

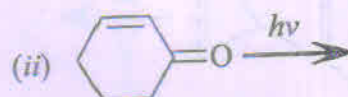
2019

Time : As in Programme

Full Marks : 50

Answer all questions. The figures in the right-hand margin indicate marks.

1. (a) What are the factors to be considered during the understanding of reaction mechanism of photochemical reaction? 6
- (b) Write down the photochemical products: 6



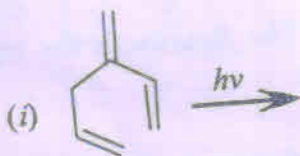
- (c) Explain gas-phase photolysis with example. 5

OR

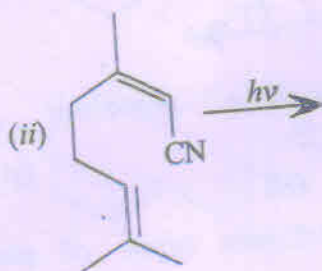
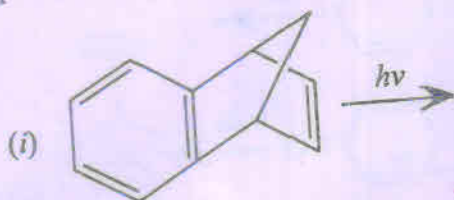
- (a) What are different types of photo-excitation. 4

(2)

- (b) Write short notes on the following: 9
- (i) Quantum yield
 - (ii) Actinometry
 - (iii) Photodissociation
- (c) What is the product of the following photochemical reactions? 4



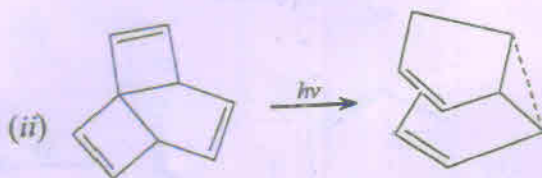
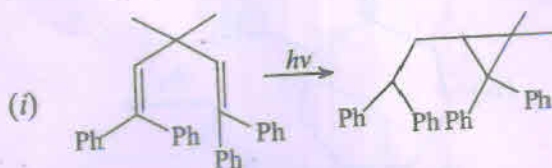
2. (a) Give the product of the following photochemical reactions: 4



(3)

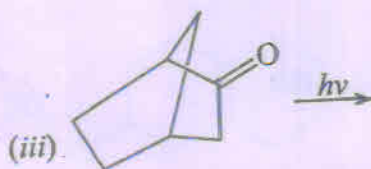
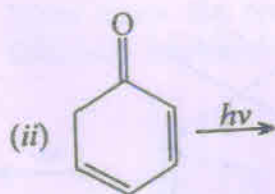
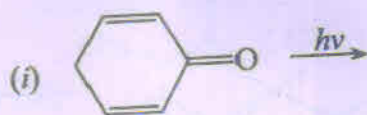
(b) Write down the mechanism of the following photochemical reactions :

6

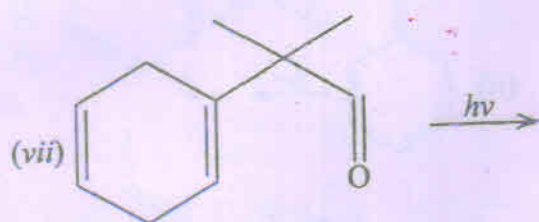
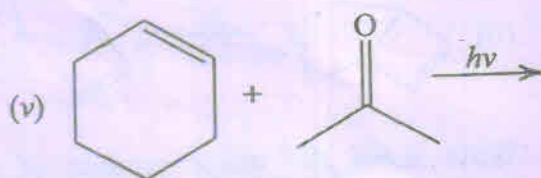
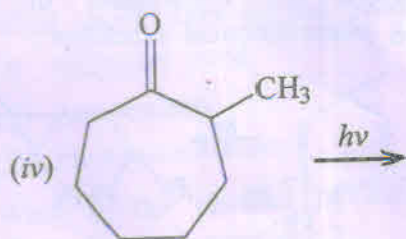


(c) Write down the major product of the following reactions :

