

Total No. of Questions : 6]

SEAT No. :

P1408

[5123]-410

[Total No. of Pages : 3

M.Sc. - II

# ORGANIC CHEMISTRY

CHO - 450 : Chemistry of Natural Products

(2013 Pattern) (Semester - IV)

Time : 3 Hours]

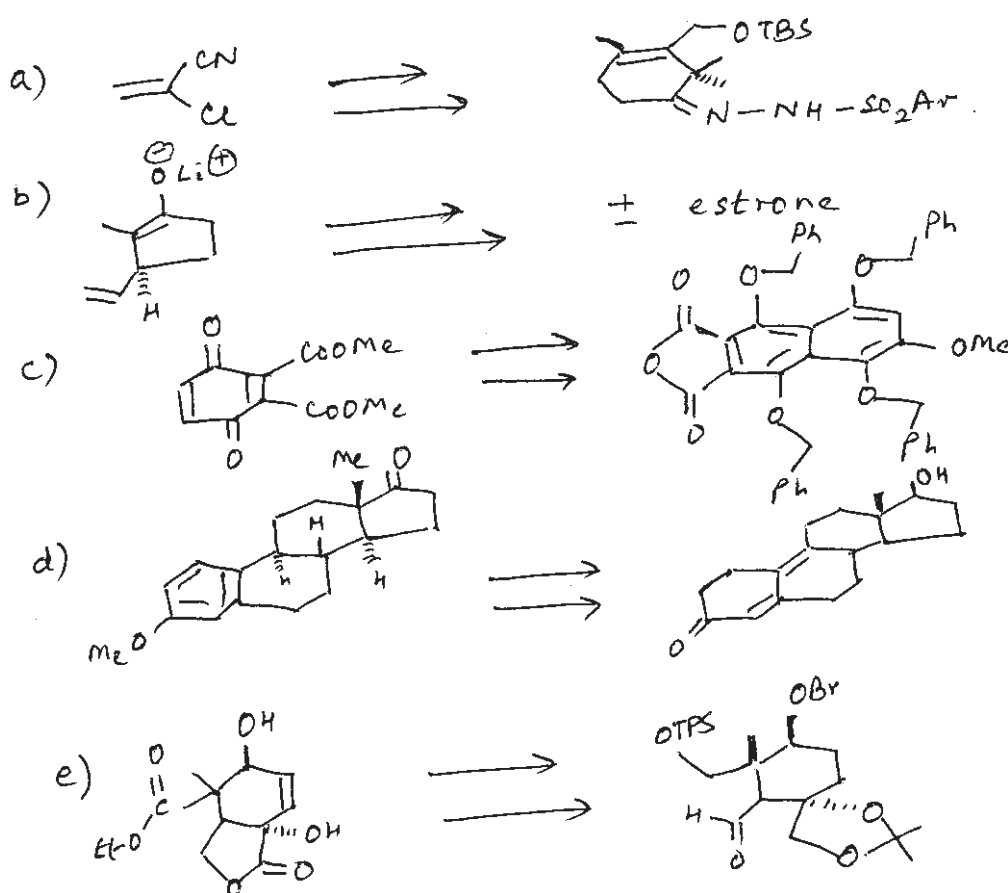
[Max. Marks : 50

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Answers to the two sections should be written in separate answer books.

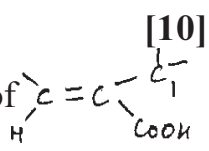
## SECTION - I

Q1) Outline the steps involved in the following synthetic sequence. Indicate the reagent used and discuss the mechanism and stereo chemistry involved. [10]



P.T.O.

**Q2)** Answer the following (any two):

- a) Give chemical and physical evidence to prove presence of  group in Hardwickiic acid. [10]
- b) Give evidence to prove
- The presence of –OH group in comptothecin.
  - The presence of lactone ring.
- c) Explain the behaviour of Rodophyclotoxin acetate and epipodo phyllo toxin acetate towards pyrolysis.

