

M.Sc. Semester-III, Examination, November, 2015  
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
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- Q. 1. Explain 'D' and 'L' configurations and  $\alpha$ - &  $\beta$ - glycosidic linkages. Elucidate the structure of maltose. 14
- OR
- Q. 1. Answer the following: 14
- (1) Describe chemistry of lactose.
- (2) Constitutions of salicin and amygdalin.
- Q.2. (A) Discuss the analytical evidences to prove the constitution of Vitamin-A<sub>1</sub>. 9
- (B) Give the synthesis of Vitamin C. 5
- OR
- Q.2. (A) Discuss the analytical evidences to prove the constitution of Vitamin-K<sub>1</sub>. 9
- (B) Give the synthesis of Vitamin-A<sub>1</sub>. 5
- Q.3. (A) Discuss the analytical evidences to prove the structure of meroquinene. 9
- (B) Give the synthesis of meconine. 5
- OR
- Q.3. (A) Discuss the analytical evidences to prove the structure of cotarnine. 9
- (B) Prove the existence of methylene dioxy (-O-CH<sub>2</sub>-O) group in narcotine. 5
- Q4. (A) Explain the modern approach for the synthesis of polypeptide. 8
- (B) Give the structure of following  $\alpha$ - amino acids and classify them on the basis of nature, function and property: 6
- (1) Leucine (2) Thyroxine (3) Glutamic acid (4) Histidine
- OR
- Q.4. (A) Describe Sanger's method and Dansyl's method employed for determining the sequence of amino acids in polypeptide. Give limitations of both the methods. 8
- (B) Describe Fischer's method given in 1915 for the synthesis of polypeptide. 6
- Q.5. (A) Elucidate the constitution of cadinene. 9
- (B) Give the synthesis of farnesol. 5
- OR
- Q.5. (A) Elucidate the constitution of phytol. 9
- (B) Prove the existence of three double bonds and primary alcoholic group in farnesol. 5