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BR—124—2016

FACULTY OF SCIENCE

M.Sc. (Third Semester) EXAMINATION

NOVEMBER/DECEMBER, 2016

(CBCS Course)

CHEMISTRY

Paper CH-532/2

(Natural Products)

(Friday, 18-11-2016)

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

Time—Three Hours

Maximum Marks—75

N.B. :— (i) Attempt All questions.

(ii) Figures to the right indicate full marks.

1. Solve any *three* : 15

(a) Discuss the structure determination of fernesol.

(b) Synthesis of Vitamin A, from β -ionone (Vandrop method)

(c) Give the synthesis of camphoronic acid.

(d) Synthesis of Bombykol.

(e) Explain the constitution of Vitamin C.

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

(a) Give the synthesis of Diel's Hydrocarbon.

(b) Discuss the synthesis of cyanidin chloride.

(c) Give the synthesis of androsterone from cholesterol.

P.T.O.

- (d) Give the synthesis of flavone.
- (e) Isoprene rule.
3. (a) What are Vitamins ? Discuss the structure determination of α -tocopherol.

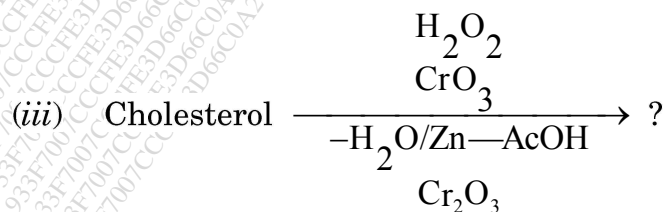
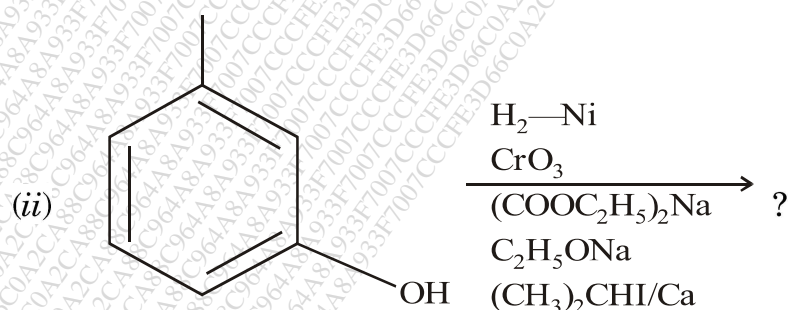
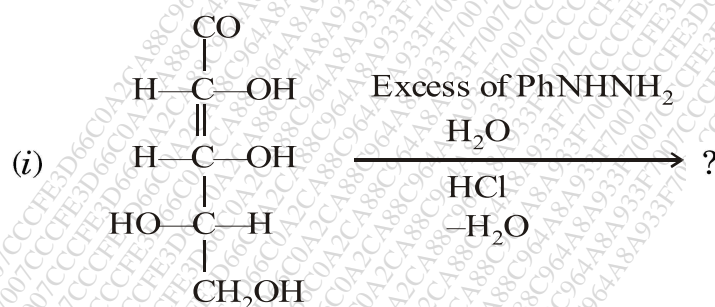
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Or

Discuss about natural and synthetic pyrethroids.

- (b) Predict the products (any four) :

