

# C.U.SHAH UNIVERSITY

## Summer Examination-2018

Subject Name: Chemistry-II

Subject Code: 4SC02CHC1/4SC02CHE1

Branch: B.Sc. (All)

Semester: 2

Date: 02/05/2018

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.
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<b>Q-1</b>	<b>Attempt the following questions:</b>	<b>(14)</b>
	a) Define unit cell	<b>01</b>
	b) What do you mean by promoters?	<b>01</b>
	c) Define: Electrochemical cell.	<b>01</b>
	d) Define: Emf series.	<b>01</b>
	e) What do you mean by electrode?	<b>01</b>
	f) What is called activation energy?	<b>01</b>
	g) Define common ion effect.	<b>01</b>
	h) What is called a catalyst?	<b>01</b>
	i) Define the term PPM	<b>01</b>
	j) Define ionic solids.	<b>01</b>
	k) What do you meant by TDS?	<b>01</b>
	l) What is called homogenous catalyst?	<b>01</b>
	m) Define point defect.	<b>01</b>
	n) Define the term crystal lattice	<b>01</b>

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

<b>Q-2</b>	<b>Attempt all questions</b>	<b>(14)</b>
	a) Discuss packing efficiency in hcp and ccp structure.	<b>07</b>
	b) Explain the method for calculation of heat of formation based on Hess's law.	<b>07</b>
<b>Q-3</b>	<b>Attempt all questions</b>	<b>(14)</b>
	a) Draw the MO energy level diagram for $O_2^-$ and explain the stability, magnetic properties and the bond order.	<b>07</b>
	b) Write a note on catalysis.	<b>07</b>
<b>Q-4</b>	<b>Attempt all questions</b>	<b>(14)</b>
	a) Explain the relation between $\Delta G$ , $\Delta H$ , $\Delta S$ and K.	<b>07</b>
	b) Explain the determination of $Ca^{+2}$ ion and $Mg^{2+}$ ion in the given water sample	<b>07</b>



