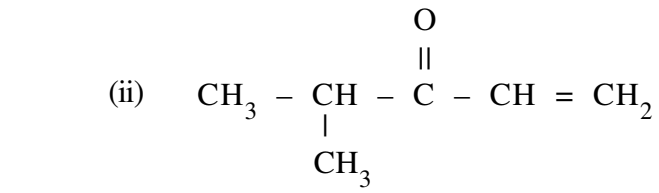
(ii) 

(7 + 8 + 5)

(OR)

6. (a) Explain Franck - Condon principle.

(b) Define coupling constant. Explain the factors which affect the coupling constant values.

(c) Discuss any two applications of Raman spectroscopy. (5 + 7 + 8)

UNIT - IV

7. (a) What is solubility product ? Discuss the applications of solubility product.

(b) Explain primary and secondary standards.

(c) Write a note on precipitation from homogeneous solutions. (10 + 5 + 5)

(OR)

Register Number :

Name of the Candidate :

5 2 4 9

B.Sc. DEGREE EXAMINATION, 2008

(APPLIED CHEMISTRY)

(THIRD YEAR)

(PART - III)

(PAPER - VI)

720. ANALYTICAL CHEMISTRY

(Including Lateral Entry)

December] [Time : 3 Hours

Maximum : 100 Marks

Answer ONE question from each Unit.
All questions carry equal marks.

UNIT - I

1. (a) Distinguish between :

(i) Mean and median.

(ii) Absolute and relative errors.

Turn over

(iii) Variance and standard deviation.

(iv) Indeterminate and determinate errors.

(v) Accuracy and precision.

(b) How are weights calibrated ?

(c) Write notes on significant figures.

(10 + 5 + 5)

(OR)

2. (a) Explain Gaussian distribution curve.

(b) Explain correlation co-efficient and linear regression. Give the method of least square fit for a given set of data.

(c) Describe the types of errors.

(5 + 8 + 7)

UNIT - II

3. (a) What is coulometry ? With suitable circuit diagrams, explain the different types of coulometric analysis.

(b) Explain the basic principle of fluorimetry and its any two applications.

(c) Write a note on half - wave potential.

(8 + 7 + 5)

(OR)

4. (a) Discuss the basis of amperometric titrations. Illustrate, taking suitable examples.

(b) Explain the instrumentation and any two applications of nephelometry.

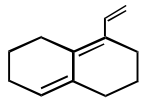
(c) Describe the basic principle of cyclic voltammetry. (7 + 6 + 7)

UNIT - III

5. (a) Describe the various types of electronic transistors.

(b) Explain the effect of hydrogen bonding in IR absorption of a compound.

(c) Calculate the λ_{max} values for the following compounds :

(i) 

8. (a) Write a note on choice of indicators.

(b) How are iron and nickel determined colorimetrically ?

(c) Write notes on :

(i) Common ion effect.

(ii) Co-precipitation. (5 + 8 + 7)

UNIT - V

9. (a) What is chromatography ? How is it classified ?

(b) Explain the principle and instrumentation of GC.

(c) Describe the basic principle and applications of TLC. (5 + 8 + 7)

(OR)

10. (a) Explain the carrier gas and sample injection in GC.

(b) Distinguish between column and partition chromatography.

(c) Give a brief account of spray reagents and R_f value. (6 + 8 + 6)

5

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http://www.howtoexam.com