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Seat No : _____

M.Sc. Semester - 1 (CBCS) Examination

Oct/Nov. -2018

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 Marks]

1. Give the classification of Analytical methods.
2. Define the following terms: (a) Molality (b) Normality
3. What is the weight of 0.35 moles of Toluene?
4. How will you prepare 35 mL 20% w/v Sodium hydroxide in water?
5. Give the merits of non-aqueous titrations over aqueous titrations.
6. Give the principle of atomic absorption spectroscopy.
7. Explain equivalent weight giving suitable example.
8. Give an account of electromagnetic radiations.
9. State Lambert-Beer's law and give its equation.
10. What are Aprotic solvents? give its example.

Q.2 Answer any two of the following three questions.

[14 Marks]

1. Describe instrumentation of atomic absorption spectroscopy.
2. Write a note on Mohr's method for argentometric titration.
3. Discuss various steps involved in quantitative analysis.

Q.3 Answer the following questions.

[14 Marks]

1. Give the principle and explain instrumentation of Fluorimeter.
2. Discuss non-aqueous acidimetric titration with suitable example.

OR

Q.3 Answer the following questions.

[14 Marks]

1. Write a note on Phosphoroscope with schematic diagram.
2. Give an account of Redox titrations with suitable example.

Q.4 Answer the following questions.

[14 Marks]

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 Marks]

1. Discuss applications of fluorimetry in detail.
2. Explain indirect titration with suitable example.
3. Describe factors affecting Fluorescence and Phosphorescence.
4. Discuss various ways to minimize errors in titration.
