

M.Sc. Semester-III, Examination, November, 2014
Organic Chemistry, Paper X,
Natural Products-I, Subject Code: 3488

Time: 2.5hrs]

[Marks: 70

- N.B. (i) Attempt all questions.
(ii) All questions carry equal marks
-

- Q.1. (a) Discuss analytical evidences to prove the structure of lactose. 8
(b) What are polysaccharides? Discuss the chemistry of cellulose in detail. 6
OR
- Q.1. (a) What is mutarotation? Give evidences to prove the ring structure of glucose in detail. 8
(b) What is glycosidic linkage? Elucidate the constitution of amygdalin. 6
- Q.2. (a) Discuss analytical evidences to prove the structure of β -tocopherol. 8
(b) Explain classification of vitamins and describe the deficiency diseases of various vitamins. 6
OR
- Q.2. (a) Discuss analytical evidences to prove the constitution of vitamin C. 8
(b) Give the synthesis of α -tocopherol. 6
- Q.3. (a) Discuss analytical evidences to prove the constitution of quinine. 8
(b) Explain the existence of (-N-CO-CH₂) group in strychnine. 6
OR
- Q.3. (a) Discuss analytical evidences to prove the structure of narcotine. 8
(b) Give the synthesis of atropine. 6
- Q.4. What are amino acids? Give the structure of the following amino acids and classify them on the basis of nature, function and property. 8
(i) Glutamic acid (ii) Thyroxine (iii) Threonine (iv) Histidine
(b) Give the synthesis of the following tripeptide by Fischer method given in 1915
H-Leu-Ser-Val-OH 6
OR
- Q.4. (a) Describe Edman's method and Schlack- Kumpf's method employed for determining the sequence of amino acid in polypeptide. 8
(b) Describe Sheehan's method for the synthesis of polypeptide. 6
- Q.5. (a) Discuss analytical evidences to prove the constitution of farnesol. 8
(b) What is isoprene? Explain isoprene rule and its importance in isoprenoid chemistry and their structure determination. 6
OR
- Q.5. (a) Discuss analytical evidences to prove the structure of cadinene. 8
(b) Prove the existence of one double bond and primary alcoholic group in phytol. 6