Code No. 9004/E

FACULTY OF SCIENCE

B.Sc. I-Semester (CBCS) Examination, November / December 2019

Subject : Chemistry

Paper – I

Time : 3 Hours Max. Marks: 80

PART – A (8 x 4 = 32 Marks)
(Short Answer Type)
Note : Answer any EIGHT of the following questions.

1 Explain Fajan's rule with examples.
2 Explain the structure of Diborane.
3 Write the differences between Bonding and Anti-Bonding Molecular Orbitals (BMOs and ABMOs).
4 What is Inductive effect?
5 Explain Markonikoff's rule with mechanism.
6 Write a short note on Diels – Alder reaction with example.
7 Derive and explain de-Broglie's wave theorem.
8 Why gases deviates from ideal behaviour ? Explain.
9 Write about Raoults law.
10 Explain common ion effect with example.
11 Write the differences between enantiomers and diastereomers.
12 What is sodium carbonate extract?

PART – B (4 x 12 = 48 Marks)
(Essay Answer Type)
Note: Answer ALL from the questions.

13 (a) Draw MOED of NO. Explain the magnetic character and Bond order.
OR
(b) What are silicones? Explain the different types of silicones.

14 (a) What is Mesomeric effect? Explain the acidity of Phenol.
OR
(b) Explain Friedel-Crafts Alkylation and Acylation with mechanism and examples.

15 (a) Define surface tension and explain its determination by Stalagmometer.
OR
(b) Explain Joul-Thompson effect and liquification of gases by Linde's process.

16 (a) Explain Bayer-strain theory (BST).
OR
(b) Derive Bragg's equation.

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