Date: 3-Feb-2020

CGC-Chandigarh College Of Engineering (Landran Mohali)
Department of Applied sciences
Critical Test I
Chemistry (BTCH-101-18)
II[nd] Semester (CSE/ IT)
Even Semester (2020-21)

Time: 1hr
Max Marks: 12 **Roll No** | | | | | | | |

Note: Section A is compulsory and each question carry 2marks.
Attempt any 2 questions from Section B each question carry 4 marks.

At the end of this course the student will be able to:

	Course Outcomes
1	Learn about concepts related to atomic and molecular structures as well as different types of intermolecular forces.
2	Justify various thermodynamic functions and chemical equilibria equations.
3	Rationalize different spectroscopic techniques and their basic applications.
4	Study about various periodic properties of elements like ionization energy, electron affinity and electronegativity.
5	Understand the basic concepts related to major chemical reactions that are used in synthesis of commonly used drug molecules.
6	Learn about fundamental concepts of stereochemistry.

Section A:

Q.1. Write any two postulates of VSEPR theory

CO = 4 (1+1 = 2Marks)

Q.2. Define the terms: (i) Chromophores (ii) Auxochromes

CO = 3 (1+1 = 2Marks)

(2+2 = 4Marks)

Section B:

Q.3. On the basis of VSEPR theory Draw the shapes of: (i) H_2O (ii) XeF_4 (iii) PCl_5 (iv) BF_3

CO = 4 (1+1+1+1 = 4Marks)

Q.4. What is the principle of electronic spectroscopy? What are the types of electronic transitions responsible for electronic spectroscopy? CO = 3 (1+3 = 4Marks)

Q. 5 (i) Define the following :(a) Bathochromic shift (b)Hyperchromic shift

CO = 3 (1+1 = 2Marks)

(ii) Explain: (a) HSAB Principle (b) Effective nuclear charge

CO = 4(1+1 = 2Marks)

(4×2 = 8Marks)