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DSC02
ALL

Jharkhand University of Technology, Ranchi

Diploma 1st Semester Examination, 2023 (NEP)

Subject : Engg. Chemistry

Subject Code : DSC02

Time Allowed : 3 Hours

Full Marks : 70

Answer in your own words.

Answer five questions in which Question No. 1 is compulsory
and answer any four from the rest questions.

All questions carry equal marks.

1. Following questions have four alternative answers. Choose the correct one.

2×7=14

- (i) Two or more atoms having similar mass number are called _____.
- (a) isotopes
(b) isobars
(c) isotones
(d) None of these
- (ii) _____ is/are the example of electrolyte.
- (a) CuSO_4
(b) NaCl
(c) MgCl_2
(d) All of these
- (iii) _____ is/are used as protective coating, against corrosion.
- (a) Galvanization
(b) Tinning
(c) Paint
(d) All of these
- (iv) _____ is not an example of thermoplastic.
- (a) Polyethylene
(b) Polyvinyl chloride
(c) Polystyrene
(d) Bakelite
- (v) _____ is a monomer of natural rubber.
- (a) Isoprene
(b) Isotope
(c) Bakelite
(d) Propene
- (vi) Which of the following causes air pollution?
- (a) Internal combustion engines
(b) Thermal power stations
(c) Burning of fossil fuels
(d) All of these
- (vii) Which of the following is/are greenhouse gases?
- (a) CH_4
(b) CO_2
(c) H_2O vapour
(d) All of these

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(2)

2. (a) Discuss Bohr's atomic theory. Mention its limitations. 7+7
(b) What are four quantum numbers? —Explain.
3. (a) Describe electrochemical series for cations and anions.
(b) What do you understand by corrosion? Discuss different types of corrosion with their mechanism. 7+7
4. (a) Explain different types of polymerisation reactions with examples.
(b) Discuss the process of vulcanisation of rubber with reaction and mention the applications of vulcanized rubber. 7+7
5. (a) Discuss air pollution. What are the sources and effects of air pollution?
(b) What are the causes and control measures of ozone layer depletion? 7+7
6. (a) Discuss electrovalent, covalent and coordinate bond with examples.
(b) What are the purposes of applying paints? Write the characteristics and ingredients of paints. 7+7
7. Write short notes on *any four* of the following: 3·5×4=14
- (a) Arrhenius theory of ionisation
 - (b) Galvanisation
 - (c) Aufbau principle
 - (d) Hydrogen bonding
 - (e) Preventive Environmental Management
 - (f) Deforestation
 - (g) E-Waste
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