

Roll No. ....

Total No. of Questions : 9]  
(2034)

[Total No. of Printed Pages : 4

**UG (CBCS) IIIrd Year Annual Examination**  
**2995**

**B.Sc. CHEMISTRY**

(Pesticide Chemistry and Pharmaceutical Chemistry)  
(SEC-4)

Paper : CHEM 308 TH

**Time : 3 Hours]**

**[Maximum Marks : 70**

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**Note** :- Attempt *five* questions in all, selecting *one* question from each Section. Q. No. 9 of Section-E is compulsory.

**Section-A**

1. (a) Classify pesticides on the basis of origin and source.
- (b) What are the benefits of using natural pesticides ? 10,5
2. (a) Discuss the adverse effects of pesticides on the environment.
- (b) Explain the need of pesticides use in agriculture. 10,5

**CH-295**

( 1 )

Turn Over

### Section-B

3. (a) Give method to synthesis malathion. What are its uses ?

(b) Write notes on the following :

(i) Gammexane

(ii) Chloranil

9,6

4. (a) What are Anilides ? Discuss synthesis of butachlor.

(b) Give a method for the synthesis of carbofuran.

What are its uses ?

8,7

### Section-C

5. Write notes on the following :

(i) Diazepam

(ii) Dapsone

(iii) Trimethoprim

5,5,5

6. (a) What are Antibiotics ? Give synthesis of Chloramphenicol.

(b) How retrosynthetic approach can save time and money in drug synthesis ?

9,6



### Section-D

7. Discuss the industrial production of the following using fermentation :

(i) Citric acid

(ii) Vitamin B-12

8,7

8. (a) What is the general structure of penicillin ?  
How will you prepare penicillin commercially ?

(b) Discuss industrial production of Lysine (amino acid) using micro-organisms.

8,7

### Section-E

9. (A) Fill in the blanks :

(i) The slow and gradual process of accumulation of pesticides in the food chain is termed as .....

(ii) The BHC (Benzene Hexachloride) is synthesized from chlorination of ..... in the presence of sunlight.

(iii) Glyceryl trinitrate (GTN) is used for .....

(iv) Glucose is converted to ethanol in the presence of .....



(B) State whether True or False :

- (i) Malathion is a quinone insecticide.
- (ii) DDT is used as herbicides in agriculture.
- (iii) Sulfacetamide acts by cyclooxygenase-2 inhibition.

(C) Choose the correct answer :

- (i) Which of the following pesticides was found dangerous for bird's egg and their hatching ?

(a) BHC

(b) DDT

(c) Malathion

(d) Lindane

- (ii) Phenobarbital acts by inhibition of :

(a) GABA receptor

(b) COX-2

(c) Dihydrofolate reductase

(d) DNA polymerase

- (iii) Wine is produced by the fermentation of :

(a) Carbohydrates

(b) Proteins

(c) Fats

(d) Vitamins

1×10=10