



M 7838

Reg. No

Name :

I Semester B.Sc. Degree (CCSS – Regular) Examination, November 2014
(2014 Admn.)

COMPLEMENTARY COURSE IN CHEMISTRY
1C01 CHE : Chemistry (for Physical and Biological Sciences)

Time: 3 Hours

Max. Marks : 35

SECTION – A

Answer **all** questions. **Each** question carries **1** mark.

1. What is meant by conductivity of an electrolytic solution ?
2. Define ionization enthalpy. How does it vary along a group ?
3. Name the segments of the environment.
4. Define lattice energy.
5. State modern periodic law.

(1×5=5)

SECTION – B

Answer **any four** questions. **Each** question carries **2** marks.

6. State Faradays laws of electrolysis.
7. Describe the methods for the minimization of radiation pollution.
8. Draw the MO diagram for N_2 and calculate bond order.
9. The uncertainty in the position of a moving bullet of mass 10 gm is 10^{-5} m. Calculate the uncertainty in velocity.
10. Explain the term eutrophication.
11. Give any three characteristics of d block elements.

(2×4=8)

P.T.O.



SECTION – C

Answer **any three** questions. **Each** question carries **4** marks.

12. The resistance of a 0.05 N NaCl is found to be 203 ohms at 18°C. The cell constant is 0.9715 cm^{-1} . Calculate the equivalent conductance.
13. What are the important water quality parameters ?
14. Derive deBroglie relation. What is its importance ?
15. How Born Haber cycle is useful for calculating lattice energy of NaCl ?
16. What is meant by magnetic quantum number ? What is its significance ? (4×3=12)

SECTION – D

Answer **any two** questions. **Each** question carries **5** marks.

17. State and explain Kohlrauschs law. What are its applications ? 5
 18. a) Explain the features of molecular orbital theory. 3
b) Write a note on hydrogen bonding. 2
 19. a) What are the merits and demerits of Bohr atom model ? 4
b) Explain the significance of wave function. 1
 20. a) Explain the factors responsible for water pollution. 3
b) What are the control measures ? 2
- (5×2=10)