

C.U.SHAH UNIVERSITY

Summer Examination-2019

Subject Name: Chemistry-II

Subject Code: 4SC02CHE1

Branch: B.Sc. (All)

Semester: 2

Date: 25/04/2019

Time: 02:30 To 05:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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- Q-1 Attempt the following questions: (14)**
- a) Give one example of mono and dihydric alcohol. (1)
 - b) What is intramolecular H-bond? Give one example. (1)
 - c) What is BMO? (1)
 - d) Give two example of electrode which is reversible with respect to the cation. (1)
 - e) What is catalyst? (1)
 - f) Define: Half cell (1)
 - g) Give only reaction for preparation of Diazobenzene from aniline. (1)
 - h) Define: Hard and soft water (1)
 - i) Which species are responsible for the alkalinity or basicity for west water? (1)
 - j) Define : Turbidity (1)
 - k) What is meant by qualitative analysis? (1)
 - l) Which radical give crimson red color in flame test? (1)
 - m) What are promoters? (1)
 - n) What are amines? (1)

Attempt any four questions from Q-2 to Q-8

- Q-2 Attempt all questions (14)**
- a) Explain chemical properties of alcohols. (7)
 - b) Discuss chemical properties of ethers. (7)
- Q-3 Attempt all questions (14)**
- a) Write the Dow's process and write a short note on physical properties of phenol. (5)
 - b) Give three methods for preparation of primary amine. (5)
 - c) Determine acidity of water. (4)



- Q-4 Attempt all questions (14)**
- Explain Born-Haber cycle in detail. (7)
 - Write a note on non stoichiometric defects. (7)
- Q-5 Attempt all questions (14)**
- Discuss energy level diagram of H₂ and He₂ with bond order and its magnetic properties. (7)
 - Explain the formation of σ & σ^* and π & π^* Orbitals in detail. (7)
- Q-6 Attempt all questions (14)**
- Write a note on Galvanic cell with figure. (7)
 - Explain reversible and irreversible cell with proper figure. (7)
- Q-7 Attempt all questions (14)**
- Give the functions of catalyst. (5)
 - Explain the working of catalyst with the adsorption theory. (5)
 - Calculate K_{sp} of Fe(OH)₃ whose solubility 1.0×10^{-3} M. (4)
- Q-8 Attempt all questions (14)**
- Explain estimation of Ca⁺² and Mg⁺² with E.D.T.A. solution. (5)
 - 200 mL of 1.3×10^{-3} M AgNO₃ is mixed with 100 ml of 4.5×10^{-5} M Na₂S solution will precipitations occur? ($K_{sp} = 1.6 \times 10^{-49}$) (5)
 - Write a note on borax bead test. (4)

