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[5559]-215

S.E. (Chemi. Engg.) (Second Semester) EXAMINATION, 2019

CHEMISTRY—II

(2015 PATTERN)

Time : 2 Hours

Maximum Marks : 50

N.B. :— (i) Neat diagrams must be drawn wherever necessary.

(ii) Figures to the right indicate full marks.

(iii) Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.

(iv) Assume suitable data, if necessary.

Q. 1 (a) Write a note on: (a) Inversion of cane sugar (b) Mutarotation [6]

(b) What happen when glucose is treated with the following?

(i) Bromine water (ii) sodium borohydride (iii) phenyl hydrazine [3]

(c) Explain the formation of peptide linkage. [3]

OR

Q. 2 (a) Explain the non existence of low spin tetrahedral complex using CFT. [6]

(b) Define (i) Coordination number (ii) Chelate (iii) EAN [3]

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

Q. 3 (a) What is precipitation titration? Explain it using Fajans method. [6]

**(b) Explain the way to calculate pH before equivalence point for weak acid-
strong base** [3]

**(c) Calculate the pH of the solution after 24.90 ml of 0.200 M NaOH has been added to
50.00 ml of 0.100 M HCl** [3]

P.T.O.

OR

Q. 4 (a) what is adsorption isotherm? Explain the Langmuir adsorption isotherm. [6]

(b) Give mechanism of metal coordination compound catalysed reaction in Methanol carbonylation. [3]

(c) Explain mechanism of catalysis reaction involving formation of activated complex. [3]

Q. 5 (a) What is conformational isomerism? Give various conformation of butane. [5]

(b) Give brief description of optical isomerism. [4]

(c) Assign R and S conformation in 2- Chloro butane and lactic acid [4]

OR

Q. 6 (a) Explain various types of conformation in cyclohexane with their order of stability [5]

(b) Explain geometrical isomerism in compound with one double bond. [4]

(c) Define the terms enantiomers and diastereomers giving examples. [4]

Q. 7 (a) What are the qualities of good drug? [5]

(b) Give the synthesis of aspirin and paracetamol. [4]

(c) Explain the meaning of (i) Analgesic (ii) Antipyretic. [4]

OR

Q. 8 (a) Give synthesis, properties and uses of (i) Carbaryl (ii) parathion. [5]

(b) Give the structural formula, preparation uses of indole acetic acid. [4]

(c) Define insecticides and give the classification of insecticides [4]