Reg. No..... Name.....

B.Sc. DEGREE END SEMESTER EXAMINATION MARCH 2017

SEMESTER – 2: CHEMISTRY (COMPLEMENTARY COURSE FOR PHYSICS, BOTANY & ZOOLOGY)

COURSE: U2CPCHE2: BASIC ORGANIC CHEMISTRY

(For Supplementary - 2014 Admission)

Time: Three Hour Max. Marks: 60

PART A

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

1. Give an example of a neutral nucleophile.
2. Which among the following is a non polar molecule. A. H_2 B. CO_2C. CCl_4D. All of them
3. Define the term 'Stereogenic centre'.
4. Monomer unit present in natural rubber is.....
5. Name the catalyst used in Friedel- Crafts alkylation reaction.
6. Give an example for a copolymer.
7. The most stable conformer of n-butane is.....
8. The electrophile in the nitration of benzene is..... .

(1 × 8 = 8)

PART B

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

9. What are the free radicals? How are they formed?
10. Represent the E and Z isomers of 2-chloro-but-2-ene.
11. What are LDPE and HDPE? How are they prepared?
12. What is the reason for the stability of allyl and benzyl carbocations?
13. What are condensation polymerization? Give an example.
14. Sketch the conformers of ethane. Which form is more stable?
15. Write the mechanism of the nitration on benzene.
16. What is a biodegradable polymer? Give an example.

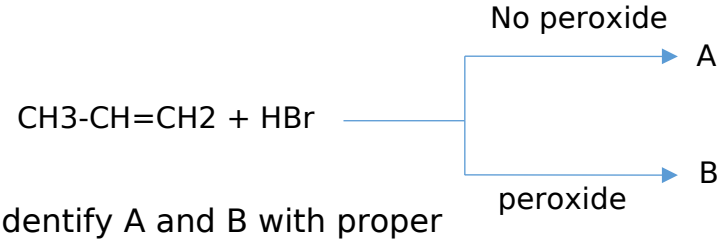
(2 × 6 = 12)

PART C

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

17. Differentiate between addition and condensation polymerization.
18. What is PVC? How is it prepared? Comment on its properties.
19. Distinguish between enantiomers and diasteromers citing tartaric acid as an example.
20. Discuss in detail how the cis-trans configuration of molecules can be determined.

21.



Identify A and B with proper explanation.

22. Give the different structures possible in the Sawhorse and Newman projection formulae for butane.

(5 × 4 = 20)

PART D

*Answer **any** **two** questions. Each question carries 10 marks*

23. Discuss S_N1 and S_N2 mechanisms and the stereochemistry involved with suitable examples.

24. Discuss the conformation isomerism in cyclohexane and explain the relative stability of the conformers.

25. A) Discuss briefly on Geometrical and optical isomers. (5)

B) Discuss the mechanism of E1 and E2 elimination reactions. (5)

26. Discuss in detail the various electrons displacement effects observed in organic molecules with examples.

(10 x 2 = 20)

****