17CHU611B PESTICIDE CHEMISTRY3H 1C

Instruction Hours/week: L:3 T:0 P:0Marks: Internal: 40 External: 60 Total:100

Scope

The course involves the practical aspects of testing of a pesticide formlation

Course OutCome

The lab course enables the student to

1. Understand the calculation of acidity/alkalinity in given sample of pesticide formulation
2. Understand the synthesis of simple organophosphates, phosphonates and thiophosphates

Methodology

PH measurements, Fertilizer preparation

Practicals

1. To calculate acidity/alkalinity in given sample of pesticide formulations.
2. Preparation of simple organophosphates, phosphonates and thiophosphates

Suggested Reading:

1. Cremlyn, R.(1978).*Pesticides. Preparation and Modes of Action*. NewYork: John Wiley & Sons.

LECTURE PLAN

DEPARTMENT OF CHEMISTRY

STAFF NAME: Dr. K. SATHYA

SUBJECT NAME: PESTICIDE PRACTICAL

SUB.CODE: 17CHU612B

SEMESTER: VI

CLASS: III B.Sc CHEMISTRY

S. No.	Lecture Duration Period	Name of the Experiment	Support Material/Page Nos
1	4	Writing procedure and demonstration	
2	4	Determination of Acidity using PH meter	T1:6
3	4	Determination of alkalinity using PH paper	T1:7
4	4	Preparation of organochlorides	T1:8
5	4	Preparation of organophophates	T1:10
6	4	Preparation of phosphate-II	T1:7
7	4	Preparation of organochlorides-II	T1:8
8	4	Repeat the classes	
9	4	Viva voce examination	
10	4	Model Practical Examination	
	Total No. of Hours Planned For Practical's = 30		

Text Books:

1. T1: H.Ohkawa ,H.Miyagawa,P.W.Lee, Pesticide Chemistry, Wiley-VCH,2007,ISBN: 978-3-527-31663-2

PESTICIDE CHEMISTRY LAB MANUAL

EXPERIMENT:1

MEASUREMENT OF P^H VALUE OF DIFFERENT FERTILIZER SAMPLES USING P^H METER.

AIM:

To measure the p^H of different fertilizers samples using p^H meter.

APPARATUS REQUIRED:

Glass rod
100ml beaker
P^H meter
Fertilizer sample
Distilled water
Filter paper
Funnel

PROCEDURE:

SAMPLE PREPARATION:

Weight out approximately 0.2g of the fertilizer. Place the fertilizer sample into a 100ml beaker and add approximately 20ml of distilled water. Then mix thoroughly and let stands for ½ hrs. After that filtered the prepared fertilizer solution. Then proceed the sample measurement.

STANDARDISATION OF P^H METER:

The p^H meter was calibrate using p^H(0-14) buffer solution. Then the meter was adjusted with known p^H of buffer solutions. The electrode was immersed in filtered solution and p^H values were measured from the automatic display of the p^H meter.

OBSERVATION:

SL:NO	FERTILIZER NAME	REFERENCE P^H NAME	MEASURED P^H NAME
1	Diazinon	7	
2	Dylon	6-7	
3	Furadan(carbaryl)	6	

4	**Pyramite**	**5**	
5	**Diammonium phosphate**	**7.5-8**	
6	**Ammonium sulphate**	**5.5**	

RESULT:

P^H of the sample -1:

P^H of the sample -2:

P^H of the sample -3:

P^H of the sample -4:

P^H of the sample -5:

P^H of the sample -6:

EXPERIMENT:2

MEASUREMENT OF P^H VALUE OF DIFFERENT FERTILIZER

SAMPLES USING P^H PAPER.

AIM:

To measure the p^H of different fertilizers samples using p^H paper.

APPARATUS REQUIRED:

Glass rod

100ml beaker

P^H paper

Fertilizer sample

Distilled water

Filter paper

Funnel

PROCEDURE:

SAMPLE PREPARATION:

Weight out approximately 0.2g of the fertilizer. Place the fertilizer sample into a 100ml beaker and add approximately 20ml of distilled water. Then mix thoroughly and let stands for ½ hrs. After that filtered the prepared fertilizer solution. Then proceed the sample measurement

TO MEASUREMENT P^H USING P^H PAPER:

The filtered fertilizer sample are measured by p^H paper into the sample solution, the colour changes appeared.

The above procedure is repeated for different fertilizer sample.

OBSERVATION:

SL:NO	FERTILIZER NAME	REFERENCE P^H NAME	MEASURED P^H NAME
1	Endosulfan	7.3-8	
2	Malathion	5	
3	Dithane	6	
4	Sevin(carbaryl)	7	
5	Lannate(methomyl)	below 7	
6	Mono ammonium phosphate	4.7	

RESULT:

P^H of the sample -1:

P^H of the sample -2:

P^H of the sample -3:

P^H of the sample -4:

P^H of the sample -5:

P^H of the sample -6: