

(AUTONOMOUS)  
BSc DEGREE EXAMINATION DECEMBER 2017  
(Third Semester)

Branch - PHYSICS

CHEMISTRY -1

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 x 2 = 20)

- 1 Give the structure of SF<sub>6</sub>.
- 2 What is EAN rule?
- 3 State Isoprene rule.
- 4 Name the monomers in the following polymers : (i) PVC (ii) PAN.
- 5 What is meant by symmetry elements?
- 6 Give any one example for BCC and FCC crystals.
- 7 Define Rate law.
- 8 Derive an expression for the half life period of second order reaction.
- 9 Give any two non-conventional sources of energy.
- 10 Differentiate between p- and n- type semiconductors.

SECTION - B 125 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- 11 a Write short notes on VSEPR theory.  
OR  
b Explain the Werner's coordination theory.
- 12 a Explain the isolation of piperine and nicotine. Mention any two uses for each.  
OR  
How are dyes classified according to their applications? Explain any two types with examples.
- 13 a Briefly explain the Weiss and Miller indices.  
OR  
b Give an account of: (i) Isomorphism (ii) Polymorphism.
- 14 a How will you distinguish between order and molecularity of a reaction?  
OR  
b Write short notes on complex thermal reactions.
- 15 a Give a short note on the four segments of environment.  
OR  
Explain the radioactive pollution and its effects.

SECTION - C (30 Marks)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 a Write a note on peracids of sulphur. (5)
- b Give the analytical application of coordination compounds. (5)
- 17 a Explain the isolation and uses of Camphor. (5)
- b Describe the preparation and uses of Teflon and Polyester. (5)
- 18 Explain the nature of unit cells of NaCl, diamond and graphite. (4 + 3 + 3)
- 19a Discuss any one method of determining the order of a reaction. (5)
- b Discuss the hydrolysis of ethyl acetate and inversion of cane sugar. (5)
- 20 a Explain the role of semiconductors in alternate energy. (5)
- b Give an account on silicon solar cell. (5)

Z-Z-Z

END