**Q3)** Answer the following (Any one).




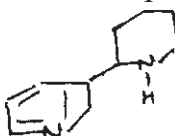
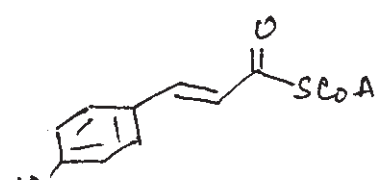
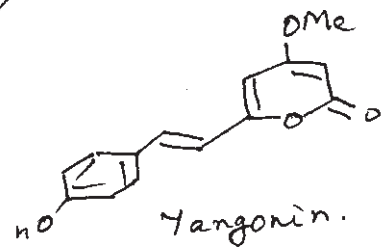
[5]

- Write a note on cyclotrimerization reaction.
- Discuss the evidence to establish the presence of C5 methyl group in Hardwickiic acid.

### SECTION - II

**Q4)** Suggest biogenesis for the following.

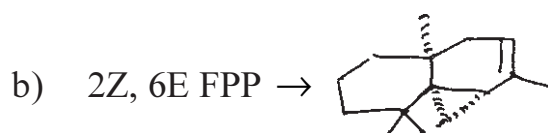
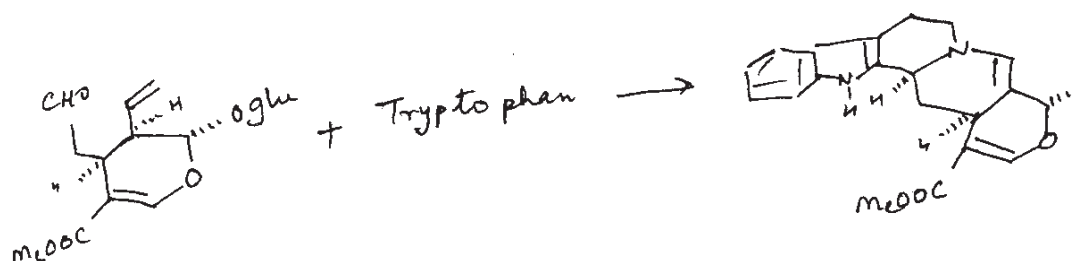
[10]

- GPP  $\rightarrow$  
-   $\rightarrow$   sparteine
- $^{13}\text{CH}_3\text{COSCOA} \rightarrow \text{GGPP}$ . Indicate the position of labelled carbons.
- $\text{NH}_2(\text{CH}_2)_4\text{CHNH}_2\text{COOH} \rightarrow$  
-   $\rightarrow$   Yangonin.

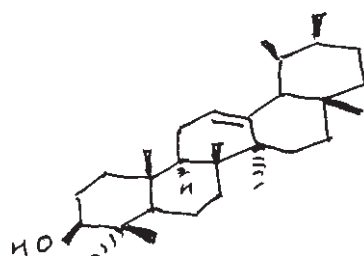
**Q5)** Answer the following (any two).

**[10]**

- a) Out line the steps involved in the following conversion.



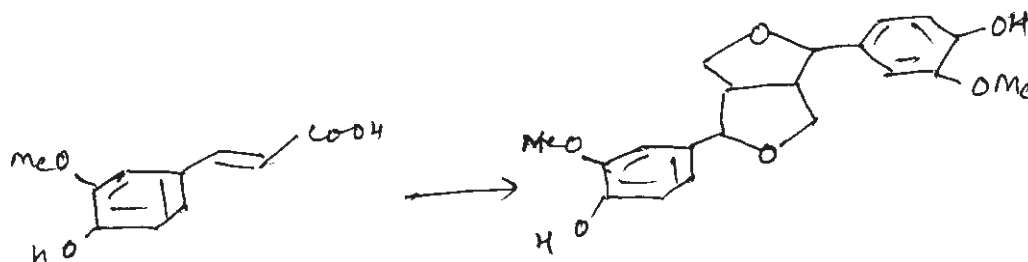
- c) Squalene monolpoide  $\rightarrow$



**Q6)** Attempt any one of the following:

**[5]**

- a) Write a note on importance of wagner meerwin shift in biogenesis of terpenoids.
- b) Give the biogenetic steps involved in the following conversion:



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