

# **J.S. University, Shikohabad**

Established by UP Govt. Act No. 07 of 2015


Recognized by U.G.C. under section 2 (f) of Act-1956



**Value Added Course**

**Agrochemicals  
(VAC-184)**

**Department of Chemistry**

	<b>J.S. University, Shikohabad</b> <b>Department of Chemistry</b>	<b>Value Added Course</b>
		AY: 2022-23

## **AGROCHEMICALS: (VAC-184)**

### **Learning Objective:**


This Course will provide knowledge of Agrochemicals

**Duration:** 30 Hours.

### **Course Outcomes: -**

After completion of the course the student shall be able to:-

- CO-1:** Importance and identification of pesticides. Stomach poisons, contact poisons, systemic poisons.
- CO-2:** Classification and synthesis of fungicides.
- CO-3:** Synthesis and uses of the Herbicides (2,4-D and MCP), Fumigants, Nematicides and Rodenticides.
- CO-4:** Importance and properties of the fertilizers; Nitrogenous fertilizers, Phosphatic fertilizers and NPK fertilizers.

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### Syllabus Outline (VAC-184)

1. **Module-I** **(08 Hours)**
  - (a) **Introduction:** General introduction to Agrichemicals. Introduction and types of pesticides. Stomach poisons, contact poisons, systemic poisons, fumigants.
  - (b) **Insecticides:** Synthesis and manufacture, mode of action and uses of insecticides in the following classes: Inorganic insecticides (acid lead arsenate and calcium arsenate), Natural organic insecticides (nicotinoids, nicotine, nornicotine, and rotenoids), Synthetic insecticides (DDT, dimite, BHC, Chlordan, aldrin and dieldrin) and Organophosphorus insecticides (dimecron, methyl parathion, malathion, carbaryl and baygon).
  
2. **Module-II** **(08 Hours)**


**Fungicides**

General introduction and classification of fungicides. Synthesis and manufacture, mode of action and uses of: Inorganic fungicides (copper sulphate and bordeaux mixture), Organomercuric compounds (ethylmercuric chloride and cerasan-M), Dithiocarbamates (zineb and maneb) and Miscellaneous fungicides (captan and folpet).
  
3. **Module-III** **(07 Hours)**

**Herbicides, Fumigants, Nematicides, Rodenticides and Plant growth regulators**

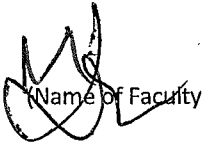
General introduction. Synthesis and uses of the following: Herbicides (2,4-D and MCP), Fumigants (ethylene halides and methyl halides), Nematicides (aldicarb and fensulfothion), Rodenticides (zinc phosphide and warfarin) and Plant growth regulators (gibberellic acid and Fertilizers indole acetic).
  
4. **Module-IV** **(07 Hours)**

General introduction of fertilizers. Nitrogenous fertilizers, Phosphatic fertilizers, Superphosphate of lime, triple superphosphate and NPK fertilizers. Manufacture, properties and fates of the following fertilizers: Urea, Calcium ammonium nitrate, Ammonium phosphate, Potassium metaphosphate, Super phosphate and Potash (nitrate and sulphate).

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**References:**

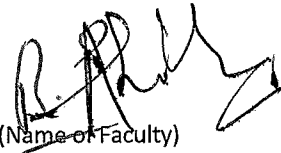
1. Chemistry of pesticides by N. K. Roy.
2. Fertilizers: A textbook by Ranjan Kr. Basak.

  
 (Name of Faculty)  
 Course Coordinator

Dr. Mukli  
Sharma

  
 (Name of Faculty)  
 Dean Academics

Dr. Akhilesh

  
 (Name of Faculty)

Director/Principle/Dean of  
 Faculty/Department

Dr. B.P.S.  
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