Enrollment No: _____ Exam Seat No: _____

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.

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)**

a) Explain Born-Haber cycle in detail. **(7)**

b) Write a note on non stoichiometric defects. **(7)**

Q-5 **Attempt all questions** **(14)**

a) Discuss energy level diagram of H_2 and He_2 with bond order and its magnetic properties. **(7)**

b) Explain the formation of σ & σ* and π & π* Orbitals in detail. **(7)**

Q-6 **Attempt all questions** **(14)**

a) Write a note on Galvanic cell with figure. **(7)**

b) Explain reversible and irreversible cell with proper figure. **(7)**

Q-7 **Attempt all questions** **(14)**

a) Give the functions of catalyst. **(5)**

b) Explain the working of catalyst with the adsorption theory. **(5)**

c) Calculate ksp of $Fe(OH)_3$ whose solubility 1.0×10^{-3} M. **(4)**

Q-8 **Attempt all questions** **(14)**

a) Explain estimation of Ca^{+2} and Mg^{+2} with E.D.T.A. solution. **(5)**

b) 200 mL of $1.3x10^{-3}$ M AgNO3 is mixed with 100 ml of 4.5×10^{-5} M Na_2S solution will precipitations occur? ($K_{sp}= 1.6\times 10^{-49}$) **(5)**

c) Write a note on borax bead test. **(4)**