DIAGNOSTIC TEST   SET-2

Please tick (√) the right answer only.   **Time: 1 hour.**

SUBJECT: CHEMISTRY

1. Which one is the strongest acid?   (a)HF (b) HCl, (c) HBr , (d) HI.

2. Human body is an example of –   (a) Open system , (b) Closed system ,(c) isolated system , (d) none of the above.

3. What is the electronic config. of Cu –

   (a) [Ar] $3d^9 4s^2$, (b) [Ar] $3d^{10} 4s^1$, (c) [Ar] $3d^6 4s^2 4p^3$. (d) None of the above.

4.Which of the following will form INTRA-molecular H-bonding –

   (a) Para nitrophenol , (b) ortho-nitrophenol, (c) phenol ,(d) none of the above.

5. The general formula of a cycloalkane is – (a) C_nH_{2n+2} , (b) C_nH_{2n-2} , (c) C_nH_{2n} , (d) C_nH_n .

6. What are Rubies and Sapphires chemically known as

   A.   Silicon dioxide B. Aluminium oxide C. Lead tetra oxide D. Boron Nitride

7. Mixture of which one of the following pairs of gases is the causes of occurance of most of the explosion in mines? A. Hydrogen and Oxygen B. Oxygen and acetylene C. Methane and air D.CO2 and methane

 8. Which one of the following is an element which never exhibits positive oxidation state in any of its compounds? A. Oxygen B. Fluorine C. Chlorine D. Carbon

 9. In the laboratory, which two classes of compound may be reacted together without any other activating reagents to prepare an amide? A. Acid chloride and amine B. Alkene and amine C. Carboxylic acid and amine D. Aldehyde and amine

10. Which is more acidic: benzoic acid, p-methylbenzoic acid, or p-chlorobenzoic acid?

   A.   p-chlorobenzoic acid B. p-methylbenzoic acid C. benzoic acid

SUBJECT: PHYSICS

1. When a conductor carrying an electric current is free to move in a magnetic field, the direction in which it will move is given by
   - (a) Fleming's right hand rule   (b) Fleming's left hand rule
   - (b) (c) Laplace's rule   (d) Cork-screw rule

2. Fuse wire is a wire of
   - (a) Low resistance and high melting point
   - (b) High resistance and high melting point
   - (c) High resistance and high melting point
   - (d) Low resistance and low melting point

3. A heater coil is cut into two equal parts and only one part is now used in heater. The ratio of the heat generated by this half coil to that by the original coil is   (a) 2:1 (b)1:2   (c)1:4   (d) 4:1

4. A 25 watt, 220 volt lamp and a 100 watt, 200 volt lamp are connected in series across 220 volt mains. Which lamp will glow brightly
   - (a) 25 watt, 220 volt lamp (b) 100 watt, 22 volt lamp (c) Both will have same brightness

5. Which of the following particles has similar mass to that of the electron
   - (a) Proton   (b) neutron   (c) positron   (d) neutrino

6. The angular momentum of electron in nth orbit is given by
   - (a) nh   (b) $h/2\pi n$ (c) $n (h/2\pi)$ (d) $n^2 (h/2\pi)$

7. The X-ray beam coming from an X-ray tube will be
   - (a) Monochromatic
   - (b) having all wavelengths smaller than a certain maximum

(c) having all wavelengths larger than a certain minimum wavelength

(d) having all wavelengths lying between a minimum and a maximum wavelength.

8. The strength of the magnetic field at a point distant r near a long straight current carrying wire is B. The field at a distance r/2 will be

(a) B/2　　　　(b) B/4　　　　　(c) 2B　　　　　　(d) 4B

9. Unit of coefficient of self induction in SI is (a) Fermi (b) henry (c) ohms (d) none of these

10. Coefficient of self induction of a circuit of a straight wire is

(a) Zero　　　(b) infinite　　(c) finite　　　　　(d) none of these

SUBJECT: MATHEMATICS

1. 2432/? = √23104　　Ans. (a) 12 (b) 14 (c) 16 (d) 18
2. 8888+848+88-?=7337+737　Ans. (a) 1750 (b) 1650 (c) 1550 (d) 1450

3. 515.15-15.51-1.51-5.11-1.11=? Ans. (a) 491.91 (b) 411.19 (c) 419.91 (d) 499.19
4. 5,9,18,34,59,95,? Ans. (a) 116 (b) 144 (c) 148 (d) 168
5. 18,20,44,138,560,2810,? Ans. (a) 16818 (b) 16836 (c) 16854 (d) 16872
6. 1200,480,192,76.8,30.72,12.288,? Ans. (a) 7.6132 (b) 8.5172 (c) 4.9152 (d) 6.7112
7. 841, 961, 1089, 1225, 1369, 1521, ? Ans. (a) 1581 (b) 1681 (c) 1781 (d) 1881
8. 963,927,855,747,603,423,? (a) 205 (b)206 (c) 207 (d) 208
9. If 64 is divided into three parts, proportional to 2,4 and 6, the smallest part is

(a) 5.3333 (b) 11 (c) 10.3333 (d) 5

10. What least number must be added to 49123 to get a number exactly divisible by 263

(a) 56 (b) 54 (c) 52 (d) 58

SUBJECT: ENGLISH

Exercise 3: **Choose the correct / most appropriate word/s to fill in the gap in the sentences given below.**

1) I didn't set _____ to do this but I'm pleased with the result. a) in b) out c) on d) down

2) This looks too heavy, _____ pick it up? a) Can I b) may I c) need I d) would I

3) I am glad so many people have passed the test. In fact, there were _____ who haven't.

a) little b) a little c) few d) a few

4) Pope John Paul II _____ more than 90 countries.

a) has visited b) was visited c) visits d) has been visiting

5) I _____ Carl since I _____ a little child.

a) have known, have been b) have known, was c) knew, have been d) knew, was

Exercise: 4 Q1 to 5: **In these questions, each sentence has three underlined parts. Choose the part which has an error. If you feel there is no error, choose option d as your answer.**

6. The Railway Minister's statement that he would provide better facilities without increasing passengers' or freight fare was applauded by all.

a) The Railway Minister's statement that b)he would provide better facilities without c) increasing passengers' or freight fare was applauded by all (d) No error

7. No one must have imagined that someone would buy Audrey Hepburn's black dress for a princely sum of about Rs 3.7 crore. a) No one must have imagined that someone b)would buy Audrey Hepburn's black dress c) for a princely sum of about Rs 3.7 crore (d) No error

8. Dad and myself were there at the annual film awards ceremony. a) Dad and myself b) were there at c)the annual film awards ceremony (d) No error

9. The Managing Director was worried that the sales had been declining down for the last three years.

a)The Managing Director was worried b)that the sales had been declining down c)for the last three years. d)No error

10. By the end of next month, I will have finished all my examinations and practicals. No error.

a)By the end of next month b)I will have finished c)all my examinations and practicals. d) No error