

This question paper contains 4 printed pages.

5221

Your Roll No. _____

B.Sc. (Prog.) / III

J

**ACP-302— INSECTICIDE-PESTICIDE FORMULA-
TION, ANALYSIS, QUALITY CONTROL**
(N.C.— Admissions of 2005 and onwards)

Time : 3 hours

Maximum Marks : 75

*(Write your Roll No. on the top immediately
on receipt of this question paper.)*

*Attempt any five questions.
All questions carry equal marks.*

1. Answer the following:

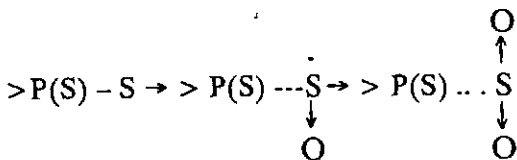
- (i) What are dispersed phase and dispersing medium?
- (ii) Write down the structural formula for TMS.
- (iii) Define Algaicide and Acaricide with examples.
- (iv) Write down the structural formula for the chemical compound obtained from calabar beans.
- (v) What are contact and systemic insecticides? Give suitable examples. 3×5=15

2. Discuss in brief:

- (i) Dihydrochlorination of DDT
- (ii) Redox titration
- (iii) Blue shift

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- (iv) R F value in Chromatography
- (v) Solid formulations 3×5=15
3. Explain with chemical equations, what happens when—
- (i) BHC is refluxed with alcoh NaOH.
- (ii) Endosulfan is mixed with KMnO₄ solution.
- (iii) Malathion is isomerised
- (iv) Methomyl is hydrolysed
- (v) Heptachlor is oxidised. 3×5=15
4. (a) What agro-chemicals are prepared from the following chemicals, and how?—
- (i) Sod -p-nitrophenate
- (ii) Thiophosphoryl chloride
- (iii) Dimethyl phosphorodithioic acid
- (iv) Ethyl succinate 3+3
- (b) The oxidation products of O.P. compounds, i.e., sulphoxide and sulphur show high anticholinesterase activity, but the toxicity of the substances does not always grow, in general trend is



- Explain in brief 5
- (c) Explain with *one* example each:
- (i) Dealkylation
 - (ii) Desulfuration. 4
5. (a) Depict the stereoisomers of HCH (α, β and γ) only. 6
- (b) Discuss the role of enzyme AChE before and after the toxification of insects. 5
- (c) Elaborate the hydrolysis of Malathion in both acidic and alkaline medium. 4
- 6 (a) How will the endosulphan be prepared? Give chemical equations. 3
- (b) Explain chemical shift with suitable example. 3
- (c) Depict the banding vibration in I.R. Spectroscopy 3
- (d) Discuss the analysis of DDT. 3
- (e) Write down the structural formula and discuss properties of Nicotine. 3
7. Write short notes on.
- (i) Liquid formulation

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- (ii) Chromatography in the separation of compounds
- (iii) Pesticide pollution.

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