

Reg. No:.....

Name.....

BSc DEGREE END SEMESTER EXAMINATION, MARCH 2016

(2015 admission)

SEMESTER -2: CHEMISTRY**COURSE: 15U2CRCHE2 - THEORETICAL AND INORGANIC CHEMISTRY II**

Time: Three Hours

Maximum Marks: 60

Section A*Answer all questions, each question carries 1 mark*

1. Among halogens, the element having highest electron affinity is -----
2. A molecule which possess trigonal planar shape is -----
3. The most polar molecule among HI, HCl, HBr and HF is -----
4. The molecule having lowest bond length among N₂, O₂, and F₂ is -----
5. In an insulator, the ----- band is completely filled.
6. If $^{238}_{92}\text{U}$ emits 8 alpha particles and 6 beta particles the product formed will be...
7. If 2 g of a radioisotope decays to 1g in 7 days , 1g of the sample will become 0.25g in -----days
8. In inorganic qualitative analysis, the cations of analytical group III are precipitated as their----- (1 x 8 = 8)

Section B*Answer any six questions, each question carries 2 marks*

9. Distinguish between the terms 'atomic radius' and 'covalent radius.'
10. Give the 4 major conditions that favour ionic bond formation.
11. Write down the Born-Landé equation for calculating the lattice energy per mole of an ionic crystal?
12. Explain 'metallic lusture' on the basis of free electron theory.
13. Differentiate between 'bonding' and 'antibonding' molecular orbitals.
14. Explain the term 'radioactive equilibrium.'
15. Explain packing fraction.
16. Define 'R_f value'. How is it useful in identification of a compound?

(2 x 6 = 12)

Section C

