:

- (A) Necrosis
- (B) Metastasis
- (C) Epistasis
- (D) Apoptosis

69. Which statement about a triglyceride molecule are correct? 1. It always contains unsaturated hydrocarbon tails 2. It is formed using ester bonds 3. It does not form hydrogen bonds 4. It contains a hydrophilic glycerol head

- (A) 1, 2 and 3
- (B) 2, 1 and 4
- (C) 1 and 4 only
- (D) 2 and 3 only

70. An active athlete has more stamina of running compared to an officer of same age with physically inactive lifestyle. Which of the following organelles has greatly increased in the muscle cells of athlete?

- (A) Nucleus
- (B) Mitochondria
- (C) Golgi bodies
- (D) Smooth endoplasmic reticulum (SER)

71. Mature cells of cartilage are:

- (A) Chondrocytes
- (B) Osteocytes
- (C) Osteoblasts
- (D) Osteoclasts

72. Vessels which carry blood to the glomerulus are called:

- (A) Efferent arterioles
- (B) Renal vein
- (C) Vasa recta
- (D) Afferent arterioles

73. Best known "Apicomplex" is the:

- (A) Obligate parasites
- (B) Facultative parasite
- (C) Malarial parasites
- (D) Pathogenic parasites

74. Laiba is trying to determine the percentage of protein in bears because she is a

- (A) Biochemist
- (B) Microbiologist
- (C) Physiologist
- (D) Mycologist

75. In term of enzyme action, maximum temperature refers to a temperature at which?

- ☐ A Enzymes start to denature
- ☐ B Enzymes start to re-nature
- ☐ C Enzymes work best
- ☐ D Enzymes are reactivated

76. The number of chromosomes of tobacco plant are

- ☐ A 43
- ☐ B 1.29
- ☐ C 0.43
- ☐ D 24

77. What are the sequences of steps in which a bacteriophage attacks bacteria and injects its DNA?

- ☐ A Landing → Tail contraction → Penetration → DNA Injection
- ☐ B Penetration → Landing → Tail contraction → DNA Injection
- ☐ C Tail contraction → Landing → DNA Injection → Penetration
- ☐ D Landing → Penetration → Tail contraction → DNA Injection

78. Name the external factor of growth in plants.

- ☐ A Carbon dioxide.
- ☐ B Water.
- ☐ C Hormones.
- ☐ D Nutrition.

79. Hormone inhibin is produced by:

- ☐ A Hypothalamus
- ☐ B Pituitary gland
- ☐ C Prostate
- ☐ D Sertoli cells

80. A gene which affects two or more unrelated characteristics is called

- ☐ A Pleiotropic
- ☐ B Epistatic
- ☐ C Dominant
- ☐ D Mutant

81. The reflex arc, which is made of two neurons is known as:

- ☐ A Monosynaptic reflex arc
- ☐ B Disynaptic reflex arc
- ☐ C Polysynaptic reflex arc
- ☐ D Asynaptic reflex arc



Chemistry

45 MCQs

82. The change in enthalpy is a measure of the heat reaction at:

- ☐ A Constant Volume
- ☐ B Constant Pressure and volume
- ☐ C Variable pressure
- ☐ D Constant pressure

83. Which of the following is light as a feather and strong as iron?

- ☐ A Graphene
- ☐ B Graphite
- ☐ C Diamond
- ☐ D Mercury

84. Magnesiums keep on burning in:

- (A) CO_2
- (B) Magnesium and Copper
- (C) N_2O
- (D) N_2 as well as CO_2

85. If we take some water at 0°C and start heating it, we find that in the temperature range of 0°C to 4°C :

- (A) It expands on heating
- (B) It contracts on heating
- (C) Both
- (D) None

86. Which of the following ions can act as a Bronsted acid and base in water?

- (A) HCO_3^-
- (B) CN^-
- (C) NO_3^-
- (D) PO_4^{3-}

87. The formula of acrylonitrile is:

- (A) $\text{CH}_2=\text{CH}-\text{CN}$
- (B) $\text{CH}_3-\text{CH}_2-\text{CH}_2-\text{CN}$
- (C) $\text{CH}_3-\text{CH}_2-\text{CN}$
- (D) CH_3-CN

