

M.Sc.(Chem.) Semester - 1 (CBCS) Examination
Oct/Nov. -2019 - [OLD COURSE]
ANALYTICAL CHEMISTRY (CORE)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Q.1 Answer any seven of the following ten questions.**[14]**

1. State Lambert-Beer's law and give its equation.
2. Define the following terms: (a) Formality (b) Normality
3. Briefly explain about Lewis acid with suitable example.
4. What is parts per million (ppm)?
5. Give brief idea about indicators used in acid base titration.
6. How will you prepare 50 mL 30% w/v potassium chloride in water?
7. Give the classification of Analytical methods.
8. Give the principle of atomic absorption spectroscopy.
9. Explain equivalent weight giving suitable example.
10. Give an account of electromagnetic radiations.

Q.2 Answer any two of the following three questions.**[14]**

1. Discuss Fajan's method in detail.
2. Discuss various ways to minimize errors in titration.
3. Write a note on Hollow cathode lamp with schematic diagram.

Q.3 Answer the following questions.**[14]**

1. Write a note on Acid – Base theories
2. Discuss non-aqueous acidimetric titration with suitable example.

OR

Q.3 Answer the following questions.**[14]**

1. Write a note on Phosphoroscope with schematic diagram.
2. Give the principle and explain instrumentation of Fluorimeter.

Q.4 Answer the following questions.**[14]**

1. Discuss applications of atomic absorption spectroscopy.
2. What is Luminance? Distinguish between fluorescence and phosphorescence.

Q.5 Answer any two of the following four questions.**[14]**

1. Enlist various atomization methods used in Atomic emission spectroscopy and explain any one in detail.
2. Discuss various steps involved in quantitative analysis.
3. Explain indirect titration with suitable example.
4. Describe factors affecting Fluorescence and Phosphorescence.
