M.Sc. (FINAL) EXAMINATION, 2017

CHEMISTRY

Paper : VIII(b) Group - B (Heterocyclies and Natural Products)

Time Allowed : Three Hours | Max. Marks : 100

UNIT-I

Describe principles of heterocyclic synthesis with reference to synthesis and reactions aziridines and oxiranes.

Write notes on :

(a) Ring current and chemical shifts in H NMR-Spectra.

(b) Conformation of six membered heterocycles in reference to molecular geometry and barrier to ring inversion.

UNIT-II

Write synthesis reactions and medicinal applications of benzopyrroles and benzothiophenes.

(a) Write synthesis of :

(i) Diazepines

(ii) Diazocines

(b) Write reactions of :

(i) Azodines

(ii) Thiazipine

UNIT-III

Determine the structure of α-terpeneol. Confirm the structure by giving an unambiguous synthesis of it.

Write notes on :

(a) Classification and nomen clature of terpenoids

(b) Biosynthesis of citral

UNIT-IV

7. (a) What do you understand by Hoffman Exhaustive Methylation? Is it useful in structure determination of alkaloids?

(b) Give structures and one synthesis of morphine.

8. Write notes on :

(a) Role of alkaloids in Plants

(b) Synthesis of haemoglobin

UNIT-V

9. Determine the structure of testosterone. Give one synthesis to p its structure.

10. Write short notes on :

(i) Isolation and synthesis of myrectin

(ii) Size of ring A in cholestrol.