

This question paper contains 6 printed pages]

NY—88—2023

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2023

(New/CBCS Pattern)

ORGANIC CHEMISTRY

CH-512/2

(Natural Products)

(Thursday, 7-12-2023)

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

Time—3 Hours

Maximum Marks—75

N.B. :— (i) Attempt *all* questions.

(ii) Figures to the right indicate full marks.

1. Solve any *three* :

15

(i) Discuss the structure determination of Ascorbic acid.

(ii) Conversion of cholesterol to progesterone.

(iii) Write a note on Rotenones.

(iv) Give the synthesis of camphoric acid.

(v) Explain structure determination of citral.

P.T.O.

2. Answer the following (any *three*) : 15

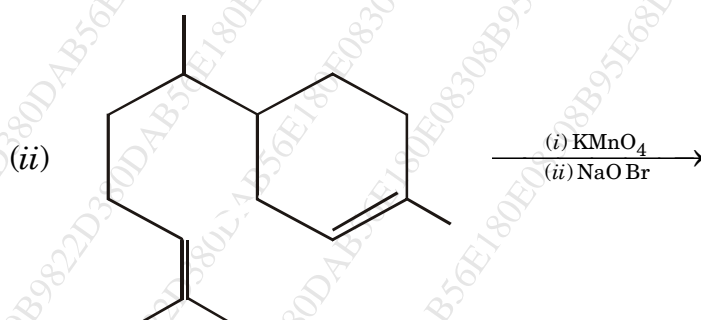
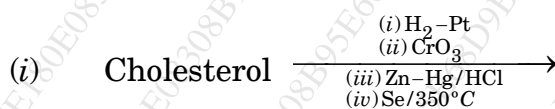
- Discuss Robinson synthesis for quercetin.
- What is Diel's hydrocarbon ? Explain in detail with its synthesis.
- Explain structure determination of Anthocyanin.
- Explain the presence of γ -lactone ring in Vitamin C.

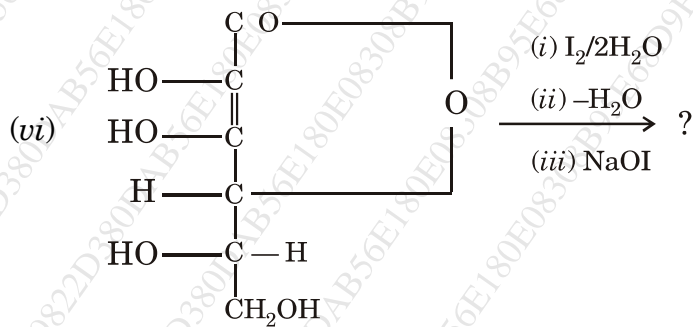
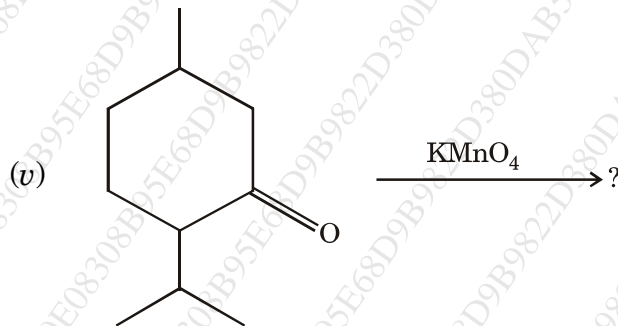
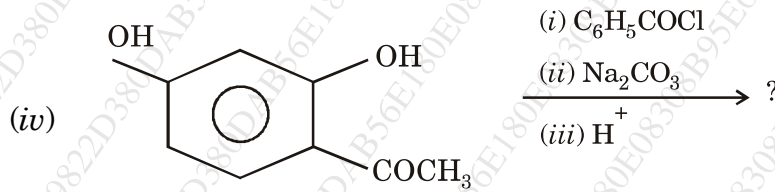
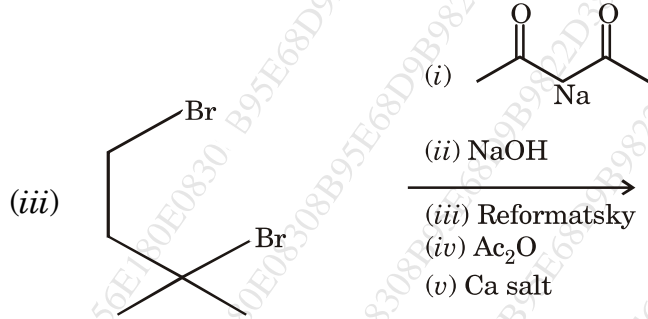
3. (a) What are Vitamins ? How are they classified ? Explain the deficiency diseases caused due to lack of vitamins and discuss the constitution of Retinol. 7

Or

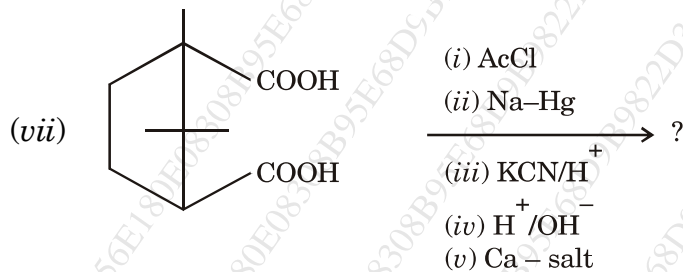
What are natural and synthetic pyrethroids ? Explain their biological activities.

(b) Predict the product (any *four*) : 8





P.T.O.



4. (a) What are pheromones ? Give their classification and role as sex attractant and for plant protection. 7

Or

Discuss the presence of Angular methyl group of C-10 in cholesterol.

- (b) How will you convert : 8

- (a) Epiandrosterone to Androsterone
(b) diogenin to progesterone.

Or

Explain the synthesis and physiological effects of PGE₂.

5. (a) Select correct alternatives from the following : 5

(i) is a water soluble vitamin.

- (a) Vitamin A
(b) Vitamin B
(c) Vitamin C
(d) Both (a) and (c)

- (ii) Cholesterol is also called as
- (a) fatty ester
 - (b) fatty alcohol
 - (c) both (a) and (b)
 - (d) none of the above
- (iii) Oesteriol is a sex hormone.
- (a) Male
 - (b) Female
 - (c) Non-steroidal
 - (d) None of the above
- (iv) Quinine contains alcoholic group.
- (a) Tertiary
 - (b) Secondary
 - (c) Primary
 - (d) None of the above
- (v) Cyanidin chloride on hydrolysis with HCl gives
- (a) Glucose
 - (b) Maltose
 - (c) Ribose
 - (d) Galastone

P.T.O.

WT

(6)

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(b) Write short notes on (any *two*) : 10

- (a) Bombycol synthesis
- (b) Structure determination of quininic acid
- (c) Structure of meroquinene.

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