

C.U.SHAH UNIVERSITY

Winter Examination-2022

Subject Name: Chemistry-II

Subject Code: 4SC02CHE1

Branch: B.Sc. (All)

Semester: 2

Date: 22/09/2022

Time: 11:00 To 02:00

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)**
- What is TDS? 01
 - Draw the chemical structure of benzene diazonium chloride. 01
 - H₂ molecule is _____ by nature. (paramagnetic/diamagnetic) 01
 - Salicylaldehyde obtain from phenol by _____ method. 01
(a) Fries (b) Reimer-Tiemann (c) Kolbe's (d) Wagner-Meerwin
 - Write the full name of HCP? 01
 - IUPAC name of CH₃-CH₂-CH₂-CH₂-OH is _____. 01
(a) 1-Propanol (b) 2-Propanol (c) 2-Phenyl ethanol (d) 1-Butanol
 - Write any one positive radical which gives crimson red flame. 01
 - Write the chemical structure of 2,4,6 tri-bromo aniline. 01
 - Define: Qualitative Analysis 01
 - Bond order of NO molecule is _____. 01
 - Define : Unit cell 01
 - A galvanic cell is used to convert from chemical energy to _____ (Electrical energy/ rotational energy) 01
 - Write any one example of negative catalyst. 01
 - Write the chemical formula borax. 01

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

- Q-2 Attempt all questions (14)**
- Write the Kolbe schmitt reaction with mechanism. 07
 - Explain:How to prepare Phenol? 07
- Q-3 Attempt all questions (14)**
- Discuss about the chemical properties of primary amine. 07
 - Explain: How to distinguish between primary, secondary and tertiary amines? 07



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| Q-4 | Attempt all questions | (14) |
| | a) Give the comparison of MO and VB theory. | 07 |
| | b) Discuss the bond order, stability and magnetic properties using molecular orbital energy level diagram of N ₂ molecule. | 07 |
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| Q-5 | Attempt all questions | (14) |
| | a) Discuss about the characteristics of ionic solid. | 07 |
| | b) What is close packing? Give their names and describe any one. | 07 |
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| Q-6 | Attempt all questions | (14) |
| | a) Discuss about Galvanic cell. | 07 |
| | b) Write a note on classification of cell. | 07 |
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| Q-7 | Attempt all questions | (14) |
| | a) Give the method to determine acidity and alkalinity | 07 |
| | b) Write a note on acid-base catalyst. | 07 |
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| Q-8 | Attempt all questions | (14) |
| | a) How to determine the turbidity of water? | 07 |
| | b) What is catalyst? Classify it with suitable examples. | 07 |

