

Shri Shantadurga Higher Secondary School, Bicholim-Goa.

First Formative Examination , August-2019

Std: XII Science

Marks: 20

Date: 10/08/2019

Chemistry

Time: 1 Hour

Instructions:-

- (1) All questions are compulsory; however Q. 5 and Q.10 have internal choice.
(2) Section-A consists of 4 questions of 1 mark each.
Section-B consists of 3 questions of 2 marks each.
Section-C consists of 2 questions of 3 marks each.
Section-D consists of 1 question of 4 marks.
(3) Use Log Tables, if necessary. Use of calculators is not allowed.

Section-A

- Q.1. The *vicinal dihalide* amongst the following compound is_____ . (1)
1,3-dichlorobutane # 2,2- dichlorobutane
#2,3-dichlorobutane #2,4- dichlorobutane
- Q.2 If the anionic site is occupied by an electron and it becomes part of the lattice it is called a _____ (1)
a hole # anionic site
vacancy # F centre
- Q.3. Zirconium or Titanium is refined by a process called_____ (1)
Van-arkel method # Zone refining
Liquefaction # Mond
- Q.4. Write a point of difference between Antiseptic and Disinfectant. (1)

Section-B

- Q.5. Derive integrated rate equation for the first order reaction (2)
- OR**
- Q.5. For a reaction $A+B \rightarrow \text{product}$; rate is doubled when the concentration of 'B' is doubled and rate increases by a factor of 8 when the concentration of both the reactants are doubled. (2)
(i) Write the rate law for the above reaction.
(ii) Write the '*unit of rate constant*' and expression for integrated rate equation for '*zero order*' reaction.
- Q.6. What are Tranquilisers? What is their use and give any two examples of it. (2)
- Q.7. Draw a neat labelled diagram showing **Magnetic separation method** used in concentration of an ore. Write formulas of any two ores of Iron that is found in Goa. (2)

.....PTO

Section-C

Q.8. For the reaction, $N_2 + 3H_2 \rightarrow 2NH_3$, the rate of appearance of ammonia was found to be $3.2 \times 10^{-4} \text{ mol L}^{-1} \text{ s}^{-1}$. Calculate the rate of reaction. (3)

The rate of the above reaction triples when the temperature changes from 50°C to 100°C . Calculate the energy of activation for the reaction. ($R = 8.314 \text{ JK}^{-1} \text{ mol}^{-1}$)

Q.9. Draw the structure of **Body Centred cubic** unit cell & answer the following questions. (3)

1. Calculate the total number of atoms per unit cell in it.
2. What is its Packing efficiency?

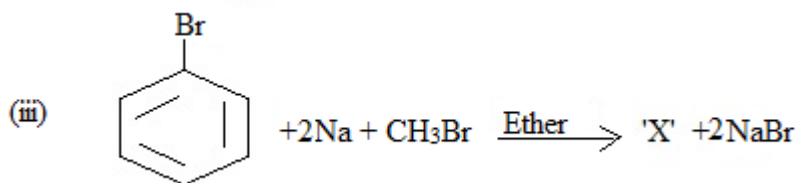
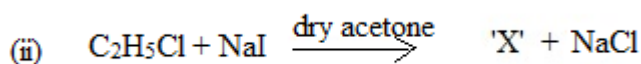
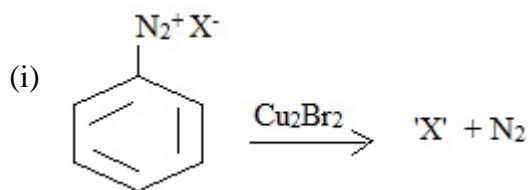
Section-D

Q.10. Write a suitable reaction for the following conversion: (4)

- (i) Ethyl magnesium bromide to ethane
- (ii) But-1-ene to bromobutane.
- (iii) Chloropropane to Butanenitrile.
- (iv) Ethyl alcohol to ethyl bromide.

OR

Q.10. Identify the compound 'X' formed in the below reaction and write the structure and IUPAC name for the same. (4)



-----THE END-----