



MDCAT PAST PAPER

SINDH MDCAT

ORIGINAL PAPER 2010

(DMC & SMC)

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- Duration of test is **120 MINUTES** (100 Questions).
- Fill only one circle for each question. All questions carry equal marks.
- Question Books are in five colours and Shuffles.
- Do not write or mark any thing on Question Book except Name, Roll No and Signature on Title of the Question Book. Do not tear off or remove any paper from Question book.
- No mobile phones, calculators and wrist watches with calculator are allowed in the Examination Hall.
- Put all your belongings under your seats.
- Two plain papers are given inside the Question Book for rough work. No extra sheet will be provided.
- You are not allowed to leave your seat during test .
- All the papers will be collected at the end of the test.
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- **See back of your Question Book** for instructions regarding solving & filling the Answer sheet.
- In the Case of any confusion get help from invigilation staff.
- Before the submission the **NTS Copy and Client Copy** of Answer Sheet to the invigilator at the end of the test, please tear off **Candidate Copy** and keep it with you for your record.
- Answer Key will be displayed on NTS website (www.nts.org.pk) on October 17, 2010 at 7:00 pm

ENGLISH

Complete the sentences by choosing the most appropriate word, from the given lettered choices (A to E) below each.

1. Seven of us cannot _____ into this small car. Two of us had better _____.

- A. pour... drop in
- B. fall ... drop up
- C. squash ... drop out
- D. join ... drop into
- E. combine ... drop down

2. The doctor _____ me to eat more fruit.

- A. advise
- B. advising
- C. advised
- D. advice
- E. is advised

Identify the word or phrase that needs to be changed for the sentence to be correct:

3. We were shocked by the sight of a terrible accident. No error

- A B C D E

4. Which of these mountain roads remain open in winter? No error

- A B C D E

Choose the word most similar in meaning to the capitalized one.

5. PROGRESS:

- A. destruction
- B. enjoyment
- C. damage
- D. greatness
- E. growth

6. INHABITANT:

- A. alien
- B. outskirts
- C. dweller
- D. stranger
- E. foreigner

Choose the lettered word or phrase that is most nearly opposite in meaning to the word in capital letters.

7. CONVENIENT:

- A. handy
- B. discomfort
- C. suitable
- D. well-located
- E. useful

8. ESTEEM:

- A. regard
- B. reverence
- C. hatred
- D. admiration
- E. value

Read the passage to answer questions 9-10

Preventing a war is difficult. It is a part of high politics. Feelings run high. Attempts to bring about peace are open to misunderstanding. Instead of bringing people together, attempts at peace-making sometimes set them further apart. The path of the peace-maker is indeed hard. The UN has succeeded, in a few cases, in bringing peace where there was no peace before. But in a great many cases, the results have not been satisfactory. The world is full of little quarrels between nations. Any one of these little quarrels might be responsible for the outbreak of a new world war.

But let us not despair, for there is one part of the work of the UN that fills us with hope. This is the work of fighting social evils.

9. The UN has remained more successful in:

- A. bringing people of the world together
- B. preventing wars among nations
- C. preventing wars within a nation
- D. fighting against social evils
- E. ending misunderstandings

10. According to the passage peace-makers' path is very hard because of:

- A. misunderstandings
- B. high politics
- C. high feelings
- D. little quarrels between nations
- E. all of the above

PHYSICS

\vec{P}_1 and \vec{P}_2 are two position vectors making angles θ_1 and θ_2 with positive x-axis respectively. Find their vector product when

$P_1 = 12\text{cm}$, $P_2 = 9\text{cm}$ and $\theta_1 = 30^\circ$, $\theta_2 = 90^\circ$. (where $\sin 60^\circ = \frac{\sqrt{3}}{2}$)

- A. $37\sqrt{7}$
- B. $54\sqrt{3}$
- C. $49\sqrt{2}$
- D. $33\sqrt{5}$
- E. $23\sqrt{9}$

Evaluate the scalar product of $k \cdot (i + j)$, where i , j and k represent unit vectors along x , y and z axes of three dimensional rectangular coordinate system.

