



EBB-303001

Seat No. _____

M. Sc. (Sem. III) Examination

November / December - 2021

**MSC1C301 : Natural Product & Biomolecules
(New Course)**

Time : 3 Hours]

[Total Marks : 70

Instructions :

- (1) All question are **compulsory**.
- (2) Figures to **right** indicate full marks.

1 Answer the following :

- (a) Classification of natural pigment based on source and structure unit. 7

OR

Give evidence for the presence of porphyrin nucleous on chlorophyll and derive Conclusion. 7

- (b) Discuss the Reductive degradation of haemin with tin and hydrochloric acid and give Synthesis of any one degraded product. 7

OR

What is Anthrocyanine ? Give synthesis of Anthrocyanine and Flavone. 7

2 Answer the following :

- (a) Prove the linkage between Quininic acid and Meroquinine in Quinine. Prove the Structure and synthesis of Quininic acid 7

OR

Discuss the Structure of Quinine and give the synthesis of Quininic acid. 7

- (b) Discuss the Structure and biochemical function of vitamin-B. 7

OR

Discuss the Structure of L-Ascorbic acid and give the synthesis of vitamin-C. 7

3 Answer the following :

- (a) What is Barbies -Wieland degradation ? How it is important to establish the Structure of side in Cholesterol ? 7

OR

Give evidence for the nature and position of double bond in Ergosterol and Discuss the position of angular methyl group in Cholesterol. 7

- (b) Explain the chemistry of oestrogens and their synthesis and their inter-conversion Among oestrone, oestriol and oestradiol. 7

OR

Classify sex hormones giving one example of each. Give synthesis of progesterone. 7

4 Answer the following :

- (a) How will you prove the position of double bonds in abeitic acid. Give the chemical Reaction of abeitic acid with Acidic KMnO_4 . 7

OR

Give the synthesis of Farnesol and give conversion of Farnesol to Farnesenic acid. 7

- (b) Give degradation product of gibberic acid and prove the structure of allogiberic acid Analytically. 7

OR

Discuss the ozonolysis and nature of double bond in zingiberine. Discuss the oxidation of retene and conclusion. 7

5 Answer the following in brief.

14

- (1) What are the four nature source of pigment ?
 - (2) What is anthocyanin pigment ?
 - (3) What is Blanc's rule ?
 - (4) What is chlorophyll formula ?
 - (5) Define Alkaloid with suitable example.
 - (6) What is vitamin and its types ?
 - (7) Give the structure of vitamin-H.
 - (8) Give the structure of chrysene and picene.
 - (9) Show special isoprene rule in Abeitic acid.
 - (10) What is chemical name of Reserpine.
 - (11) What is weerman test ?
 - (12) What is sex hormones ?
 - (13) What is difference between terpenes and terpenoids ?
 - (14) Give the structure of farnesol with its IUPAC name.
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