

Roll No. :

Total No. of Questions : 11]

[Total No. of Printed Pages : 3

BFMS-428

M.Sc. (Final) Examination, 2023

CHEMISTRY

Paper - VIII (B)

(Group-B)

CH-506

(Heterocyclics and Natural Products)

Time : 3 Hours]

[Maximum Marks : 75

Section-A

(Marks : 2 × 10 = 20)

Note :- Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

Section-B

(Marks : 5 × 5 = 25)

Note :- Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **5** marks.

Section-C

(Marks : 10 × 3 = 30)

Note :- Answer any *three* questions out of five (Answer limit **500** words). Each question carries **10** marks.

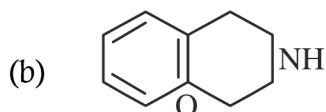
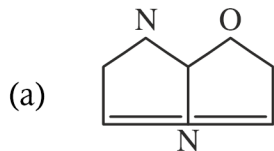
BRI-740

(1)

BFMS-428 P.T.O.

Section-A

1. (i) Write the name of the following compounds by Hantzsch-Widman system :



- (ii) Explain the chemical shift with reference to NMR spectra in Aromatic Heterocycles.
- (iii) How will you obtain Indoline from Indole ?
- (iv) Write down the structure of a Tobacco Alkaloid.
- (v) Explain the mechanism of Houben-Hoesch reaction.
- (vi) Explain the isoprene rule.
- (vii) Write the structure of morphine.
- (viii) Explain the biological applications of chlorophyll.
- (ix) Write down the structure of aldosterone.
- (x) Write the structure of myrcetin.

Section-B

2. Discuss the tautomerism in heterocycles.

Or

Explain Pyramidal Inversion.

3. Write a note on Hetero-Diel's Alder Reaction.

Or

Write down the methods of synthesis of Benzofuran.

4. Write the synthesis and biological importance of Azocines.

Or

Write the synthesis of dithiocine.

5. Explain the physiological action and uses of ephedrine.

Or

Write the synthesis of terpineol.

6. Discuss the role of alkaloids in plants.

Or

Write the synthesis of cholesterol.

Section-C

7. Discuss the synthesis methods for Aziridines.
8. Discuss the synthesis methods for thiazepines.
9. Give the bio-synthesis for Santonine.
10. Describe the structure, synthesis and biological function of Haemoglobin.
11. Discuss the isolation and synthesis for myrcetin.