88. Electron gas theory was proposed to explain the bonding in solids:

- (A) Molecular
- (B) Ionic
- (C) Covalent
- (D) Metallic

89. Aldehydes can be synthesized by the oxidation of:

- (A) Primary alcohols
- (B) Secondary alcohols
- (C) Organic acids
- (D) Inorganic acids

90. An organic compound after fusion with sodium gives a white precipitate when concentrated nitric acid and then silver nitrate solution are added to the filtrate. The compound is likely to be

- (A) $\text{CH}_3\text{CH}_2\text{CHO}$
- (B) $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$
- (C) $\text{CH}_3\text{CH}_2\text{COOH}$
- (D) $\text{CH}_3\text{CH}_2\text{CH}_2\text{Br}$

91. Nitric oxide is prepared by action of HNO_3 on:

- (A) Fe
- (B) Cu
- (C) Zn
- (D) Sn

92. 10 L of Cl_2 gas reacts with 40L of H_2 gas under same conditions of temperature and pressure. How much volume of HCl should be produced?

- (A) 40L
- (B) 30L
- (C) 20L
- (D) 10L

93. Skeletal formula of a hydrocarbon is given below. What is the IUPAC name of the compound?

- (A) 3, 3-dimethyl-3-hexene
- (B) 3, 4-dimethyl-3-hexene
- (C) 3-hexene
- (D) 2,3-dimethyl-1-hexene

94. The values of ionic product K_w are 0.64×10^{-14} at 180 °C, and 1×10^{-14} at 25 °C from this may be derived that

- (A) Endothermic process
- (B) Exothermic process
- (C) Vaporization process
- (D) Change of H_2O into O_2 and H_2

95. The values of Balmer series wave number lines lie in:

- (A) UV
- (B) IR
- (C) Visible
- (D) Microwaves

96. Which of the following reacts with Carboxylic Acid to form Ester?

- (A) Aldehyde
- (B) Alkyl Halide
- (C) Ketones
- (D) Alcohol

97. How many types of "NMR" protons are there in Isopropyl chloride?

- (A) 2
- (B) 6
- (C) 4
- (D) 8

98. Ozone is a layer of atmosphere extending from _ km above Earth and absorbs ultraviolet radiation.

- (A) 10-50
- (B) 50-60
- (C) 5-30
- (D) 10-80

99. Albumin is an example of:

- (A) Conjugated proteins
- (B) Simple proteins
- (C) Both (A) & (B)
- (D) None of the above

100. Which one of the following pairs of substances react together forming an organic product that gives a neutral solution in water?

- (A) CH_3COOH and $NaOH$
- (B) C_6H_5OH and Na
- (C) $C_6H_5NH_2$ and HCl
- (D) CH_3COOH and PCl_5
- (E) CH_3COCH_3 and $LiAlH_4$

101. The partition coefficients of Iodine distribution between two immiscible liquids, water and carbon (tetrachloride) is given below: Choose the correct statement about the system:

- (A) Iodine is extracted from CCl_4 layer by water
- (B) Iodine is extracted from aqueous layer by CCl_4
- (C) Iodine is more soluble in water than CCl_4
- (D) The value of K depends on the amount of Iodine added

102. A tertiary carbon is bonded directly to:

- (A) 2 Hydrogens
- (B) 2 Carbons
- (C) 3 Carbons
- (D) 4 Carbons

103. Which of the following pairs of molecules have similar geometry?

- (A) CO_2 and SO_2
- (B) BF_3 and NH_3
- (C) MgCl_2 and AlCl_3
- (D) CH_4 and SiH_4

104. Unit of rate and rate constant are same for:

- (A) First order reaction
- (B) Second order reaction
- (C) Third order reaction
- (D) Zero order reaction

105. The vapor pressure lines for pure as well as solutions of different concentrations are shown. Which line represents pure water?

