

P. S. SCIENCE & H. D. PATEL ARTS COLLEGE, KADI

Internal Examination

B. Sc. SEM - II

Chemistry - 201

[Mark : 40

[1-30 to 3-00

23-3-2016]

SECTION A

Attend any 5 Questions out of 6 Questions.

5

- (1) The co-ordination number of cobalt in the complex $[\text{Co}(\text{en})_2\text{Br}_2]\text{Cl}_2$ is
(a) 2 (b) 6 (c) 5 (d) 4
- (2) The co-ordination number of copper in cuprammonium sulphate is
(a) 2 (b) 6 (c) 4 (d) -4
- (3) Which is unit of the 2nd order reaction ?
(a) Second^{-1} (b) $\text{Sec}^{-1} \cdot \text{Con}^{-1}$
(c) $\text{sec}^{-1} \cdot \text{Con}^{-1}$ (d) $\text{Sec}^{-1} \cdot \text{Con}^1$
- (4) What is the mass of proton ?
(a) 1.00789 amu (b) 1.00867 amu
(c) 1.00879 amu (d) 1.00798 amu
- (5) Which type of indicator we use in complex metric titrations ?
(a) Methyl Orange (b) KMnO_4
(c) EDTA (d) EBT
- (6) How much NaOH in gm required for making 18.5% solution of NaOH ?
(a) 2.0 gm (b) 9.0 gm (c) 18.5 gm (d) 3.5 gm

SECTION B

Attend all Questions compulsory.

5

- (1) What is geometric isomer ?
- (2) What is Normality ? Write the formula of Normality.
- (3) How to prepare 0.1N EDTA ?
- (4) As increases Nuclear binding energy, stability of nucleus also increases. (True / False)
- (5) What is chemical kinetics ?

(1)

[P.T.O.]

SECTION C

Attend any 3 Question out of 4 Questions.

6

- (1) Mention the types of Volumetric Titration.
- (2) Define Molecular weight and Equivalent weight.
- (3) Explain hybridization in $[\text{Ni}(\text{CN})_4]^{-2}$
- (4) Write all the characteristics of First order reaction.

SECTION D

Attend any 4 Questions out of 6 Questions.

12

- (1) Explain warner's theory.
- (2) Explain CFT in octahedral complexes with an example.
- (3) Calculate equivalent Weight and Molecular weight of KMnO_4 and $\text{H}_2\text{C}_2\text{O}_4$.
- (4) Explain the choice of indicator for acid base titration.
- (5) Give the Classification of chemical reactions according to Molecularity.
- (6) Write a short note on packing fraction.

SECTION E

Attend any 2 Questions out of 4 Questions.

12

- (1) Describe the experiment for determining hardness of water containing Ca^{+2} and Mg^{+2} ions by using 0.01 M prepared solution of EDTA
- (2) Write a note on Acid base titration.
- (3) Derive the rate equation of Second order Reaction for both cases. ($a = b$ and $a \neq b$)
- (4) Draw the conformer of cyclohexane with its energy graph.