

Seat No. _____

no. of printed pages : 02

[27]

Eng.

SARDAR PATEL UNIVERSITY
B.Sc. Semester-I Examination [CBCS]
Subject : General Chemistry-1 [US01CCHE21]

Date: 28/01/2021

Time: 02.00 PM to 04.00 PM.

Total Marks: 70

- Que1. Choose the correct option and rewrite the answer of the following. 10
- Which of the following compound is alkenol?
(a) 2-propanol (b) 2-butanol (c) Vinyl Chloride (d) Allyl Alcohol
 - In Grignard reagent the carbon- magnesium bond is.....
(a) covalent (b) ionic (c) H-bond (d) π -bond
 - In sp^3 hybridization s-orbital has -----% s- character.
(a) 75 (b) 50 (c) 25 (d) 0
 - No space was reversed for -----element in Mendeleev Periodic table.
(a) Halogen (b) inner transition (c) Inert gas (d) Chalcogen
 - element does not form ionic compound readily.
(a) Be (b) Sr (c) Ca (d) Mg
 - According to Lowry-Bronsted concept base is a substance which is.....
(a) proton donor (b) electron acceptor (c) proton acceptor (d) electron donor
 - The conjugate acid of NH_2^- is...
(a) NH_4^+ (b) NH_3 (c) N_2H_4 (d) NH_2OH
 - Which of the following solution acts as a buffer ?
(a) $HCl + NaCl$ (b) $NaOH + NaNO_3$ (c) $CH_3COOH + CH_3COONa$
(d) $HCOOH + HCOONH_4$
 - The difference between the observed value and the true value is called..
(a) Reproducibility (b) Precision (c) Accuracy (d) Error
 - Which of the following data has three significant figure ?
(a) 1.379 (b) 1.37 (c) 1.3790 (d) 1.37900

Que.2 Fill in the blanks: 08

- The disappearance of the purple colour dil. $KMnO_4$ in its reaction with alkene is known as(Bayer test/Saytzeff test)
- Carbocation is less stable. ($CH_3^+/1^0$)
- The position of -----element in modern periodic table is still matter of dispute. (Helium/ Hydrogen)
- series of transition element are there in periodic table. (three/four)
- BF_3 acts as acid according to the concept of(Arrhenius/ Lewis)
- Water may act as.....(acid and base/ alkali).
- Rounding of the data 1.3798 to three significant figure gives -----
(1.38/1.37)
- Significant figure is present in the data : 0.1025 (3 / 4).

(P.T.O)

(1)

(P.T.O.)





Que.3 Answer the following questions (any ten) 20

1. Give Corey-House reaction.
2. Give the difference between E_1 and E_2 mechanism.
3. Give all the possible isomers of C_5H_{12} and their IUPAC name.
4. What is shielding effect?
5. Name the factors affecting the magnitude of electron affinity.
6. What is Mendeleeff's periodic law.?
7. Give Le Chatelier's principle.
8. Discuss the concept of Lewis acid-base with suitable example.
9. A solution that has a pH of 4.5. calculate the concentration of H_3O^+ .
10. Give limitations of instrumental methods.
11. Discuss student's Q-test with its equation.
12. Give the advantages of chemical methods.

Que.4 Answer the following questions. (any four) 32

1. Write a note on bromination of alkane with mechanism.
2. Give brief account on Ozonolysis of alkene with suitable examples.
3. Give brief account on Modern Periodic Table.
4. Discuss the applications of electronegativity.
5. What is hydrolysis? Derive the equation $K_h = \frac{K_w}{K_a}$ relation between weak acid and hydrolysis constant.
6. Write a note on Indicators.
7. What is sampling? Discuss sampling of solid, liquid and gas.
8. Give complete classification of chemical analysis.