

# Engineering Chemistry

## (2016)

Q1. Choose the correct answer from the four alternatives:

(i) **Laws of Electrolysis given by**

- |             |                |
|-------------|----------------|
| (a) Faraday | (b) Debar      |
| (c) Bohr    | (d) Rutherford |

Ans.(a)

(ii) **Bakelite is an example of**

- (a) Elastomer  
(b) Fibre  
(c) Thermoplastic  
(d) Thermosetting polymer

Ans.(d)

(iii) **The process of vulcanization of rubber makes it**

- |             |                |
|-------------|----------------|
| (a) Faraday | (b) Debar      |
| (c) Bohr    | (d) Rutherford |

Ans.(b)

(iv) **The maximum no. of electrons with clockwise spin that can be accumulated in f-sub shell**

- |        |        |
|--------|--------|
| (a) 14 | (b) 7  |
| (c) 5  | (d) 10 |

Ans.(b)

(v) **Froth Flotation process is used for the concentration of-**

- |                   |                   |
|-------------------|-------------------|
| (a) oxide ores    | (b) sulphide ores |
| (c) chloride ores | (d) Amalgams      |

Ans.(b)

(vi) **Increased concentration of in atmosphere is responsible for-**

- (a) green house effect  
(b) acid rain  
(c) lack of photosynthesis  
(d) death of aquatic life

Ans.(b)

(vii) **Full form of CFC's**

- (a) chlorofluoro carbons

- (b) carbide fluoride carbons  
(c) chlorinated fluoroscene carbon  
(d) None of the above

Ans.(a)

(viii)  **$^{12}_6C$  and  $^{14}_7N$  may be classified as**

- |              |                   |
|--------------|-------------------|
| (a) Isotopes | (b) Isotones      |
| (c) Isobars  | (d) Isoelectronic |

Ans.(b)

(ix) **Molten NaCl conducts electricity due to the presence of**

- (a) charged NaCl  
(b) sodium chloride molecule  
(c) free ions  
(d) free atoms of sodium and chlorine

Ans.(c)

Q2.(a) **Write electronic configuration of the following:**

- (i) Cl      (ii) Cr      (iii) Cu

Ans. Refers to chapter 1 Q. No. 16

Q2.(b) **What are quantum numbers? Explain the types of quantum numbers.**

Ans. Refers to chapter 1 Q. no. 7

Q3.(a) **Define pollution. How does it affect the environment, animals, Humans and Plants?**

Ans. Refers to chapter 5 Q. no. 1

Q3.(b) **Differentiate between BOD and COD.**

Ans. Refers to chapter 5 Q. no. 8

Q4.(a) **Write composition and uses of**

- (i) Brass      (ii) Gun metal      (iii) Bronze

Ans. Refers to chapter 3 Q. no. 9

Q4.(b) **Discuss lustre, ductility and malleability. Also discuss mechanical properties of metal.**

Ans. Refers to chapter 3 Q. no. 1

Q5.(a) **What are Plastics? Explain the formation of plastics by addition and condensation polymerisation with suitable examples.**

Ans. Refers to chapter 4 Q. no. 1

Q5.(b) **What is Valency? Distinguish between electro-valency and covalency with suitable examples.**

Ans. Refers to chapter 1 Q. no. 6&8

Q6. **Write short notes on the following :**

- (a) Faraday's law of electrolysis.  
(b) Depletion of ozone layer.  
(c) Green house effect.  
(d) Preventive Environment Management