

This question paper contains 4 printed pages]

**L—82—2019**

**FACULTY OF SCIENCE**

**M.Sc. (Second Year) (Third Semester) EXAMINATION**

**MARCH/APRIL, 2019**

**(CBCS Pattern)**

**CHEMISTRY**

**CH-532/2**

**(Natural Product)**

**(Wednesday, 24-4-2019)**

**Time : 2.00 p.m. to 5.00 p.m.**

*Time—3 Hours*

*Maximum Marks—75*

*N.B. :— (i) Attempt All the questions.*

*(ii) Figures to the right indicate full marks.*

1. Solve any *three* : 15
  - (a) Vitamin-C contains *v*-lactone ring.
  - (b) Give the synthesis of quercetin.
  - (c) Give an account of structure determination of citral.
  - (d) Presence of angular methyl group at C-10 in cholesterol.
  - (e) Discuss constitution of Menthol.
2. Answer the following (any *three*) : 15
  - (a) Give a detailed note on Diels-hydrocarbon.
  - (b) Discuss the general method of structure determination of Anthrocyanidin.
  - (c) Androsteron is tetracyclic.
  - (d) Give the synthesis of 8-Methyl-1-2-cyclopentanophenanthrene.
  - (e) Explain the synthesis of Zingiberene.
3. (A) What are Vitamins ? How are they classified ? Discuss the constitution of  $\alpha$ -tocopherol. 7

*Or*

What are pyrethroids ? How are they classified ? Explain with their biological activity.

P.T.O.

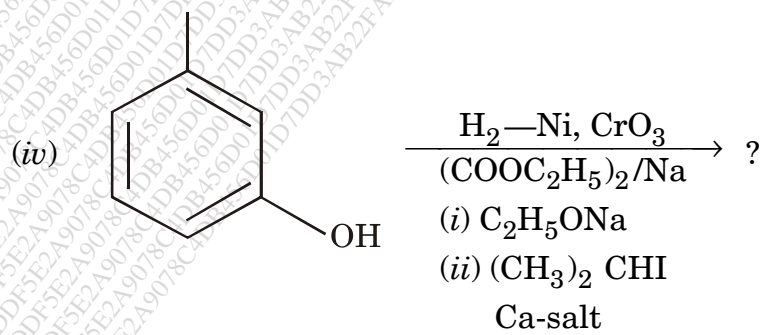
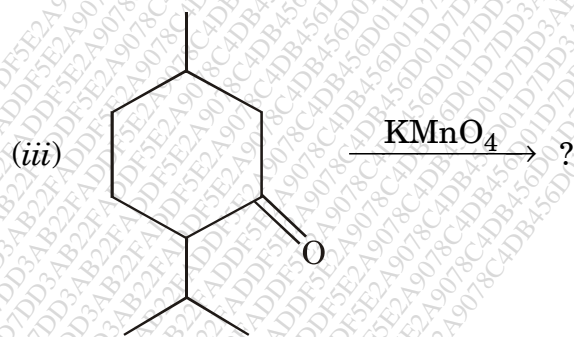
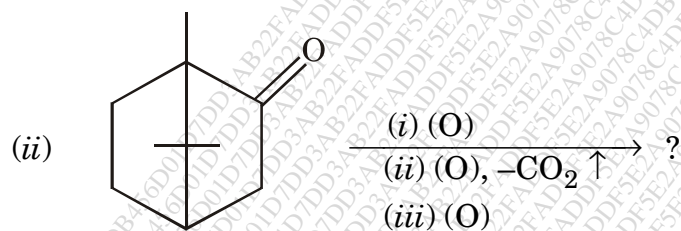
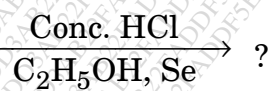
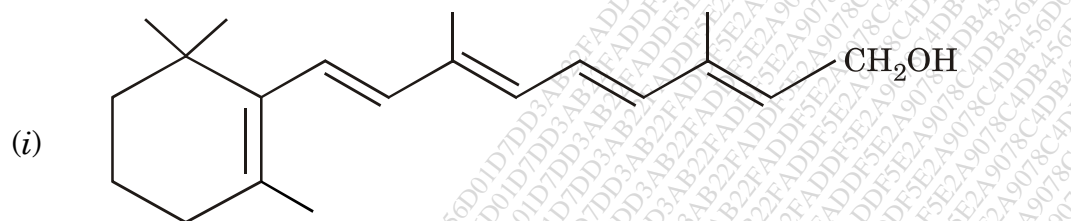
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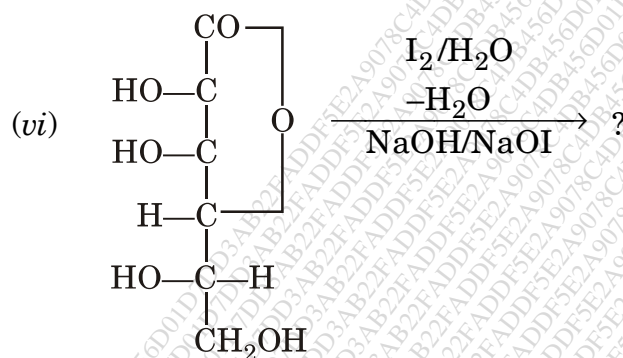
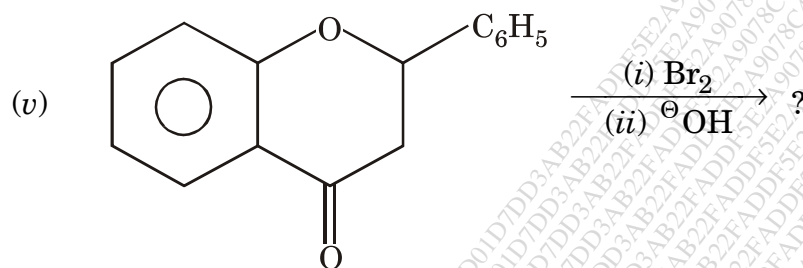
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(B) Predict the product (any four) :

8





4. (A) Give the synthesis and physiological effect of PGE<sub>2</sub>. 7

Or

Explain the nature of side chain in cholesterol.

- (B) How will you convert : 8

- (i) Cholesterol to Progesterone  
(ii) Cholesterol to Androsterone.

Or

Explain the following :

- (i) Role of pheromones as sex attractant and for plant protection  
(ii) Brief note on rotenone.

5. (A) Select the *correct* alternative from the following : 5

- (i) ..... is caused due to deficiency of Vitamin-C.

- (a) Pellagra  
(b) Scurvy  
(c) Night blindness  
(d) Xerophthalmia

P.T.O.

- (ii) Farnesol is ..... terpenoid.
- (a) Di
  - (b) Mono
  - (c) Sesqui
  - (d) Sester
- (iii) The molecular formula of  $C_{10}H_{16}O$  is of .....
- (a) Menthol
  - (b) Citral
  - (c) Camphor
  - (d) Zingiberene
- (iv) Quinine contains ..... alcoholic group.
- (a) Primary
  - (b) Secondary
  - (c) Tertiary
  - (d) All of the above
- (v) Cholesterol is ..... sterol.
- (a) Phyto
  - (b) Zoo
  - (c) Amphi
  - (d) Myco

(B) Write short notes on (any two) :

10

- (i) Rotenones
- (ii) Synthesis of Ascorbic acid for L-Xylose
- (iii) Pyrethroids.