Reg. No. : .....

Name : .....

K19U 3171

I Semester B.Sc. Degree (CBCSS-Supplementary / Improvement) Examination, November - 2019

(2014-2018 Admissions)

CORE COURSE IN CHEMISTRY

1B01CHE: THEORETICAL AND INORGANIC CHEMISTRY

Time : 3 Hours

Max. Marks : 40

SECTION - A

Answer **All** questions. Each question carries **one** mark. **(4x1=4)**

1. What is meant by Constant error?
2. Define lattice energy.
3. What is meant by Q value?
4. State Aufbau principle.

SECTION - B

(Answer any **Seven** questions. Each question carries **two** marks.) **(7x2=14)**

5. Write Schrdinger wave equation and explain the terms.
6. What are cyclotrons?
7. What is meant by confidence limit? What is its significance?
8. Explain sp hybridization with a suitable example.
9. Sketch the shapes of d orbitals.
10. Explain photoelectric effect.
11. What is meant by packing fraction?
12. Explain standard deviation and relative standard deviation.
13. What are London forces?

P.T.O.

14. What are significant figures? List out the no of significant figures in
a) 0.000248 b) 400.8

SECTION - C

Answer any **Four** questions. Each question carries **Three** marks. **(4x3=12)**

15. Explain student t test.
16. Apply VSEPR theory to explain the shapes of NH_3 ,ClF_3 and PCl_5.
17. What are the factors affecting ionic bond formation?
18. Explain the working of Wilson cloud chamber.
19. What are the postulates of Quantum mechanics?
20. Give an account of breeder reactor.

SECTION - D

(Answer any **Two** questions. Each question carries **Five** marks.**(2x5=10)**

21. Derive Born Lande equation.
22. a) What are the postulate of Bohr theory.
b) What are quantum numbers?
23. What are radioactive tracers? Explain their application in the field of medicine and agriculture.
24. a) Explain the classification of errors?
b) How can you minimize systematic error?