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

106. H_2 and O_2 are diffusing under the same condition how much faster H_2 gas will diffuse?

- (A) 4
- (B) 16
- (C) 10.5
- (D) 30

107. Change in entropy doesn't depend on:

- (A) Amount of heat added to the system
- (B) Amount of heat rejected from the system
- (C) Temperature of the substance
- (D) Amount of the substance

108. The shape or appearance in which crystal grows is called:

- (A) Crystal geometry
- (B) Crystal lattice
- (C) Crystal habit
- (D) None of the above

109. Which noble gas is alpha emitter?

- (A) Xenon
- (B) Radon
- (C) Krypton
- (D) Argon

110. Cleaning action of soap is due to:

- (A) Decrease in surface tension of water
- (B) Viscosity of water
- (C) High boiling point of water
- (D) Polarity of water

111. The compound used in borax bead test for the detection of basic radicals to form colored bead is:

- (A) H_2BO_2
- (B) $(\text{C}_2\text{H}_5)_3\text{BO}_3$
- (C) $\text{Ca}_2\text{B}_6\text{O}_{11} \cdot 15\text{H}_2\text{O}$
- (D) $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$

112. What is the trade name of tetrafluoroethylene polymer?

- ☐ A Polystyrene
- ☐ B Bakelite
- ☐ C Nylon
- ☐ D Teflon

113. Label the element in the first series of outer transition elements that has highest binding energy.

- ☐ A Titanium
- ☐ B Vanadium
- ☐ C Chromium
- ☐ D Manganese

114. Which of the following gives a positive test Fehling solution?

- ☐ A Cu (I) oxide
- ☐ B Ethanal
- ☐ C Acetone
- ☐ D Phenol

115. When 2-Bromo-2-methyl propane undergoes unimolecular elimination reaction, the product obtained will be:

- ☐ A 2-Methyl propane
- ☐ B 2-Methyl propene
- ☐ C 2-Methyl-1 propanol
- ☐ D 2-pentanol

116. Copper displace which of the following metals from its salt solution:

- ☐ A ZnSO₄
- ☐ B FeSO₄
- ☐ C AgNO₃
- ☐ D All of the above

117. Consider the given balanced chemical equation: $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$. If 4 g of H_2 reacts with 32 g of O_2 to produce 28 g of H_2O , what is the percentage yield of the reaction? (Molar mass of $\text{H}_2 = 2 \text{ g/mol}$, $\text{O}_2 = 32 \text{ g/mol}$ and $\text{H}_2\text{O} = 18 \text{ g/mol}$)

- ☐ A 63.6%
- ☐ B 77.8%
- ☐ C 87.5%
- ☐ D 92.5%

118. All of the following react with KMnO_4 but:

- ☐ A Ethane
- ☐ B Ethyne
- ☐ C Ethyl benzene
- ☐ D Ethene

119. Which one of the following is the correct chemical reaction for Ammonia formation by Haber process?

- ☐ A $\text{N}_2(\text{g}) + \text{H}_2(\text{g}) \rightleftharpoons 2\text{NH}(\text{g})$
- ☐ B $2\text{N}(\text{g}) + 3\text{H}_2(\text{g}) \rightleftharpoons \text{NH}_3(\text{g})$
- ☐ C $2\text{N}(\text{g}) + 3\text{H}_2(\text{g}) \rightleftharpoons 2\text{NH}_3(\text{g})$
- ☐ D $\text{N}_2(\text{g}) + 3\text{H}_2(\text{g}) \rightleftharpoons 2\text{NH}_3(\text{g})$