- A. 170
- B. 60
- C. 1
- D. 0
- E. 45

In inelastic collision:

- A. The momentum of the system as well as the kinetic energy of the system before and after the collision is conserved i.e. remains same.
- B. The momentum of the system before and after the collision changes but the kinetic energy before and after the collision remains conserved.
- C. The momentum of the system before and after the collision is conserved (remains same) but the kinetic energy before and after the collision changes.
- D. The momentum of the system as well as the kinetic energy of the system before and after the collision changes.
- E. None of the above

14. A jeep starts from rest with a constant acceleration of 4 m/s^2 . At the same time, a car travels with a constant speed of 36 km/h . The car overtakes and passes the jeep. How far beyond the starting point will the jeep overtake the car?

- A. 20 meters
- B. 40 meters
- C. 50 meters
- D. 30 meters
- E. 10 meters

15. A truck traveling at a constant speed of 108 km/h rounds a curve of radius 200 m . Calculate the acceleration of the truck?

- A. 1.5 ms^{-2}
- B. 2.5 ms^{-2}
- C. 3.5 ms^{-2}
- D. 4.5 ms^{-2}
- E. 5.5 ms^{-2}

16. To analyze the projectile motion, which of the following assumption/s is/are required to make?

- I. The effect of air resistance is negligible.
- II. The rotation of earth does not affect the motion.
- III. The acceleration due to gravity, g , is constant over the range of motion and is directed downward.

- A. I only
- B. II only
- C. III only
- D. I & II only
- E. I, II and III

17. Which of the following is/are example(s) of spin motion?

- I. The daily rotation of the earth about its own axis.
- II. Rotation of fly wheel about its axle.
- III. The motion of planets round the sun.

- A. I only
- B. II only
- C. III only
- D. I and II only
- E. I, II and III

18. A point which moves as if the total mass of the body or the system of particles were concentrated there and all the applied forces were acting at that point is known as:

- A. Centre of axis
- B. Centre of mass of a body
- C. Centre of rotation
- D. Centre of curvature
- E. Both A and C

19. Find the gravitational force of attraction between two balls each weighing 10 kg, when placed at a distance of 1 m apart.

($G = 6.673 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$)

- A. $3.373 \times 10^{-9} \text{ N}$
- B. $4.673 \times 10^{-9} \text{ N}$
- C. $5.373 \times 10^{-9} \text{ N}$
- D. $6.673 \times 10^{-9} \text{ N}$
- E. $7.373 \times 10^{-9} \text{ N}$

20. When the body moves in the direction of the gravitational force i.e. towards the earth, the work is done by the force of gravity on the body and it is _____, whereas when the body moves against the direction of gravitational force, the corresponding work done is _____.

- A. negative ... positive
- B. positive ... negative
- C. negative ... negative
- D. positive ... positive
- E. negative ... zero

21. A body travels a distance of 24 meters in 3×10^{-2} seconds. Assuming its speed was constant, find its kinetic energy. (Take $1.5 \times 10^{-20} \text{ kg}$ as the mass of the body.)

- A. $40 \times 10^{-16} \text{ joules}$
- B. $41 \times 10^{-16} \text{ joules}$
- C. $36 \times 10^{-16} \text{ joules}$
- D. $48 \times 10^{-16} \text{ joules}$
- E. $55 \times 10^{-16} \text{ joules}$

22. Ali pushes a ball, initially at rest, towards Bilal, by exerting a constant horizontal force \vec{F} of magnitude 9 N through a distance of 2.5 m. What will be the final kinetic energy of the ball?

- A. 1.5 J
- B. 9.5 J
- C. 13.7 J
- D. 17.1 J
- E. 22.5 J

23. Find the speed of sound in a gas in which two waves of wavelengths 50.0 cm and 50.4 cm produce 6 beats per second.

- A. 17800 cm/s
- B. 37800 cm/s
- C. 57800 cm/s
- D. 77800 cm/s
- E. 97800 cm/s

24. A cylindrical tube, open at both ends, has a fundamental frequency f in air. The tube is dipped vertically in water so that half of it is in water. The fundamental frequency of the air column is now:

- A. $f/2$
- B. f
- C. $3f/4$
- D. $2f$
- E. $7f$

25. When we place an opaque object between a point source of light and a screen, we will observe:

- I. A shadow of the obstacle is formed on the screen
- II. No light reaches within the geometrical shadow of the obstacle at the screen.
- III. Outside the geometrical shadow the screen is uniformly illuminated

- A. I only
- B. II only
- C. III only
- D. I and III only
- E. I, II and III

If the radius of the 14th Newton's ring is 2 mm, when the light of wavelength 8×10^{-4} mm is used. What is the radius of curvature of the lower surface of the lens used?

