

Dept. of Chemistry
OEC: Agro Chemistry

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| Course Title: Agro Chemistry | Course code: 21BSCOECH |
| Total Contact Hours: 42 | Course Credits: 3 |
| Internal Assessment Marks: 40 | Duration of SEE: 3 hrs |
| Semester End Examination Marks: 60 | |

Course Outcomes (COs):

1. Gain knowledge on the composition and importance of fertilizers, pesticides for agriculture
2. Understand the importance of usage of organic farming and vermicompost
3. Able to recognize the importance of nutritious food

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| Unit | Description | Hours |
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| 1 | Soil fertility Micronutrients and macronutrients in soil, Importance of Nutrients for plants Different nutrients for different crops Analysis and required amounts of micronutrients: nitrogen, potassium, phosphorus. Nitrogen fixation and Leguminous plants Crop rotation and multi crops- Importance and advantages | 10 hrs |
| 2 | Fertilizers; Different types, Composition and applications, Effects of excess use of fertilizers, pollution by fertilizers Bio-based fertilizers/manures and advantages Preparation of organic manure and organic farming Vermicompost- applications and applications Case studies of excess usage of fertilizers and its side-effects | 10 hrs |
| 3 | Insecticides: Composition and applications, side effects Pesticides: Composition and applications, side effects Weedicides: Composition and applications, side effects Preservative chemicals: Composition and side effects Case studies of side effects and pollutions of above chemicals | 8 hrs |
| 4 | Chemicals used for Ripening: Composition, uses and side effects Food adulteratives and contaminants: Difference and side effects with examples Milk, butter, oils, etc, measurement and consumer laws against adulteration Rancidity of oil- Definition, toxic effect | 8 hrs |
| 5 | Nutritious food and diet: Constituents of nutritious food-Importance and function of each component- Vitamins, proteins, carbohydrates, minerals, fats and water. Examples of food items containing nutritious components Comparison of nutritious food and balanced food Side effects/diseases of deficiency of nutritious components Malnutrition-Reasons and measures to overcome | 8 hrs |