120. The molecular of oxygen has two unpaired electrons. It is therefore:

- ☐ A diamagnetic
- ☐ B paramagnetic
- ☐ C ferromagnetic
- ☐ D electromagnetic

121. Which compound shows the highest boiling point

- (A) CH_3COOH
- (B) $\text{C}_2\text{H}_5\text{OH}$
- (C) $\text{C}_2\text{H}_2\text{O}-\text{C}_2\text{H}_5$
- (D) $(\text{CH}_3\text{CH}_2)_3\text{N}$

122. The spin states of a nucleus of an atom in absence of applied magnetic field have:

- (A) Different energies
- (B) Equal energies
- (C) Zero energies
- (D) High energies

123. The coagulant used in raw water to precipitate suspended impurities is:

- (A) Caustic soda
- (B) Lime water
- (C) Alum
- (D) Soda ash

124. In conjugated protein molecules, the protein is attached or conjugated to some non-protein group which are called:

- (A) Prosthetic Group
- (B) Hydrogen Bonding
- (C) Aldehyde Group
- (D) Peptide Linkage

125. Aqueous phenol decolorizes bromine water to form a white precipitate. What is the structure of the white precipitate formed?

- (A) 2,4,6-tribromophenol
- (B) 2-bromophenol
- (C) 4-bromophenol
- (D) Phenol

126. Which one of the following is used as a drying agent?

- (A) NaHCO_3
- (B) $\text{CaCO}_3 \cdot \text{H}_2\text{O}$
- (C) CaCl_2 anhydrous
- (D) $\text{Na}_2\text{SO}_4 \cdot \text{H}_2\text{O}$



Physics

36 MCQs

127. 1 radian =

- (A) 53.70
- (B) 73.50
- (C) 57.30
- (D) 37.5°

128. In a stream lined flow the velocity of the liquid in contact with the containing vessel is:

- (A) Zero
- (B) Minimum but not zero
- (C) Large
- (D) Peripheral

129. Electric generators and transformers are based on the principles of:

- (A) Coulomb's law
- (B) Faraday's Law
- (C) Ampere's law
- (D) Hook's law

130. In transistor, the emitter current, is 3.5A and collector current, is 2.35A. What will be the base current?

- (A) 5.85A
- (B) 1.15A
- (C) 1.48A
- (D) 0.67A

131. The value of absolute zero on the Fahrenheit scale:

- (A) 359.4 °F
- (B) -459.4 °F
- (C) 100 °F
- (D) -259.4 °F

132. Two identical bodies have a velocity ratio 2 : 3. What is the ratio of kinetic energies?

- (A) 9:4
- (B) 3:2
- (C) 4:9
- (D) 2:3

133. A object of mass "m" travelling with speed "v" has a head-on collision with another object of mass "m" travelling with speed "v" in the opposite direction, the object sticks together after the collision. What is the total loss of kinetic energy in the collision?

- (A) 0
- (B) $\frac{1}{2}mv^2$
- (C) mv^2
- (D) $2mv^2$

134. The horizontal distance travelled by wave during one complete cycle is called

- (A) Frequency
- (B) Wavelength
- (C) Amplitude
- (D) Time period

135. The capacitive reactance in a pure capacitive D.C circuit is:

- (A) Very small
- (B) Very large
- (C) Zero
- (D) Infinite

136. Two concurrent forces have a maximum resultant of 45N and minimum resultant of 5N. What is the magnitude of each of these?

