Reg. No. : ...............................

Name : ...............................

K19U 2461

III Semester B.Sc Degree (CBCSS.Reg./Sup./Imp.)
Examination, November - 2019
(2014 Admn. Onwards)
COMPLEMENTARY COURSE IN CHEMISTRY
3C03 CHE (PS) : CHEMISTRY (FOR PHYSICAL SCIENCES)

Time : 3 Hours

Max. Marks : 32

## Section-A

Answer **All** questions. Each question carries **1** mark.           (5×1=5)

1. What are isotones? Give example.

2. Give one example of a bidentate ligand.

3. Name any two ores of nickel.

4. What is meant by homologous series?

5. What are isobaric processes?

## Section-B

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

(4×2=8)

6. Give any two applications of uv spectroscopy?

7. Explain the aromaticity of benzene on the basis of Huckels rule.

8. What is meant by mass defect and binding energy?

9. State and explain first law of thermodynamics.

10. What is meant by EAN? Explain giving examples.

11. Explain froath flotation.

## Section-C

Answer any **Three** questions. Each question carries **3** marks.

(3×3=9)

12. Explain the following:

    a) Stokes and antistokes lines.

    b) Fingerprint region.

13. Explain structure of benzene.

14. What are spontaneous and non spontaneous processes? What are the criterion for spontaneity?

15. Discuss the Werners theory.

16. A wooden sample shows a C-14 activity of 1.6 disintegration per minute per gram of carbon A freshly cut wood shows an activity of 15.2 disintegration per minute per gram of carbon. Calculate the age the sample (Half life C-14=5770 years)

## Section-D

Answer any **Two** questions. Each question carries **5** marks.    (2×5=10)

17. Discuss the applications of radioisotopes in agriculture and medicine.

18. Explain the factors affecting the stability of complexes.

19. Discuss the theory of vibrational spectra.

20. What are the electron displacement effects? Explain any two.

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