- A. 170.87 mm
- B. 190.87 mm
- C. 370.37 mm
- D. 395.11 mm
- E. 616.31 mm

Two lenses of powers +12D and -2D are in contact. The focal length of the combination is:

- A. 10 cm
- B. 12.5 cm
- C. 16.6 cm
- D. 8.33 cm
- E. 3.1 cm

What will be the position of the object, when a convex lens of focal length 16 cm is used to form an erect image, which is twice as large as the object?

- A. The object is 16 cm from the lens
- B. The object is 2 cm from the lens
- C. The object is 3 cm from the lens
- D. The object is 8 cm from the lens
- E. The object is 12 cm from the lens

When an object is placed at a distance of 30 cm from a concave lens of focal length 15 cm, the image will be:

- I. erect
- II. virtual
- III. diminished

- A. I only
- B. II only
- C. III only
- D. I and III only
- E. I, II and III

In a uniform electric field a charge of 3 C experiences a force of 3000 N. The potential difference between two points 1 cm apart along the electric lines of force will be:

- A. 10 V
- B. 30 V
- C. 100 V
- D. 300 V
- E. 545 V

31. For a certain gas the ratio of specific heat is given to be $\gamma = 1.5$.
For this gas:

- A. $C_v = 3R$
- B. $C_p = 3R$
- C. $C_v = 5R$
- D. $C_p = 5R$
- E. $C_v = 9R$

32. Two wires, when connected in series, have an equivalent resistance of 18Ω , and when connected in parallel, an equivalent resistance of 4Ω . Find their resistances.

- A. $10 \Omega, 33 \Omega$
- B. $12 \Omega, 6 \Omega$
- C. $26 \Omega, 2 \Omega$
- D. $19 \Omega, 2 \Omega$
- E. $35 \Omega, 3 \Omega$

33. Two capacitors of capacities C_1 and C_2 are connected in parallel. If a charge Q is given to the assembly, it gets shared. The ratio of the charge on capacitor C_1 to the charge on capacitor C_2 is given by:

- A. C_1/C_2
- B. C_2/C_1
- C. $3C_1^2/C_2^2$
- D. $7C_2^2/C_1^2$
- E. None of the above

34. A unit _____ is said to exist at a point where the force per unit charge experienced by a positive test charge, moving with a velocity of 1 ms^{-1} in the direction perpendicular to the field is 1 Newton.

- A. Charge
- B. Magnetic field of induction
- C. Flux density
- D. Electric field
- E. None of the above

35. If two coils are close together, then a changing current in one coil (the primary) sets up a changing magnetic field in the other (the secondary) and so induces an e.m.f. in it. The effect is known as:

- A. Self induction
- B. Mutual induction
- C. Non inductive winding
- D. Motional e.m.f.
- E. Toroidal field

36. A galvanometer has a resistance of 10 ohms and gives full-scale deflection when a current of 0.001 ampere flows in it. Find out the value of the shunt resistance to convert it into an ammeter of range 10 amperes.

- A. 0.001 ohms
- B. 0.002 ohms
- C. 0.003 ohms
- D. 0.004 ohms
- E. 0.005 ohms

37. A device used for measuring the potential difference (or voltage) between two points of a circuit or the e.m.f. of a current source is called:

- A. Wheat Stone Bridge
- B. Ammeter
- C. Post Office Box
- D. Meter Bridge
- E. Potentiometer

38. The study of geometric form of crystalline solids by using X-rays, electron or neutron beams constitute the science of:

