S.No. 132 BATCH: 2015, 2016 Reg.No:

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END OF SEMESTER EXAMINATIONS, NOVEMBER – 2017
ORGANIC CHEMISTRY - III
SUBJECT CODE: 15P3CH10

MAJOR : M. Sc [Chemistry] SEMESTER : III
TIME : 3 HOURS MAX. MARKS: 70

SECTION – A (10 x 1 = 10 Marks)

Answer All the Questions:

1. How do you find out the presence of methoxyl group and their numbers?
2. Mention the purpose of Hofmann's exhaustive methylation method.
3. Write down the structure of the products obtained when cholesterol is distilled with selenium at 360° C and 420° C.
4. Write down the products of ozonolysis of vitamin D_2.
5. State isoprene rule.
6. How do you prove that caryophyllene is a bicyclic compound and contains two double bonds?
7. Give a method of preparation of l-phenylethanol using Grignard reagent.
8. What is umpolung? Give an example.
9. Define synthon. Give an example.
10. What are synthetic equivalents? Give an example.

SECTION – B (5 x 4 = 20 Marks)

Answer All the Questions:

11. (a). Give the synthesis of morphine.

[OR]

(b). Elucidate the structure of brucine.

12. (a). Elucidate the structure of ergosterol.

[OR]

(b). Establish the position of hydroxyl group and double bond in cholesterol.

13. (a). Elucidate the structure of zingiberene.

[OR]

(b). Give the synthesis of caryophyllene.

14. (a). i) Ozonolysis of an organic compound gives ethanol, propanone and ethanedial. Predict the structure of the compound.

ii) How do you convert propene into propan – 1 – ol and 3 – bromoprop – 1 – ene?

(b). Suggest a suitable reagent with mechanism for *cis* and *trans* hydroxylation of an alkene.

15. (a). Explain chemoselectivity with two examples.

[OR]

(b). What is FGI? Illustrate it with any three examples.

SECTION – C (5 x 8 = 40 Marks)

Answer All the Questions:

16. (a). Elucidate the structure and give the synthesis of quinine.

[OR]

(b). Establish the structure of thebaine and give its synthesis.

17. (a). Elucidate the structure of oestrone and give its synthesis.

[OR]

(b). i). Establish the nature and position of side chain in cholesterol.

ii). How do you convert cholesterol into testosterone?

18. (a). Elucidate the structure of β - eudesmol give its synthesis.

[OR]

(b). Establish the structure of abetic acid and give its synthesis.

19. (a). Describe the synthetic utility of DCC, LDA and Baker's yeast.

[OR]

(b). Discuss Witting reaction and sharpless asymmetric epoxidation.

20. (a). What is retrosynthesis? Discuss the guidelines to perform a reasonable retrosynthesis.

[OR]

(b). Illustrate one group C-X and C-C disconnections with examples.

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