
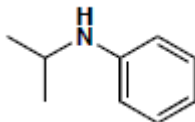


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|--|---|--|-----|
| Name:  |   |  |     |
| Enrolment No:  |   |  |     |
| <div>UPES</div> <div>End Semester Examination, May 2025</div> <div><div>Course: Agrochemicals &amp; Pest Management</div><div>Program: M.Sc. Chemistry</div><div>Course Code: CHEM8059</div></div> <div><div>Semester: IV</div><div>Time : 03 hrs.</div><div>Max. Marks: 100</div></div> |   |  |     |
| Instructions: All questions are compulsory   |   |  |     |
| SECTION A<br>(5Qx4M=20Marks)   |   |  |     |
| S. No.   |   | Marks  | CO  |
| Q 1  | <div>Explain, how would you make the following compound using retrosynthesis approach? Give all possible disconnections.</div> <div></div> | 4  | CO1 |
| Q 2  | Give an explanation on the mode of action of fumigants.   | 4  | CO2 |
| Q 3  | Describe the bio-efficacy of neem water extract used in pest control.   | 4  | CO3 |
| Q 4  | Define ‘bioaccumulation’ and how is it linked to pesticide pollution?   | 4  | CO4 |
| Q 5  | Define chemosterilants with examples and their key features.  | 4  | CO3 |
| SECTION B<br>(4Qx10M= 40 Marks)  |   |  |     |
| Q 6  | Discuss different types of pheromones with examples. Explain its mechanism of action.   | 5 + 5  | CO1 |
| Q 7  | <div>Describe the pathways for the degradation of Chlorpyriphos in the environment.</div> <div>OR</div> <div>Draw the isomers of Endosulfan and explain its health effects.</div>   | 10   | CO2 |
| Q 8  | Elaborate the mode of action of neem formulations on pests.   | 10   | CO3 |
| Q 9  | Explain the factors affecting pesticide toxicity in aquatic systems.  | 10   | CO4 |
| SECTION-C<br>(2Qx20M=40 Marks)   |   |  |     |
| Q 10   | <div>a) Describe the extraction processes of neem-based formulations for plant protections.</div> <div>b) Describe the advantages of neem formulations over synthetic pesticides.</div>                                     | 10 + 10  | CO3 |

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| Q 11 | <p>a) Elaborate on the effects of pesticide residues on aquatic ecosystems.<br/>b) Evaluate current strategies for minimizing agrochemical pollution in agriculture.</p> <p style="text-align: center;"><b>OR</b></p> <p>a) Explain the elements of Integrated pest management program.<br/>b) Describe the role of 'Biological control' in integrated pest management.</p> | <b>10 + 10</b> | <b>CO4</b> |
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