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SECOND SEMESTER

END SEMESTER EXAMINATION

AC-104 APPLIED CHEMISTRY

Roll No.

B. Tech.

May-2019

Time: 3 Hours

Max. Marks: 70

Note: Answer any TEN questions. All questions carry equal marks
Assume suitable missing data, if any.

- 1 Define and classify titration. Discuss theory of indicators by taking the example of any one suitable indicator.
- 2 What is the importance of thermal method of analysis? Draw and write the significance of TGA thermograms.
- 3 What do you understand by DTA? Explain its thermogram by taking any suitable example.
- 4 Discuss two methods involved in precipitation titration.
- 5 State and derive Lambert's Beer's Law. Write four important limitations of the given Law.
- 6 Write the IR frequencies for -OH; >C=O; -NO₂ and -CH in cm⁻¹. Differentiate between intra and inter molecular hydrogen bonding using IR spectroscopy.
- 7 Explain the mechanism of coordination polymerization by taking any suitable example. Write significance of this method.
- 8 Write short note on 'Proteins'.
- 9 What do you understand by Gibbs phase rule? Define triple point. Draw and explain the phase diagram of water in detail.
- 10 Write any seven principles of green chemistry. Explain any one in detail.
- 11 What do you understand by secondary batteries? Write the chemical reactions involved in Lead-Acid battery.
- 12 Write short note on *any two* of the following:
 - (i) Electroplating or Electrodeposition
 - (ii) Free-radical polymerization
 - (iii) Characteristics of batteries