SHREE H. N. SHUKLA GROUP OF COLLEGES

(AFFILIATED TO SAURASHTRA UNIVERSITY & GTU)

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Near Lalpari lake, Between
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M.Sc. Chemistry Semester I (CBCS)

C-104 Analytical chemistry

Question bank

Prepared by,

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Chapter 1

1. Give answer of the given questions (2 marks of each)

Q 1. Draw the standard curve for strong acid and base?

Q 2. What is indicator. Write example.

Q 3. Give the equation for calculation of molarity and molality.

Q 4. Calculate molarity and normality when 98 gm sugar dissolves in water to make total volume 500 ml.

Q 5. Give the classification of analytical method with examples.

Q 6. What is secondary standard used in analytical chemistry?

Q 7. What is gravimetric analysis?

2. Give answer of the given questions (3 marks of each)

Q 1. What is indicator? Give its classification.

Q 2. Explain Ostwald law for the neutralization indicators.

Q 3. How to calculate the pH range for basic indicator.

Q 4. What is standard compounds, give it classification?

Q 5. Give the types of solvents used in non aqueous titration.

Q 6. Explain the standard solution and gives its classification.

Q 7. Write down note about indicators used in complexometry titration.

Q 8. Write down Advantages of Non Aqueous Solvent over Aqueous Solvent.

3. Give answer of the given questions (7 marks of each)

Q 1. What is neutralization curve? Draw the curve and calculate pH for acid base titration of 100 ml 0.1 N HCl with 0.1 N NaOH at 0, 10, 25, 50, 90, 99, 99.9, 100 and 100.1 ml addition.

Q 2. What is neutralization curve? Draw the curve and calculate pH for acid base titration of 100 ml 0.1 N CH3COOH with 0.1 N NaOH at 0, 10, 25, 50, 90, 99, 99.9, 100 and 100.1 ml addition.

Q 3. What is neutralization curve? Draw the curve and calculate pH for acid base titration of 100 ml 0.1 N H3PO4 with 0.1 N NaOH at 0, 10, 25, 50, 90, 99, 99.9, 100 and 100.1 ml addition.

Q 4. What is complexometry curve? Draw the curve and calculate pMg for complexometry titration of 100 ml 0.1 N MgSO4 with 0.1 N EDTA at 0, 10, 25, 50, 90, 99, 99.9, 100 and 100.1 ml addition.

Q 5. What is redox titration? Draw the curve and calculate Ecell for Redox titration of 100 ml 0.1 N Fe+2 with 0.1 N Ce+4 at 0, 10, 25, 50, 90, 99, 99.9, 100 and 100.1 ml addition.

Q 6. What is argentometry titration. Calculate pAg for argentometry titration of 100 ml 0.1 N NaCl with 0.1 N AgNO3 at 0, 10, 25, 50, 90, 99, 99.9, 100 and 100.1 ml addition.

Chapter -2

1. **Give answer of the given questions (2 marks of each)**

Q 1. Give the principle of Atom absorption spectroscopy?

Q 2. Give the advantages of hollow cathode lamp.

Q 3. Give the advantages and disadvantages of EDL.

Q 4. Write down advantages of double beam spectrophotometer over single beam spectrophotometer.

Q 5. What is fluorescence?

Q 6. Write down difference between fluorescence and phosphoresce?

2. **Give answer of the given questions (3 marks of each)**

Q 1. Write short note about Hollow cathode lamp used in AAS.

Q 2. Explain the electrode discharge lamp used as light source in atom absorption spectroscopy?

Q 3. Write note about detector used in Atom absorption spectroscopy.

Q 4. Explain the Lambert beer law?

Q 5. Write note about light source used in flourimetry instruments.

3. **Give answer of the given questions (7 marks of each)**

Q 1. Draw the schematic diagram of double bean instrument of atom absorption spectroscopy and explain its components.

Q 2. Draw the schematic diagram of double bean instrument of atom absorption spectroscopy and explain its components?

Q 3. Write down about the note of factor affecting to the fluorescence.

Q 4. Write down note about application of fluorescence.

Q 5. Write note about The Becquerel or rotating disc phosphoroscope.

Q 6. What is The Rotating-Can Phosphoroscope used in phosphorimetry.

Chapter 3

1. **Give answer of the given questions (2 marks of each)**

   Q 1. Give the classification of oil and fats.

   Q 2. How to prepare Wij's solution?

   Q 3. How to determine free fatty acid present in the oil sample.

2. **Give answer of the given questions (3 marks of each)**

   Q 1. Write down note about sponification value.

   Q 2. How to determine acid value present in the oil/fat sample?

   Q 3. How to determine iodine value of oil and fats.

   Q 4. Write note about hydroxyl value present in the oil sample.

   Q 5. Write note about test used for determination of trace amount of cotton seed oil in the give sample.

3. **Give answer of the given questions (7 marks of each)**

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Q 1. What is RMPK value? Explain it?

Q 2. Write note about test used for determination of trace amount of sesam oil in the give sample.

Q 3. Write note about test used for determination of trace amount of Palm oil in the give sample.