

10+1 CHEMISTRY  
Assignment No. 1

Total Marks = 25

Que 1:- (a) What is matter? Give classification of matter. (3)

(b) Give at least four postulates of Dalton's atomic theory.

Que 2: (a) Discuss cathode ray experiment in detail and explain how its observations lead to discovery of (4) electron?

(b) Write short note on Thomson plum pudding model of atom. (1)

Que 3: (a) Discuss (i) Law of octaves (ii) Law of Triads (2)

(b) Define Mendeleev's periodic law. Give salient features of Mendeleev's periodic table. (3)

Que 4: (a) What are canal rays? Give the characteristics of canal rays. (3)

(b) How did R.A. Millikan determine the charge on electron? (2)

Que 5: (a) Why do we need to classify elements? (2)

(b) Throw light on achievements of Dmitri Mendeleev as a scientist. (3)

(A.O.)  
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Assignment No. 2.

10+1 CHEMISTRY

MM = 25

- Q1 (a) What do you mean by liquefaction of gases? (1)
- (b) Discuss following terms (3)
- (i) Critical temperature.
  - (ii) Critical volume.
  - (iii) Critical pressure.
- (c) What do you mean by vapour of a substance, (1)

- Que 2: Discuss the following terms in detail. (1)
- (i) Vapour pressure (2)
  - (ii) Surface Tension (2)
  - (iii) Viscosity

- Que 3: (a) What is calorimeter? How will you measure the values of  $\Delta H$  and  $\Delta U$  using calorimeter (5)

- Que 4: What are buffer solutions? Discuss preparation of acidic and basic buffers in detail. (5)

- Que 5: (a) What do you mean by solubility. (1)
- (b) How will you define solubility product constant. (2)

(c) The ionisation constant of benzoic acid is  $6.46 \times 10^{-5}$  and  $K_{sp}$  for silver benzoate is  $2.5 \times 10^{-13}$ . How many times is silver benzoate more soluble in a buffer of pH 3.19 compared to its solubility in pure water?

(10)  
(9)

Ques 1 :-

- (a) Name three isotopes of hydrogen. (2)
- (b) Dihydrogen occupy nearly \_\_\_\_\_ % of the total mass of the universe. (1)
- (c) What is oxidation state of K in  $KO_2$ ? (2).

Ques 2 :

- (a) Discuss Solvay method of preparation of sodium bicarbonate. (3)
- (b) Discuss biological significance of sodium and potassium. (2)

Ques 3 :

- (a) What is slaked lime? How is it prepared? (2)
- (b) Discuss industrial uses of lime stone. (1½)
- (c) How plaster of Paris is prepared from gypsum? (1½)

Ques 4 :

- (a) Give reasons for anomalous behaviour of Boron. (2)
- (b) Give preparation and structure of diborane. (3).

Ques 5 :

- (a) What do you mean by water gas? How it is prepared? (2)
- (b) What is ZSM-5? Give its any two uses? (3).

(A.O.)  




Assignment No 4  
10+1 Chemistry

MM = 25

Ques No 1

What are various ~~methodological~~ techniques used for purification of organic compounds, discuss any two techniques <sup>used</sup> for purification of organic compounds in detail (5)

Ques No 2

(a) Discuss the terms

(i) Qualitative analysis.

(ii) Quantitative analysis.

(5)

(b) Write Lassaigne's test for detection of

(i) Nitrogen

(ii) Sulphur

(iii) ~~Oxygen~~ halogen

(iv) Phosphorus.

Ques No 3

(a) What are substitution reaction? Discuss halogenation of alkanes in detail. Also discuss free radical chain mechanism involving three steps i.e. initiation, propagation and termination. (5)

Ques No 4

(a) What are electrophiles and electrophilic substitution reactions? (2)

(b) Discuss detailed mechanism of electrophilic substitution reaction. (3)

Ques No 5

(a) Discuss the term green chemistry in detail. (2)

(b) What is global warming? Discuss various impacts of global warming on agriculture. (3)

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