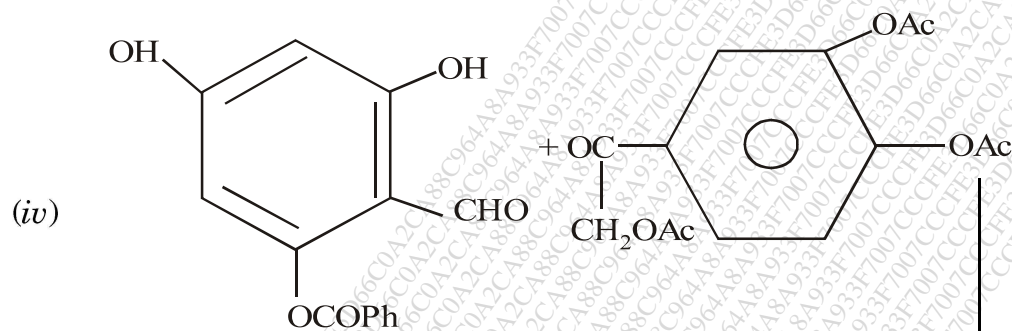
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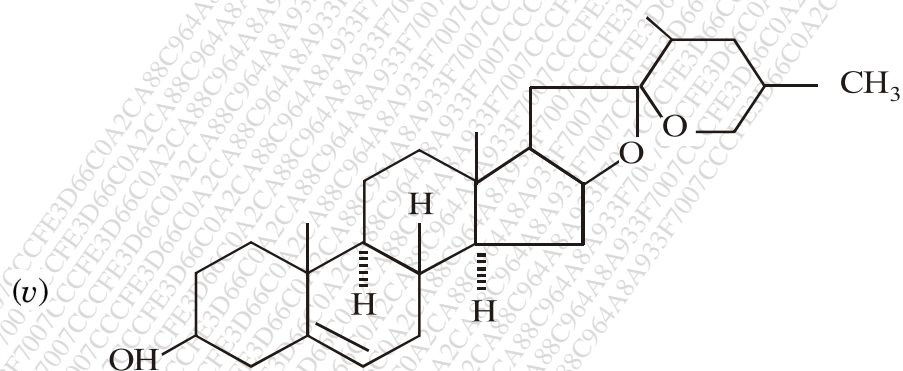
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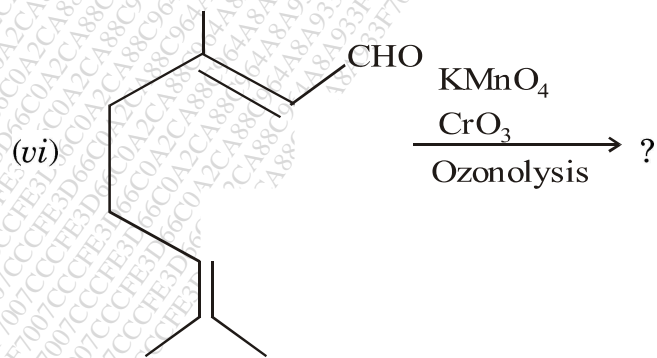
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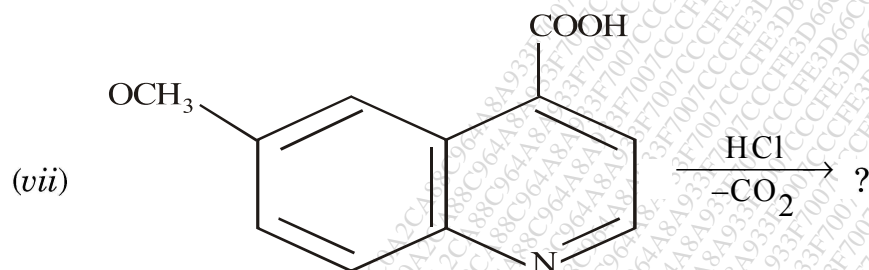
- (i) AcOEt
(ii) HCl
(iii) NaOH
(iv) HCl



- (i) Ac₂O
(ii) CrO₃
(iii) H₂-Pd
(iv) Oppenar Oxidⁿ



P.T.O.



4. (a) Discuss the position of side chain in cholesterol. 7

Or

Discuss in detail Rotenones.

- (b) How will you convert : 8

(i) Cholesterol to Testosterone

(ii) Epiandrosterone to Androsterone.

Or

Synthesis of Bombykol.

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

(i) terpenoid has source papermint oil.

(a) Citral (b) Zingiberene

(c) Menthol (d) Camphor

(ii) is the molecular formula for isoprene unit.

(a) C_5H_8 (b) C_5H_{10}

(c) C_5H_6 (d) C_5H_{12}

(iii) Sesquiterpenoid contains number of C-atoms.

(a) 10 (b) 15

(c) 20 (d) 25

- (iv) Vitamin E has main source.
- (a) Carrot (b) Wheat germ oil
- (c) Tomato (d) Sour fruits
- (v) Cholesterol is sterol.
- (a) Phyto (b) Zoo
- (c) Amphi (d) Myco

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

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- (i) Synthesis of Quinic acid
- (ii) Synthesis of flavone by Kostanecki synthesis
- (iii) Biosynthesis of PGE₂.