- (A) 0.45N
- (B) 5N, 9N
- (C) 20N, 25N
- (D) 0N, 45N

137. The part of the electromagnetic spectrum in which Lyman series lies is:

- (A) Visible region
- (B) Infrared region
- (C) Ultraviolet region
- (D) X-rays

138. The force 'F' on a charged particle 'q' moving with velocity ; v' parallel to magnetic field 'B' is given by:

- (A) $F = qvB$
- (B) $F = qE$
- (C) $F = 0$
- (D) $F = mv^2/r$

139. The Coulomb's force between two point charges $q_1=1\text{C}$ and q_2 is 2N . Where the distance between them is 3m , the charge q_2 is:

- ☐ A $1 \times 10^{-9} \text{ C}$
- ☐ B $1 \times 10^9 \text{ C}$
- ☐ C $2 \times 10^{-9} \text{ C}$
- ☐ D $4 \times 10^{-9} \text{ C}$

140. LASER is a device which can produce:

- ☐ A Intense beam of light
- ☐ B Coherent beam of light
- ☐ C Intense, Coherent, Monochromatic beam of light
- ☐ D Monochromatic beam of light

141. One disintegration per second is equal to

- ☐ A one curie
- ☐ B one Becquerel
- ☐ C one half life
- ☐ D all of these

142. The total driving force of a battery to draw current through a circuit is called:

- ☐ A voltage of battery
- ☐ B power of battery
- ☐ C e.m.f of battery
- ☐ D all of these

143. Diver curls his body when diving so that he can perform some quick somersaults. This is because:

- ☐ A His angular momentum increases
- ☐ B His effective radius increases
- ☐ C his angular momentum decreases
- ☐ D his angular velocity increases

144. When fluid is incompressible, the quantity is constant.

- ☐ A Mass
- ☐ B Density
- ☐ C Pressure
- ☐ D Force

145. One meter long copper rod is moving with speed 20 m/sec in the magnetic field of strength 0.6 tesla . What is the value of induced emf?

- ☐ A 10 V
- ☐ B 12 V
- ☐ C 14 V
- ☐ D 16 V

146. In reverse biased diode when huge current starts to flow is called:

- ☐ A Avatanche effect
- ☐ B Break down of a diode
- ☐ C Rectification
- ☐ D Negative current

147. Which one of the following is a postulate of kinetic theory of gases?

- ☐ A Molecules do not exert any force on each other
- ☐ B The size of molecules is much larger than the separation between the molecules
- ☐ C A finite volume of gas consists of a very small number of molecules
- ☐ D The gas molecules are not in random motion

148. Power is dot product of:

- (A) Force and displacement
- (B) Force and velocity
- (C) Force and time
- (D) Work and time

149. Newton's third law can be derived from:

- (A) Newton's first law
- (B) Newton's second law
- (C) Both Options A and B are correct
- (D) They are unrelated

150. The speed of sound in air at NTP is 300 ms^{-1} . If the air pressure become 4 times; then the speed of the sound will be:

- (A) 150 s^{-1}
- (B) 300 s^{-1}
- (C) 600 s^{-1}
- (D) None

151. Which of the following has the least wavelength?

- (A) Alpha rays
- (B) X-rays
- (C) Cosmic rays
- (D) Beta rays

152. If $\hat{n}$ is unit vector in direction of $\vec{A}$ then:

- (A) $\hat{n} = \vec{A} / |\vec{A}|$
- (B) $\hat{n} = (\vec{A} \cdot |\vec{A}|)$
- (C) $\hat{n} = \hat{n} \vec{A}$
- (D) $\hat{n} = \vec{A} / A$

153. If an atom exists in excited state $n = 3$ the number of transitions that take place is

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

154. A moving charged particle is surrounded by?

- (A) 1 field
- (B) 3 fields
- (C) 2 fields
- (D) 4 fields

155. If the distance between two charges is halved and magnitude of charges are also doubled, then the force between these charges becomes:

- (A) Two times
- (B) Four times
- (C) Eight times
- (D) Sixteen times

156. Cesium coated oxidised silver emits electrons for _ light.

- (A) Infrared.
- (B) Ultraviolet.
- (C) Visible.
- (D) Green.