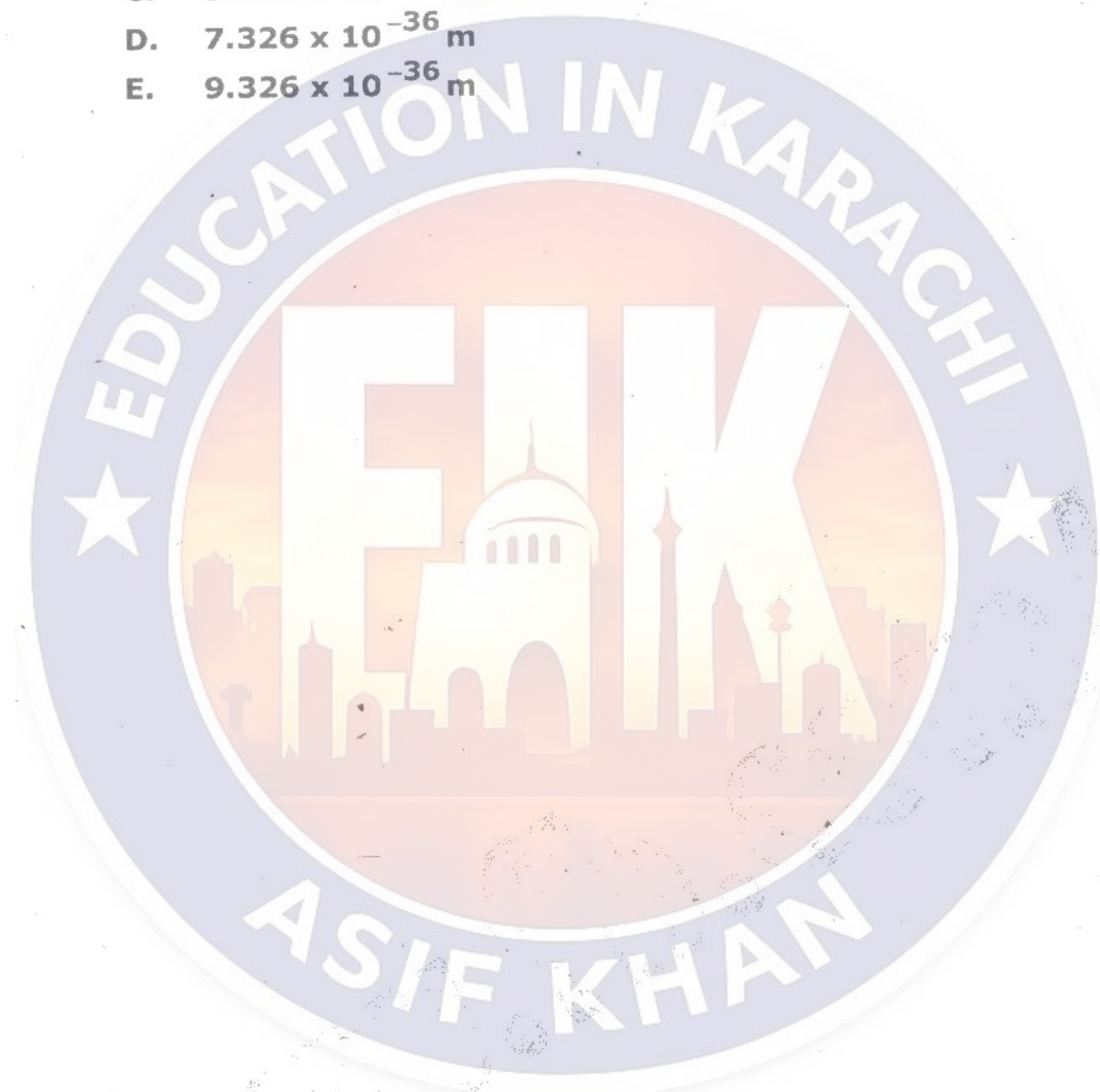
- A. Crystallogy
- B. Crystallography
- C. Crystallization
- D. Atomic crystals
- E. None of the above

39. Three dimensional images of objects obtained by using lasers is a process called:

- A. Lasering
- B. Laserography
- C. Holography
- D. Both A and B
- E. None of the above

40. What will be the de Broglie wave length of a mass of 5 kg moving with a velocity of 100 ms^{-1} . ($h=6.63 \times 10^{-34} \text{ J-s}$)

- A. $1.326 \times 10^{-36} \text{ m}$
- B. $3.326 \times 10^{-36} \text{ m}$
- C. $5.326 \times 10^{-36} \text{ m}$
- D. $7.326 \times 10^{-36} \text{ m}$
- E. $9.326 \times 10^{-36} \text{ m}$



CHEMISTRY

A sample of argon occupies 50L at standard temperature. Assuming constant pressure, what volume will the gas occupy if the temperature is doubled?

