


Name:			
Enrolment No:			
<b>UNIVERSITY OF PETROLEUM AND ENERGY STUDIES</b> <b>End Semester Examination, December 2022</b>			
<b>Course:</b> B.Sc (H) Chemistry <b>Program:</b> Pesticide Chemistry <b>Course Code:</b> CHEM2016K		<b>Semester:</b> III <b>Time:</b> 03 hrs. <b>Max. Marks:</b> 100	
<b>Instructions:</b> There shall be three Sections (Section A, Section B and Section C) in the Question Paper. <ul style="list-style-type: none"> <li>• <b>Section A</b> contains 5 Questions of 4 marks each.</li> <li>• <b>Section B</b> contains 4 Questions of 10 marks each. 1 Question is optional.</li> <li>• <b>Section C</b> contains 2 Questions of 20 marks each. 1 Question is optional.</li> </ul>			
<b>SECTION A</b> <b>(5Qx4M=20Marks)</b>			
S. No.		Marks	CO
Q 1	What are GMOs? Write down the benefits of this evolving pest-management strategy?	4	CO2
Q 2	Illustrate pesticide classification based on the mode of action? Give examples and draw their structures?	4	CO1
Q 3	Explain the role of sulfur and heavy metals as pesticides during Middle Ages?	4	CO2
Q 4	Write down the name of two chemical metabolites of DDT? Draw their structures?	4	CO2
Q 5	What is Bordeaux Mixture? Write down the chemical name of this mixture?	4	CO1
<b>SECTION B</b> <b>(4Qx10M= 40 Marks)</b>			
Q 1	What are the essential components of the technical manufacturing of pesticides? Explain in detail?	10	CO1
Q 2	Discuss the structure, preparation, and properties of Carbaryl and Parathion?	10	CO3
Q 3	What is Lindane? Write down the potential stereoisomers of hexachlorocyclohexane?	10	CO1
Q 4	What are synthetic nicotinoids? Name two examples and draw their structures? Discuss the mode of actions of these pesticides?  Or  What are naturally derived pesticides, discuss at least five examples along with their name and chemical structures?	10	CO3

**SECTION-C**  
**(2Qx20M=40 Marks)**

Q 1	Explain the advancement of pesticides in the 20 <sup>th</sup> Century? Supplement your discussion with some necessary chemical structures?	<b>20</b>	<b>CO2</b>
Q 2	What is Structure-Activity Relationship (SAR)? Write down the criteria used to identify structurally similar substances in the SAR?  Or  Provide pesticide classification based on mode of action? Explain the name and chemical structures of at least five examples of this class of pesticides?	<b>20</b>	<b>CO3</b>