

**Ph.D. IN LIFE SCIENCES
(PHDLS)**

Term-End Examination

00051

December, 2017

RLSE-118 : NATURAL PLANT PRODUCTS

Time : 3 hours

Maximum Marks : 100

Note : Attempt any **five** of the following questions.

All questions carry equal marks.

1. What are Essential Oils ? What are the methods for value addition in essential oils ? Discuss any one of them. 20

2. Write short notes on any **four** of the following : 20
 - (a) Acid Value
 - (b) Ester Value
 - (c) Carbonyl Value
 - (d) Optical Rotation
 - (e) Refractive Index

3. (a) Describe the methods of upscaling of essential oils from lab to industrial scale. 10
- (b) "Alkaloids are used as abuse drugs." Comment. 10
4. Describe the general isolation strategy of natural products. What is its importance in human life ? 20
5. Write the biosynthesis of Lanosterol. Give the detailed reaction mechanism of all the important steps involved in biosynthesis. 20
6. (a) What are the different types of natural products ? Give the main functions of each. 10
- (b) Write the biosynthesis of Squalene. 10
7. (a) Write the typical process of drug discovery from natural sources. 10
- (b) Differentiate between Water distillation and Steam distillation. Give the disadvantages of water distillation. 10
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