

1/04/2016



DOON UNIVERSITY, DEHRADUN
Mid Semester Examination, 2016
School of Environment & Natural Resources
M.Sc. (EVS & NRM), IInd Semester
Course: EES – 618: Analytical Techniques & Instrumentations

Time Allowed: 2 Hours

Maximum Marks: 30

Note: Attempt All Questions from Sections A,B,C.

SECTION : A (Short Answer Type Questions/ to be answered in about max 50 words).

Attempt any EIGHT questions.

(Marks: 1.25 x 8 = 10)

1. What is the difference between Nephelometry and Turbidimetry ?
2. Name any two classical qualitative techniques.
3. How scattering is related to particle size in a solution?
4. What is complexometric titration?
5. What is the difference between molar and equivalent conductance?
6. What is the principle of Flame Photometry?
7. Draw a titration curve between a strong acid and weak base.
8. What is potentiometry and what are its applications?
9. Define Conductivity?
10. List three advantages of modern analytical techniques over classical techniques.

SECTION : B (Short Answer Type Questions to be answered in about 100 words).

Attempt any FOUR questions.

(Marks: 2.5 x 4=10)

1. Differentiate between Reference and Indicator electrode.
2. What are the light sources used in UV-Vis spectrophotometers?
3. Write a note on Potentiometric titrations.
4. Explain Kjeldahl Analysis with reactions involved.
5. What are the different parameters which affect photometric measurements?

SECTION : C (Medium Answer Type Questions to be answered in about 150 words).

Attempt any TWO questions.

(Marks: 5 x 2=10)

1. Describe principle, instrumentation, and applications of UV Spectrophotometry.
2. Explain the principle, instrumentation and applications of potentiometry.
3. What is Conductometry? Explain its principle, instrumentation and applications.