

Engineering chemistry (2015)

1. Choose the correct answer in the following question

(i) Full form of PEM is

- (a) Preventive Enviromental Management
- (b) Pressure End of Metal
- (c) Pentane Ethane Material
- (d) Past Element Metal.

Ans. (a)

(ii) Faraday's law of electrolysis is related to

- (a) atomic number of the cation
- (b) atomic number of the anion
- (c) equivalent mass of the electrolyte
- (d) speed of the cation

Ans. (c)

(iii) Degree of ionization depends upon

- (a) nature of the solvent
- (b) temperature
- (c) nature of the solute
- (d) all the above

Ans. (d)

(iv) In electrolytic cell energy changes as

- (a) Electrical energy → Chemical energy
- (b) Chemical energy → Electrical energy
- (c) Chemical energy → Internal energy
- (d) Internal energy → Electrical energy

Ans. (b)

(v) A mineral is called ore if

- (a) the metal present in the ore is costly
- (b) a metal can be extracted from it
- (c) a metal can be extracted economically from it
- (d) a metal cannot be extracted from it

Ans. (c)

(vi) Solder contains

- (a) Cu and Al
- (b) Cu and Zn
- (c) Sn and Pb
- (d) Cu and Fe

Ans. (c)

(vii) Cork is made from

- (a) palm tree
- (b) coconut tree
- (c) oak tree
- (d) mango tree

Ans. (a)

(viii) Full form of B.O.D is

- (a) Biological Organic Demand
- (b) Biological Oxygen Demand

(c) Biological Oxygen Development

(d) None of these

Ans. (b)

(ix) Cyclone collector is a device through which we can control

- (a) water pollution
- (b) air pollution
- (c) sound pollution
- (d) soil pollution

Ans. (b)

(x) E-waste means

- (a) organic compounds
- (b) inorganic compounds
- (c) electronic gadgets
- (d) a and b both

Ans. (c)

Q2.(a) What do you mean by Isotope and Isobar ? Explain with examples.

Ans. Refers to chapter 1 Q. no. 3

Q2.(b) Define Hund's rule and Auf-bau principle with suitable examples.

Ans. Refers to chapter 1 Q. No. 4 & 14

OR

Q2.(a) Explain the formation of following compounds using proper symbols and electronic configuration:

(i) NaCl (ii) CO₂ (iii) MgCl₂

Ans. Refers to chapter 1 Q. no. 20 & 22

Q2.(b) What is valency ? What are the types of valency ? Explain with examples.

Ans. Refers to chapter 1 Q. no. 6

Q3.(a) What do you mean by electrochemistry ? What is the difference between galvanic cell and electrolytic cell ?

Ans. Refers to chapter 2 Q. no. 8

Q3.(b) Explain the mechanism of electrolysis of aqueous NaCl solution and fused NaCl using carbon electrode.

Ans.: Refers to chapter 2 Q. no. 12

Q4.(a) What is an alloy ? What is the purpose of making alloy ? Explain.

Ans. Refers to chapter 3 Q. no. 3

Q4.(b) What do you mean by metallurgy ? Explain electromagnetic separation and froth-floatation process involved in the concentration of ore.

Ans. Refers to chapter 3 Q. no. 4

Q5.(a) Define plastic with example. What are the types of plastics ? Explain.