- A. 25 L
- B. 50 L
- C. 100 L
- D. 200 L
- E. 2500 L

All of the following statements underlie the kinetic molecular theory of gases EXCEPT:

- A. Gas molecules have no intermolecular forces
- B. Gas particles are in random motion
- C. The collision between gas particles are elastic
- D. Gas particles have no volume
- E. The average kinetic energy is proportional to the temperature of the gas

Example of Trigonal system is:

- A. BaSO_4
- B. AgNO_3
- C. ZnSO_4
- D. SiO_2
- E. SnO_2

Four containers of equal volume are filled as follows:

2.0g H_2 at 0°C

1.0g H_2 at 273°C

24g O_2 at 0°C

16g CH_4 at 273°C

Which container is at the greatest pressure?

- A. I only
- B. II only
- C. III only
- D. IV only
- E. I and II

45. All of the following are true regarding Cathode Rays EXCEPT:

- A. These rays carry a negative charge
- B. These rays can also be easily deflected by an electrostatic field
- C. These rays emerge normally from Cathode and can be focused by using a concave Cathode
- D. These rays consist of particles now called Protons carrying a fixed unit of charge and a fixed mass
- E. The Cathode rays are easily deflected by a magnetic field

46. The maximum number of electrons in a shell with the principal quantum number equal to 4 is:

- A. 2
- B. 10
- C. 16
- D. 32
- E. 14

47. Ketone reacts with Grignard's reagent in acidic medium forming:

- A. Ethyl alcohol
- B. Isopropyl alcohol
- C. Butyl alcohol
- D. Primary alcohol
- E. Secondary alcohol

48. All of the following are non-polar covalent bonds Except:

- A. Cl_2
- B. O_2
- C. N_2
- D. HF
- E. H_2

49. Mustard gas is formed by the treatment of Sulphur monochloride with:

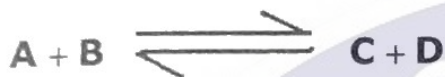
- A. Ethane
- B. Methane
- C. Ethene
- D. Ethylene glycol
- E. Chloro Ethane

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50. Water has the maximum density at what temperature?

- A. -4°C
- B. 4°C
- C. -20°C
- D. 20°C
- E. 10°C

51. For the reaction



the equilibrium constant can be expressed as:

A. $K_c = \frac{[\text{A}][\text{B}]}{[\text{C}][\text{D}]}$

B. $K_c = \frac{[\text{C}][\text{B}]}{[\text{A}][\text{D}]}$

C. $K_c = \frac{[\text{C}][\text{D}]}{[\text{A}][\text{B}]}$

D. $K_c = \frac{\text{C} \cdot \text{D}}{\text{A} \cdot \text{B}}$

E. $K_c = \frac{\text{A} \cdot \text{B}}{\text{C} \cdot \text{D}}$

52. Which of the following will be the most electrically conductive?

- A. Sugar dissolved in water
- B. Salt water
- C. Salt dissolved in an organic solvent
- D. An oil and water mixture
- E. Oil

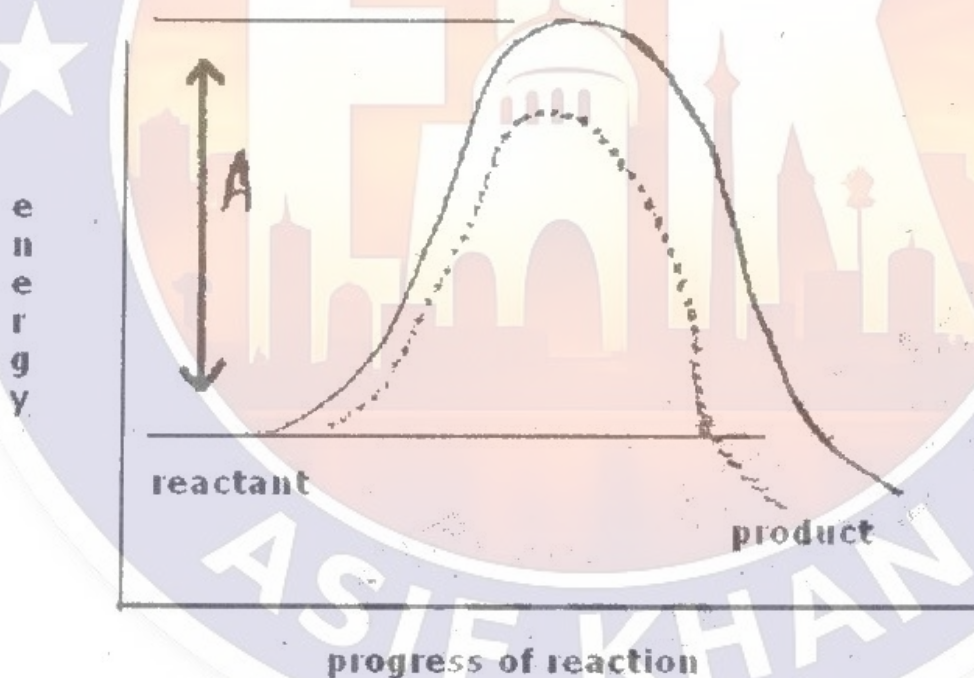
53. Phenolphthalein is an indicator used for:

