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[5668]-176**S.E. (Chemical Engg.) (Sem. II) EXAMINATION, 2019****CHEMISTRY-II****(2015 PATTERN)****Time : Two Hours****Maximum Marks : 50****N.B. :—** (i) Neat diagrams must be drawn wherever necessary.

(ii) Figures to the right indicate full marks.

(iii) Assume suitable data, if necessary.

1. (a) Write notes on : [6]
 (i) Inversion of cane sugar
 (ii) Mutarotation.
 (b) What happen when glucose is treated with the following ? [3]
 (i) Bromine water
 (ii) Sodium borohydride
 (iii) Phenyl hydrazine.
 (c) Explain formation of peptide linkage. [3]

Or

2. (a) Explain non-existence of low spin tetrahedral complex using CFT. [6]
 (b) Define the following : [3]
 (i) Coordination number
 (ii) Chelate
 (iii) EAN.

P.T.O.

- (c) Write justification for coloured nature of transition metal compound. [3]

3. (a) What is precipitation titration ? Explain it by Fajans method. [6]
 (b) Explain strong acid, strong base titration with titration curve. [4]
 (c) 100 ml of 0.1 N weak acid ($K_a = 1.7 \times 10^{-5}$) is titrated against 0.2 N-NaOH. Calculate pH of titration mixture at 35 ml of NaOH. [3]

Or

4. (a) What is adsorption isotherm ? Explain Langmuir adsorption isotherm. [6]
 (b) Give mechanism of metal co-ordination compound catalysed reaction in methanol carboxylation. [4]
 (c) Explain mechanism of catalysis reaction involving formation of activated complex. [3]

5. (a) What is conformational isomerisms ? Give various conformation of butane. [5]
 (b) Give brief description of optical isomerism [4]
 (c) Assign R and S conformation in 2-chlorobutane. [3]

Or

6. (a) Explain Bayers strain theory for cycloalkanes. [5]
 (b) Explain geometrical isomerism in compound with one double bond. [4]
 (c) Define enantiomers and diastereomers with examples. [3]

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7. (a) What are the qualities of good drug ? [5]
(b) Give the synthesis of aspirin and paracetamol. [4]
(c) Explain meaning of : [4]
(i) Analgesis
(ii) Antipyretic.
- Or
8. (a) Give synthesis, properties and uses of : [5]
(i) Carbaryl
(ii) Parathion.
- (b) Give the structural formula, preparation uses of indole acetic acid. [4]
- (c) Define insecticides and give the classification of insecticides. [4]