Note: Please attempt any 7 short questions from Question 2. Also, attempt
both parts (a and b) of Question 3. "a" Part is 5 marks and "b" is 4 marks.
Cutting and removal of any content is strictly prohibited.

Objective-Section

Q. 1   Encircle the correct Answer .   (7x1=7)

1. You want dry a gas which one of the following salt you will use.

a) $CaCl_2$ b) NaCl

c) CaO   d) Na_2Sio_3

2. The water of crystallization is responsible for the

a) Melting point of crystals   b) boiling point of crystals

c) shapes of crystals   d) transition of crystals

3. The product of Lewis acid base reaction is called abduct the bond between the adduct species is

a) ionic   b) covalent

c) metallic   d) coordinate covalent

4. which one of the following species is not amphoteric

a) H2O   b) NH3

c) HCO_3^- d) SO_4^{2-}

5. What is the pOH of a 0.02M Ca(OH)$_{27}$

a) 1.698   b) 1.397

c) 12.31   d) 12.61

6. The conjugate acid of HPO_4^{2-} is

a) PO_4^{3-} b) $H_2PO_4^-$

c) H2PO_4^{2-} d) H_3PO_4

7. A reaction between an acid and a base produces

a) Slat and water   b) salt and gas

c) salt and acid   d) slat and base

Subjective-Section

Q.2   Write short answers of any seven of the following questions: (7x2=14)

. What is auto ionization of water? How it si used to establish the pH of water?

2. Define pH and pOH. How pH and pOH of a solution are calculated?

3. Write the uses of pH scales?

4. What is universal indicator?

5. Find out the pH and pOH of 0.001 M solution of KOH?

6. What are conjugate bases of each of the following?

7. Define and give the characteristics of Lewis acid?

8. Write Limitation of Arrhenins concept?

Q.No.3   Long Question: (5+4=9)

   a.   Explain Lewis concept of an acid and a base?
   b.   Give the applications of some important bases?