- A. Strong acid and weak base
- B. Strong base and weak acid
- C. Strong acid and strong base
- D. Weak acid and weak base
- E. Strong base and weak base

54. All of the following are true statements concerning reaction orders EXCEPT:

- A. The reaction order ranges from minimum 0 to maximum 3
- B. "Rate expression" leads to the concept of order of reaction
- C. If doubling the concentration of a reactant doubles the rate of the reaction, then the reaction is first order in that reactant
- D. Order of reaction is associated with total number of molecules present in a reaction, not with experimental measurement.
- E. The order of reaction is defined as sum of all the exponents of the concentration in terms of the reactants involved in the rate equation

55. The energy profile diagrams for the reaction in presence and absence of a catalyst are shown below. In these profile A represents:



- A. Threshold energy
- B. Energy of activation in absence of catalyst
- C. Average internal energy of reactants
- D. Energy of activation in presence of catalyst
- E. None of the above

56. Regarding Ethylene glycol all of the following are true EXCEPT:

- A. It contains carbon, hydrogen and oxygen
- B. Its molecular mass is 62
- C. It is used as an antifreeze
- D. Empirical formula for ethylene glycol is CH_3O
- E. Molecular formula for ethylene glycol is CH_6O

57. Elements in a given period have the same:

- A. Atomic weight
- B. Maximum azimuthal quantum number
- C. Maximum principal quantum number
- D. Valence electron structure
- E. Atomic number

58. Ionic hydrides:

- A. are colourless nonvolatile salt like solids
- B. are sufficiently unstable towards heat
- C. stability increase with increasing atomic masses
- D. are insoluble in water
- E. are used as oxidizing agent in metallurgical processes

59. Which of the following elements has the lowest electronegativity?

- A. Cesium
- B. Strontium
- C. Calcium
- D. Barium
- E. Potassium

60. Greater the tendency of an atom to give out electrons, more is the:

- A. Electronegativity
- B. Metallic character
- C. Melting point
- D. Boiling point
- E. Ionization potential

61. The chief impurities in Bauxite are:

- A. Oxides of magnesium and aluminium
- B. Oxides of iron and silica
- C. Oxides of magnesium
- D. Oxides of aluminium
- E. None of the above

62. The formula for phitkari is:

- A. $K_2SO_4, Al_2(SO_4)_3, 24H_2O$
- B. $K_2SO_4, Al_2(SO_4)_3, 22H_2O$
- C. $K_2SO_4, Al_2(SO_4)_3, 20H_2O$
- D. $K_2SO_4, Al_2SO_4, 24H_2O$
- E. $KSO_4, AlSO_4, H_2O$

63. The existence of an element in more than one form is known as:

- A. Isotropy
- B. Allotropy
- C. Enthalpy
- D. Geotropy
- E. Both isotropy and allotropy

64. All of the following are lead pigments except:

- A. White pigment
- B. Turner's yellow pigment
- C. Bile pigment
- D. Chrome red pigment
- E. Red pigment

65. The best antidote in the case of H_2S poisoning is:

- A. Very strong chlorine
- B. Very dilute chlorine
- C. Very strong sulphur
- D. Very dilute sulphur
- E. Very dilute hydrogen

66. Which one of the following is a cause of bleaching action of the chlorine?

- A. HCl
- B. CH_3Cl
- C. $HOCl$
- D. Cl_2
- E. CH_2Cl_2

67. Potassium permanganate oxidizes:

- A. Ferrous salts to ferric salts
- B. Nitrites to Nitrates
- C. Oxalic acid to carbon dioxide
- D. Hydrogen peroxide to oxygen
- E. All of the above

