Model Paper "Applied Chemistry"
For DAE (Ch-132) 1st Year Examination

DAE CIT 1st year

(29)

Objective

Time: 15 Minutes
Marks: 10

Note: Write your Roll No. in space provided. Over-writing, Cutting, Erasing, Using lead pencil will result in loss of marks. Supervisory staff is requested to attach it with the answer book.

(10 x 1) = 10

Q.1 (i) In SI unit system the Fundamental unit of Intensity of light is

(a) Ampere (b) Candella (c) Bell (d) Watt

(ii) The Chemical Formula of Aluminium sulphate is

(a) $AlSO_4$ (b) Al_2SO_4 (c) Al_3SO_4 (d) $Al_2(SO4)_3$

(iii) The vertical lines in the periodic table are called

(a) Groups (b) Periods (c) Blocks (d) Series

(iv) The nature of covalent bond present in Nitrogen Molecule is

(a) Single covalent (b) Double covalent (c) Triple covalent (d) Co-ordinate covalent

(v) The compound which cause permanent hardness in water is

(a) $CaSO_4$ (b) Na_2SO_4 (c) NaCl (d) $CaCO_3$

(vi) The Basicity of Acetic Acid (CH_3COOH) is

(a) One (b) Two (c) Three (d) Four

(vii) In German Silver alloy the %age of silver is

(a) 50% (b) 20% (c) 30% (d) Zero%

(viii) C_3O_2 is an example of

(a) Normal oxide (b) Peroxide (c) Sub Oxide (d) Super-Oxide

(ix) Air is an example of a gaseous

(a) Insulator (b) Conductor (c) Semiconductor (d) Super conductor

(x) The Etching Reagent Hydro Floric Acid (HF) is used for Etching of

(a) Glass (b) Copper (c) Silver (d) Iron

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(30)

Subjective

Time: 02:15 Hours
Marks: 40

Section-I

Q.2 Write short answers to any **TWELVE (12)** of the following questions. (12 x 2) = 24

(i) What are Derived units? Give examples.
(ii) Define Radical, Valency, Formula and Chemical Equation.
(iii) State postulates of Bohr's Atomic Model.
(iv) Differentiate between Atomic Mass and Atomic Number.
(v) Define Co-Ordinate Covalent Bond. Give one example.
(vi) Differentiate between Isotopes and Isobars.
(vii) How temporary Hardness of water is removed by clark's method.
(viii) What are the disadvantages of scales formation in Boiler.
(ix) State four important properties of Alpha Rays.
(x) Name four methods to prevent Corrosion.
(xi) State general properties of Alloys.
(xii) Differentiate between oxidation and reduction with examples.
(xiii) Define Faradays Laws of electrolysis. Write their mathematical forms.
(xiv) Define conductors, semiconductors and insulators. Give examples in each case.
(xv) Describe Rusting of iron with chemical reactions.
(xvi) Define Etching. Name four Etching reagents.
(xvii) What are the aims of Etching. Name two Etching processes.
(xviii) Name six gaseous insulators.

Section-II

Note: Attempt any **TWO (2)** questions. (2 x 8) = 16

Q.3 (a) Discuss four types of chemical reactions with examples. (4)

(b) Write general characteristics of Periods and Groups of the periodic table (4)

Q.4 (a) Discuss different scales of measuring Hardness of water. (4)

(b) Define salts. Give their classification with examples. (4)

Q.5 What are Energy Bands. Discuss Conduction in Conductors, Semiconductors and Insulators with the help of Band Theory. Support your answer with diagram. (8)