7



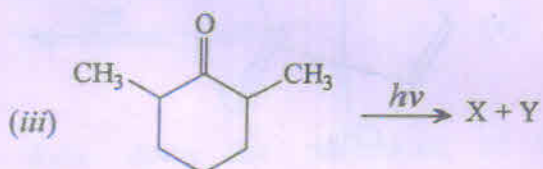
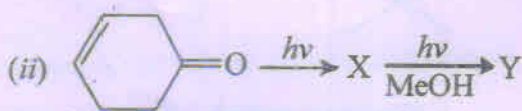
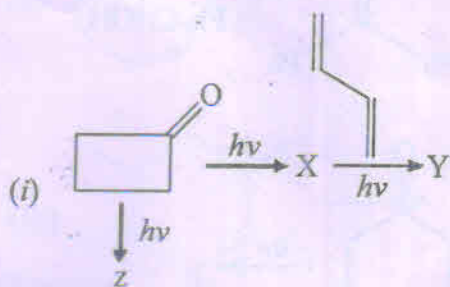
(4)



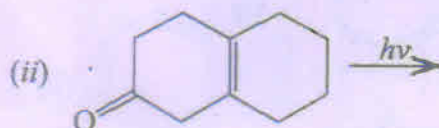
OR

(5)

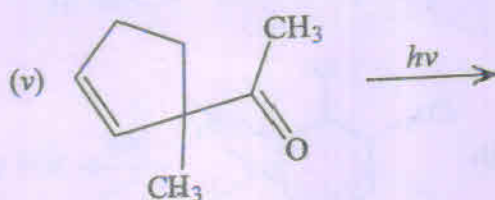
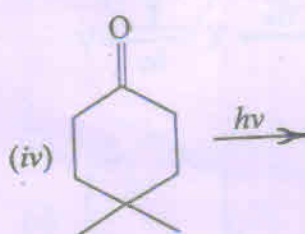
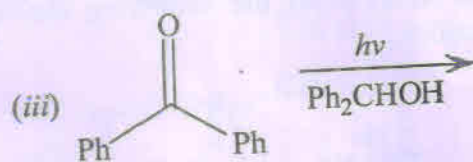
(a) Find X, Y, Z in the following multistep reactions : 7



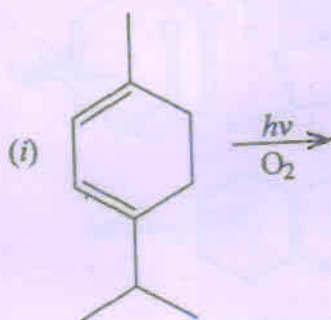
(b) Write down the possible product of the following photochemical reactions : 10



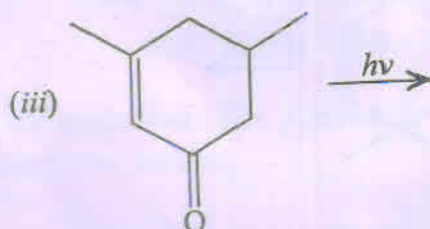
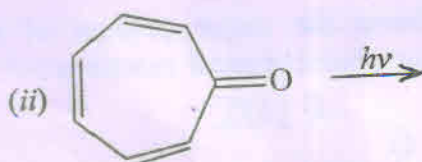
(6)



3. (a) What is product of the following reactions? 8



(7)



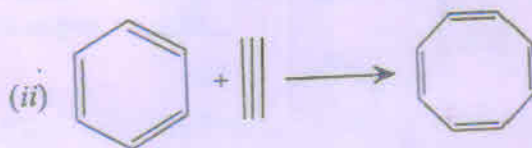
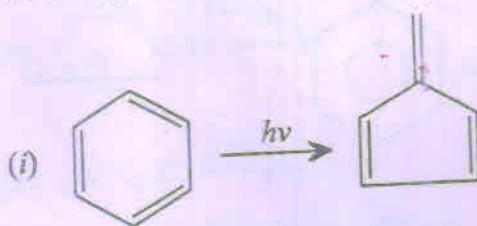
(b) Write short notes on the following: 8

(i) Photo-Fries rearrangement

(ii) Barton reaction

OR

(a) Write down the mechanism of the following reactions: 8



(8)

(b) Write down the major product of the following photochemical reactions: 8

