

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 7937

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Unique Paper Code : 2173550010

Name of the Paper : FUNDAMENTALS OF NATURAL PRODUCTS

Name of the Course : **B.Sc. (Hons.)**

Semester : VIII

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. **All** questions have equal marks.
3. Attempt any **four** questions in all.

1. (i) Discuss the scope and modern relevance of natural product chemistry in drug discovery with suitable examples.

(ii) Explain primary and secondary metabolites with relevant examples.

(iii) Describe Shikimic acid pathway in detail. (5,5,5)

2. (i) Explain isoprene rule with suitable examples.

(ii) Discuss the synthesis of LSD.

(iii) Explain the principle and working of steam distillation in detail with diagram. (5,5,5)

3. (i) What are alkaloids? Discuss its classification.

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- (ii) Explain biosynthesis of Berberine and discuss its importance.
 - (iii) What is the importance of GC-MS in natural product analysis? (5,5,5)
4. (i) Define steroids? Discuss its biological functions.
- (ii) Give the structure of artemisinin and explain its pharmacological importance?
 - (iii) Explain in detail any two chromatography techniques used in natural product analysis. (5,5,5)
5. (i) Write short notes on :
- (a) Polyketides
 - (b) Phenolic compounds
 - (c) Applications of Natural products in medicine (5,5,5)
6. (i) Give the structures of two terpenoids which follows isoprene rule.
- (ii) Give the full form and structure of IPP and DMAPP.
 - (iii) Discuss the sources of natural products in details. (5,5,5)