A
PROPOSAL
For
Certificate Course
in
Biofarming
Course Code: CCBF22

Department of Biotechnology

DAYANAND COLLEGE, HISAR

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Introduction: Biofarming is a chemical free method of farming that focuses on improving the microbiology as a way of increasing plant growth and produce yield. It is a valuable tool for research on microbial uses in agriculture as well as crop improvement by using biofertilizers. This course offers a comprehensive hands-on training for learning the basics of sustainable and environment friendly farming practices that incorporate biological principles.

Aim: The aim of a biofarming certificate course is to empower individuals with the tools and knowledge needed to engage in farming practices that are not only economically viable but also ecologically responsible and socially beneficial.

Objectives: -

- To know basics of Biofarming.
- To study biological pest management
- To study biodiversity management
- To know the use of biological technique or organisms to improve soil health and fertility.
- To generate self -employment.

Structure of Course:

- Paper I: Theory Paper
- Paper II: Practical

Course Duration:

- Theory: 30 Contact hours
- Practical: 06 Contact hours

Qualification Required: - XII Science

Organizing Department: Biotechnology Department
Faculty: Biotechnology Department Faculty/ Teachers

Syllabus

Course code: CCBF22 (T)
Nomenclature: Biofarming (Theory)

Maximum marks: 60
Time: 3 Hours

Course outcome:

- Student will come to know about various Instruments and techniques used for biofarming.
- The students can understand about the basics of soils and their influencing parameters with relevant to soil fertility, fertilizers and manures.
- They can develop confidence about the Nutrient Management and fertilizer recommendation.

Note: Examiner will be required to set nine questions in all. First question will be compulsory, consisting of objective type/ short answer type question covering the entire syllabus. In addition to that eight more question will be set, two questions from each unit. A candidate will be required to answer five questions in all, selecting one question from each unit in addition to compulsory question no. 1. All questions will carry equal marks.

Unit 1

Biofarming: Introduction, concept and principal of biofarming. Historical perspective and evolution of biofarming practices. Benefits of Biofarming.

Unit II

Biofertilizers: Introduction- types, need and benefits of biofertilizers. Methods of preparation and utilization of biofertilizers.

Unit III

Use of microbes in biofarming: Introduction, need of microbes in improvement of soil fertility. Benefits of microbes in biofarming.

Unit IV

Soil microbiology and its role in nutrient cycling. Soil conservation techniques. Integrated Pest Management (IPM) principles. Beneficial insects and organisms. Disease management through biocontrol.

Recommended Books:

1. Das, P.C. 1993. Manures and Fertilizers, Kalyani Publishers, New Delhi.
2. Singh B.D 2021. Biotechnology, Expanding Horizon. Kalyani Publishers.
3. Maliwal P L 2000. Principal of organic farming. Maliwal Publication of Scientific Publishers.
4. Dubey R C and Maheshwari D K 2010. A textbook of Microbiology. S Chand Publications.

Course code: CCBF22 (P)
Nomenclature: Biofarming (Practical)

Total: 40
Experiment: 20
Practical Work Book: 10
Viva Voce: 10
Time: 3 hours

List of Practicals

- Methods of collection and processing of soil samples, pH, EC
- Analysis of available N, Organic carbon
- Analysis of available P and available K
- Analysis of soil test results, Interpretation and Fertilizers recommendation.
- Identification of manures, fertilizers and bio-fertilizer
- Preparation of different types of compost and method of application (Composted Coir pith, Vermicompost and FYM etc.)

Assessment by Exam: At the end of course, examination will be conducted in offline mode (Pen and Paper Mode).

Scheme of Examination: There will be a written theory examination of 60 marks and practical examination will carry 40 marks.

Award of Certificate: After successful completion of the course certificate indicating grade will be awarded to the students.

Grading of Certificate:

- 90% & above: 'A+' grade
- 70% & above but less than 90%: "A" grade
- 60%& above but less than 70%: "B" grade
- 50% & above but less than 60%: "C" grade
- 35% & above but less than 50%: "D" grade

The course content and syllabus of the Certificate Course in Biofarming-CCBF22 is developed and designed by following teachers: -

- Dr. Vivek Srivastava
- Dr. Raj Rani
- Dr. Ritu Saharan
- Dr. Asha

Dr. Vivek Srivastava
Course coordinator

Principal
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