157. The diameter of a nucleus is:

- (A) 10-12 m
- (B) 10-20 m
- (C) 10-10 m
- (D) 10-15 m

158. If the length of the conductor is made 4 times its original length, its resistance becomes

- (A) Quarter
- (B) Half
- (C) Zero
- (D) 4 times

159. Relationship between angular and linear velocity is:

- (A) $\omega = rv$
- (B) $v = r\omega$
- (C) $\omega = v/r^2$
- (D) $v = \omega/r$

160. Water flows from a 6.0cm diameter pipe into 8.0cm diameter pipe. The speed in the 6.0cm pipe is 5.0m/s. the speed in the 8cm pipe is:

- (A) 2.8m/s
- (B) 3.7m/s
- (C) 6.6m/s
- (D) 8.8m/s

161. An ideal transformer steps up or steps down:

- (A) Energy
- (B) AC voltage
- (C) DC voltage
- (D) Power

162. A logic gate has four inputs. Its possible input combinations will be:

- (A) 4
- (B) 16
- (C) 32
- (D) 64



English

9 MCQs

163. The students were _ and the teacher, therefore did not take the class.

- (A) Only few
- (B) Few
- (C) No much
- (D) Very few

164. Slipshod: organization (analogy):

- (A) Clever: shroud
- (B) Cringing: obsequious
- (C) Prodigal: generosity
- (D) Phlegmatic : emotion

165. In each of the following question, four alternative sentences are given. Choose the CORRECT one and fill the Circle corresponding to that letter in the MCQ Response Form.

- (A) E-mail is a relatively new mean of communication.
- (B) E-mail is a relatively new means of communication.
- (C) E-mail is a relatively new mean to communication.
- (D) E-mail is a relatively new means to communication.

166. Choose the correct voice. Zara changed the flat tire.

- (A) The flat tire was changed by Zara.
- (B) The flat tire is changed by Zara.
- (C) The flat tire has been changed by Zara.
- (D) The flat tire had changed by Zara.

167. Pick up the wrong part in the sentence: The beautiful and the most attractive picture was hanged on the wall.

- (A) The beautiful
- (B) The most
- (C) Was
- (D) Hanged

168. His fondness _ makes his writings difficult to understand because most readers don't know the newly invented words.

- (A) archaic words
- (B) sking
- (C) advanced words
- (D) neologism

169. Choose the correct spelling:

- (A) Entripreneur
- (B) Enterpreneur
- (C) Entrepreneur
- (D) Entreprineur

170. He said, "Where are you going "? The correct indirect speech of the givensentence is:

- (A) He enquired where were we going.
- (B) He enquired where we were going
- (C) He suggested as if we were going
- (D) He told where were we going

171. Identify the incorrect segment: The prime minister fired a broadside at the opposition leaders. A few of his remarks were not up at the mark.

- (A) of
- (B) were
- (C) up
- (D) at



Analytical and Logical Reasoning

9 MCQs

172. P and Q are M's parents. M and N are siblings. Q is N's mother. What is P to M?

- (A) Mother
- (B) Father
- (C) Sister
- (D) Brother

173. If $7(x-2) = 3x - 2$. What is the value of x?

- (A) -4
- (B) -3
- (C) 2
- (D) 3
- (E) 4

174. Identify which do not possess the same kind of meaning as the others:

- (A) Honesty and Integrity
- (B) Bondage and Freedom
- (C) Risk and Danger
- (D) Pain and Agony

175. Suppose in a certain language MADRAS is coded as NBESBT. Then BOMBAY is coded in that language as:

- (A) CPNCBZ
- (B) CPNCBX
- (C) CPOCBZ
- (D) CQOCBZ

176. Read the following statements and identify the best cause and effect relation. (I) For the past four years, the district's literacy rate has been rising. (II) The district administration organise a thorough training program for the volunteers working on the literacy campaign

- (A) II is the cause of I is its effect
- (B) I is the cause and II is its effect
- (C) I and II are effects of some common cause
- (D) I and II are both effects of independent causes

177. Statement: On average, about twenty people are run over by trains and die every day while crossing the railway tracks through the level crossing. Courses of Action: I. The railway authorities should be instructed to close all the level crossings. II. Those who are found crossing the tracks, when the gates are closed, should be fined heavily

- (A) Only I follows
- (B) Only II follows
- (C) Either I or II follows
- (D) Neither I nor II follows
- (E) Both I and II follow

178. Some bags are pouches. All pouches are cases. No cases are purses. Which of the following conclusions are NECESSARILY TRUE? CONCLUSIONS: I. Some pouches are purses. II. Some bags are cases. III. No bags are purses.

