

[105]

SEAT No. _____

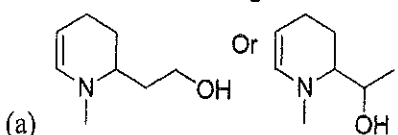
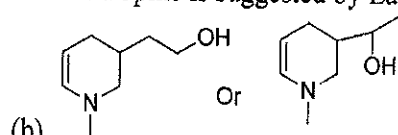
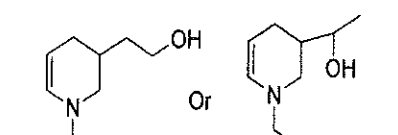
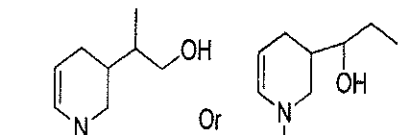
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Sardar Patel University, Vallabh Vidyanagar
 External Examination-2019
 M. Sc. Semester -IV (Organic Chemistry)
 Natural Products (PS04CORC21)

Day: Monday
 Date: 18-03-2019

Time: 2-00 p.m. to 5-00 p.m.
 Marks: 70

Que:1 Choose the correct answer from the following multiple choice of questions (MCQ) [8]

- (i) Which of the following working group used 2-methylcyclohexanone as a starting material for the synthesis of Retinol?
 (a) Isler et.al (b) Dorp et.al. (c) Attenburrow et.al. (d) Karrer et. al.
- (ii) Which of the following compound is produced, when monomethylpyridoxine is treated with alkaline KMnO_4 ?
 (a) pyridine-tricarboxylic acid (b) methoxypyridine-tricarboxylic acid
 (c) pyridine-dicarboxylic acid (d) methylpyridine-tricarboxylic acid
- (iii) Which of the following compound is treated with CrO_3 and H_2SO_4 to gives meroquinene?
 (a) Cincholoipone (b) 2-vinyl-3-methylquinuclidine
 (c) 2-methylquinuclidine (d) 3-vinylquinuclidine
- (iv) Which of the following alternative formula for tropine is suggested by Ladenburg?
- (a) 
- (b) 
- (c) 
- (d) 
- (v) In exceptional cases, which of the following compound is not joined head to tail fashion?
 (a) β -eudesmol (b) Cadalene (c) Eremophilone (d) α -cadinene
- (vi) Catalytical reduction of β -Eudesmol produced
 (a) monohydro compound (b) trihydro compound
 (c) dihydro compound (d) tetrahydro compound
- (vii) Which of the following -OH group positions are correct one in deoxycholic acid?
 (a) $3\alpha, 7\alpha, 12\alpha$ (b) $3\alpha, 12\alpha$ (c) $3\alpha, 7\alpha,$ (d) $3\alpha, 6\alpha$
- (viii) Which of the following compound having tricarbonyl functionality?
 (a) Testosterone (b) Oestrone (c) Cortisone (d) Etiobilianic acid

①

(P.T.O.)

- Que:2** (a) **Answer the following. [Any seven]** [14]
- Give the synthesis of Pimelic acid from Vitamin H.
 - Draw the structure of Riboflavin and brief their properties.
 - Explain: the presence of ether linkage in Morphenol.
 - Give the importance of "Emde modification" in determination of alkaloids.
 - Write the reaction of Caryophyllene with Ozone.
 - Give the synthesis of Geronic acid from β -carotene.
 - What are the steroidal Hormones? Give their brief classification.
 - What are Blanc's rules? Explain Liebermann Buchard reaction.
 - Give the reaction of steroids with Selenium at different higher temperature.
- Que:3** (a) Give the natural source and functions of Vitamin H. Discuss their structure with presence of following points: (i) saturation; (ii) sulfur atom; (iii) existing side chain. [6]
- (b) Explain the side chain of Vitamin B₂ and give its Karrer et. al. synthesis. [6]
- OR**
- (b) **Give the synthesis of following** [6]
- Dorp et.al synthesis of Vitamin A₁.
 - Harries and Folker et. al. synthesis of Pyridoxine.
- Que:4** (a) Discuss the physical properties of (+) Cinchonine and also give the synthesis of (\pm) Cincholoiponic acid from β -chloropropionacetal. [6]
- (b) **Answer the following** [6]
- Explain: The presence of nitrogen is tertiary and in cyclic state of Codeine.
 - Give the acid catalyzed conversion of Thebaine to Thebanine.
- OR**
- (b) Give the Willstatter's synthesis of Tropine. [6]
- Que:5** (a) Explain the physical properties of β -Eudesmol. Discuss the following points: (i) Position of angular methyl group; (ii) presence of trans-decaline structure. [6]
- (b) **Answer the following** [6]
- Discuss the position of double bond in Cadinene
 - Discuss the Kuhn Roth methods for Methyl side chain determination in β -carotene
- OR**
- (b) Explain the Molecular rearrangement of (+) Longifolene to: (i) (-) Longifolene; (ii) Longicycline; (iii) Isolongifolene. [6]
- Que:6** (a) **Explain the following** [6]
- The position of double bond in cholesterol.
 - Brief the Barbier Wieland degradation with mechanism and apply in Cholesterol.
- (b) **Answer the following** [6]
- Total synthesis of Oestrone by Johnson et.al.
 - Partial synthesis of Cortisone by Sarett et.al.
- OR**
- (b) Explain the chemistry of Bile acid and also give the synthesis of Progesterone from Cholesterol. [6]