

C.U.SHAH UNIVERSITY

Summer Examination-2016

Subject Name : Chemistry - II

Subject Code : 4SC02CHC1

Branch: B.Sc(All)

Semester : 2

Date : 11/05/2016

Time : 10:30 To 01:30

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.

Q-1 Attempt the following questions: (14)

- Define Crystal lattice (1)
- What are bonding molecular orbital? (1)
- Define Ungerade molecular orbital's (1)
- Define Coordination isomerism (1)
- Write the common name of $\text{CH}_2=\text{CH}-\text{CH}_2-\text{OH}$ (1)
- Write the reaction for preparation of aniline from nitrobenzene (1)
- Define half cell (1)
- What is quantum efficiency? (1)
- Define anticatalyst (1)
- Sodium gives which color in flame test. (1)
- Write the expression to calculate total dissolved solid. (1)
- Give one example of acid base catalyst. (1)
- Write the structure of N-methyl aniline (1)
- What is the bond order and magnetic properties of F_2 molecule? (1)

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

Q-2 Attempt all questions (14)

- Explain Born-Haber cycle (7)
- Calculate r^+/r^- for trigonal structure (4)
- Explain Schottky defect. Also discuss its consequences. (3)

Q-3 Attempt all questions (14)

- Write differences between Valance bond theory and Molecular orbital theory. (5)
- Describe the electronic configuration, bond order and magnetic properties of NO using molecular orbital energy level diagram. (5)
- Discuss geometrical isomerism with coordination number 4. (4)

Q-4 Attempt all questions (14)

- Discuss the methods of formation of alcohol. (5)



- b. Explain Reimer Tiemann reaction with mechanism. (5)
 c. Write the reaction of ether with HI, PCl₅ and acetyl chloride. (4)
Q-5 Attempt all questions (14)
 a. Complete the following reactions (5)

- b. Give the preparation of 1,2,3-tribromo benzene from p-nitro toluene (5)
 c. Give the reasons for high and low quantum yield. (4)
Q-6 Attempt all questions (14)
 a. Explain Nernst Equation and its applications (5)
 b. Write a note on Galvanic cell (5)
 c. Mention the types of reversible electrodes (4)
Q-7 Attempt all questions (14)
 a. Explain Grotthus-Draper law and Stark-Einstein law. (5)
 b. Explain Enzyme Catalysis. (5)
 c. Write a note on intermediate compound formation theory. (4)
Q-8 Attempt all questions (14)
 a. What is common ion effect explain giving appropriate examples. (5)
 b. How to measure temporary hardness of water? (5)
 c. 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? ($K_{sp}=1.6 \times 10^{-49}$) (4)