- (A) I and II
- (B) I and III
- (C) II
- (D) II and III

179. If the area of a circle is equal to its circumference the radius of this circle is:

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

180. In the following question, a statement is given followed by four inferences. You have to decide which of the given Inferences can definitely be drawn from the given statement. Indicate your answer. Statement: Most dresses in that shop are expensive. Inferences: I. Some dresses in that shop are expensive. II. There are cheap dresses also in that shop. III. Handloom dresses in that shop are cheap. IV. There are no cheap dresses available in that shop.

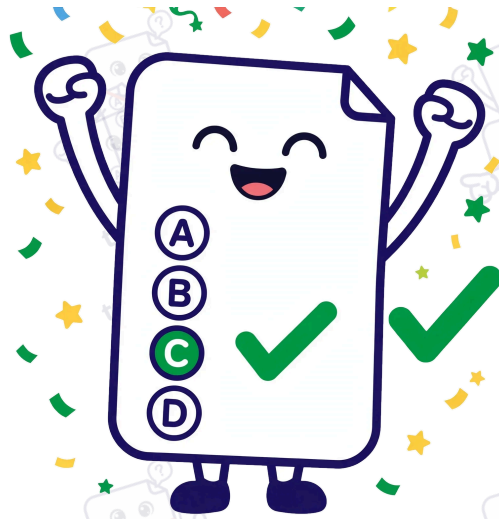
- (A) Only I follows
- (B) Only II follows
- (C) Only III follows
- (D) Only IV follows
- (E) None follows

Answer key

Tap any answer to open its full explanation on TestUstad.

Model Paper 1

1	D	2	C	3	B	4	A	5	C	6	C	7	A	8	B	9	D	10	C
11	D	12	A	13	A	14	A	15	B	16	D	17	C	18	B	19	B	20	A
21	C	22	B	23	A	24	C	25	C	26	B	27	D	28	D	29	A	30	B
31	D	32	B	33	B	34	B	35	A	36	B	37	D	38	C	39	A	40	C
41	B	42	A	43	B	44	C	45	B	46	B	47	A	48	A	49	D	50	A
51	A	52	A	53	A	54	A	55	D	56	A	57	A	58	D	59	A	60	C
61	C	62	A	63	B	64	B	65	A	66	A	67	A	68	D	69	D	70	B
71	A	72	D	73	C	74	A	75	A	76	D	77	A	78	B	79	D	80	A
81	A	82	D	83	A	84	A	85	B	86	A	87	A	88	D	89	A	90	D
91	D	92	C	93	B	94	A	95	C	96	D	97	B	98	A	99	B	100	E
101	B	102	C	103	D	104	D	105	A	106	A	107	D	108	C	109	B	110	D
111	D	112	D	113	C	114	B	115	B	116	C	117	B	118	A	119	D	120	B
121	A	122	B	123	C	124	A	125	A	126	C	127	C	128	B	129	B	130	B
131	B	132	C	133	C	134	B	135	D	136	C	137	C	138	C	139	C	140	C
141	B	142	C	143	D	144	B	145	B	146	A	147	A	148	B	149	B	150	B
151	C	152	A	153	B	154	B	155	D	156	A	157	A	158	D	159	B	160	A
161	B	162	B	163	B	164	D	165	B	166	A	167	A	168	D	169	C	170	B
171	D	172	B	173	D	174	B	175	A	176	A	177	B	178	C	179	B	180	B



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