68. The household utensils of copper and brass are protected from poisoning by:

- A. Photography
- B. Silvering
- C. Tin plating
- D. Alloying
- E. Glass sheet

69. Which of the following is used in manufacturing of Lozenges and Gargles?

- A. Ethers
- B. Phenols
- C. Aldehydes
- D. Ketones
- E. Esters

70. Fat-soluble vitamins are:

- A. A, D, E, K
- B. A, C, E, K
- C. B-complex, C, A, K
- D. K, A, B-complex, D
- E. D, B-complex, C, K

BIOLOGY

71. All of the followings are legume families except:

- A. Mimosaceae
- B. Fabaceae
- C. Poaceae
- D. Caesalpinaceae
- E. None of the above

72. Hydra, Sea anemone & corals occur only as:

- A. Medusa form
- B. Spicules
- C. Polyp form
- D. Sycon form
- E. None of the above

73. The proper measurements taken to avoid the diseases caused by parasitic worms include:

- A. Hygienic living
- B. Careful use of edibles
- C. Thorough cooking of meat
- D. Avoid walking bare footed
- E. All of the above

74. The photosynthetic pigments can be separated by a process called

- A. Photosynthesis
- B. Respiration
- C. Paper chromatography
- D. Hydrolysis
- E. Bioenergetics

75. During regeneration phase of Calvin Benson Cycle only one molecule of 3C (triose-phosphate) is produced, which can:

- I. re-enter the cycle
- II. be used for starch synthesis within the chloroplast
- III. exported via a phosphate translocator to cytosol for sucrose synthesis

- A. I only
- B. III only
- C. I and II only
- D. II and III only
- E. I, II and III

76. Stearin ($C_{57}H_{104}O_6$) is an important example of:

- A. Carbohydrates
- B. Proteins
- C. Waxes
- D. Acylglycerol
- E. Nucleic Acids

77. At $0^{\circ}C$, the enzymatic activity is:

- A. Completely stopped
- B. Maximum
- C. Decreased to 50%
- D. Reduced to minimum
- E. None of the above

78. Mitochondria are passed to an animal only by:

- A. Father
- B. Sister
- C. Mother
- D. Both A and C
- E. None of the above

79. A patient is suffering from a disease. S(he) has following symptoms:

- I. Abdominal pain
- II. Jaundice
- III. Liver enlargement
- IV. Fatigue

S(he) is probably suffering from:

- A. HIV
- B. Rabies
- C. Hepatitis
- D. Septicaemia
- E. Kaposi's sarcoma

80. Plants prevent excessive water loss from their aerial parts by a waxy coating called:

- A. Mesoderm
- B. Lignin
- C. Cuticle
- D. Sporopollenin
- E. Cell wall

81. In Acetyl Coenzyme (Acetyl CoA) the Coenzyme A, a sulphur containing compound is derived from:

- A. Vitamin A
- B. Vitamin D
- C. Vitamin B
- D. Minerals
- E. Proteins

82. An example of partial root parasite is:

- A. Loranthus
- B. Viscum
- C. Cuscuta
- D. Sandal wood tree
- E. Orobanche

83. The important process of holozoic nutrition includes:

- A. Ingestion
- B. Digestion
- C. Assimilation
- D. Egestion
- E. All of the above

84. All of the followings are characteristic features of tuberculosis except:

- A. Cough
- B. Pain in chest
- C. Acidity
- D. Shortness of breath
- E. Weight loss

85. The inherited impairment of haemoglobin production is called:

- A. Leukaemia
- B. Thrombus formation
- C. Thalassaemia
- D. Myocardial infraction
- E. Hypertension

86. Adrenal gland is located:

- A. At the side of the kidney
- B. On the top of each kidney
- C. On lower side of the liver
- D. At the end of the pancreas
- E. Near the gall bladder

37. Malpighian body is composed of:

- A. Bowman's capsule & glomerulus
- B. Pyramids & pelvis
- C. Pelvis & medulla
- D. Hilus & medulla
- E. Nephron & medulla

38. Method in which ultrasonic waves are used to break up calculi is called:

- A. Kidney transplant
- B. Haemodialysis
- C. Lithotripsy
- D. Peritoneal dialysis
- E. Artificial pacemaker

39. Creatine Phosphate serves as muscle's reserve of high energy phosphate by providing _____.

- A. Nerve impulses
- B. Acetyl chloride
- C. ATPs
- D. Calcium ions
- E. Lactic acid

40. _____ are the cells that separate neurons from each other & form myelin sheath.

- A. Soma
- B. Axon
- C. Inter neurons
- D. Glial cells
- E. Nissl substance

41. The contraction of the uterus during labour and release of milk from the mammary glands during breast feeding is stimulated by:

- A. Prolactin
- B. Oxytocin
- C. Antidiuretic hormone
- D. Somatotropin
- E. FSH (Follicle Stimulating Hormone)

92. Five hip vertebrae fuse together to make:

- A. coccyx
- B. sacrum
- C. phalanges
- D. cranium
- E. femur

93. The remains of Archaeopteryx indicate that birds are most closely related to:

- A. Flying insects
- B. Flying mammals
- C. Flying fish
- D. Reptiles
- E. Amphibian

94. All of the following are factors in the development of new species EXCEPT:

- A. use and disuse of organs
- B. asexual reproduction
- C. sexual reproduction
- D. variations
- E. natural selection

95. A single mushroom may produce 500, 000 spores _____ at the peak of its production.

- A. a minute
- B. an hour
- C. a day
- D. a week
- E. a month

96. A type of asexual reproduction in which individual resembles exactly to the egg donor is called:

- A. Regeneration
- B. Budding
- C. Parthenogenesis
- D. Cloning
- E. Fission

97. Fertilized ovum in human is implanted in:

- A. Oviduct
- B. Uterus
- C. Placenta
- D. Umbilical Cord
- E. Vagina

98. If the new born babies get mixed up in a hospital, how could you determine their parentage from the information given below?

Baby I Type O
Baby II Type B

Mrs. Ali Type A
Mr. Ali Type AB

Mrs. Ahmad Type A
Mr. Ahmad Type A

- A. Baby I is the child of Mr. and Mrs. Ali
- B. Baby II is the child of Mr. and Mrs. Ali
- C. Baby II is the child of Mr. and Mrs. Ahmad
- D. Both Baby I and Baby II is the child of Mr. and Mrs. Ahmad
- E. Inadequate Data

99. _____ biomes are known as bread basket of the world.

- A. Coniferous forest
- B. Temperate deciduous forests
- C. Tundra
- D. Tropical rain forests
- E. Grass land

100. Haemophilia is caused by a sex-linked, recessive allele. Two parents have a Haemophiliac son, a normal son and a Haemophiliac daughter. What are the most likely genotype of the parents?

- | | Mother | Father |
|----|-------------------|---------|
| A. | $X^H X^h$ | $X^h Y$ |
| B. | $X^H Y^h$ | $X^H Y$ |
| C. | $X^h X^h$ | $X^H Y$ |
| D. | $X^H Y^H$ | $X^h Y$ |
| E. | None of the above | |

HOW TO FILL ANSWER SHEET

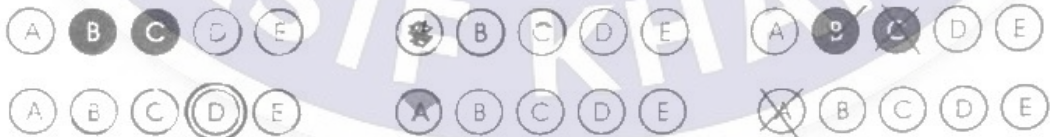
(INCASE OF CONFUSION ASK NTS STAFF FOR HELP)

- Please Fill the appropriate circle in the column of **Color of Question Book**
- Please Sign in the Column of **Candidate Signature**
- Please Write your Question Book No. In the Column of **Question Book No.**
- Fill the appropriate Circle completely LIKE THIS ●

	Name: Wajid Ali	NTS Signatory : _____
Color of your Question Book <small>(Fill only one circle)</small>	Father Name : Ali Hassan	Candidate Signature :
	Roll No. 123456789	Question Book No : 123456
Yellow <input type="radio"/> Green <input type="radio"/> White <input checked="" type="radio"/> Blue <input type="radio"/> Pink <input type="radio"/>	Do not write or mark anything in this box	

CORRECT FILLING ● (B) (C) (D) (E)

INCORRECT FILLING



NOTE:

CORRECT AND IMPROPER FILLED CIRCLES WILL BE MARKED AS
"WRONG ANSWER" BY THE MACHINE