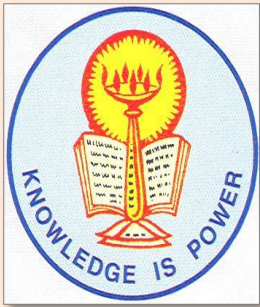


**Dada Ramchand Bakhru Sindhu Mahavidyalaya, Nagpur**

## **Department of Zoology**

### **Certificate Course in Vermiculture**



#### **Learning Objectives of the Course**

- To introduce career and market oriented skill enhancing for job, self-employment and student's employment
- To focus on quality and excellence
- Knowledge, skill and attitude for gainful employment in the wage sector in general and self-employment in particular.
- To make the current Indian higher education system more relevant and career oriented with
- At the end of the course the students will be equipped with a certificate in add on orientation with a conventional degree of Science or commerce.



#### **Benefits of vermicompost**

Vermicompost is a nutrient rich compost which:

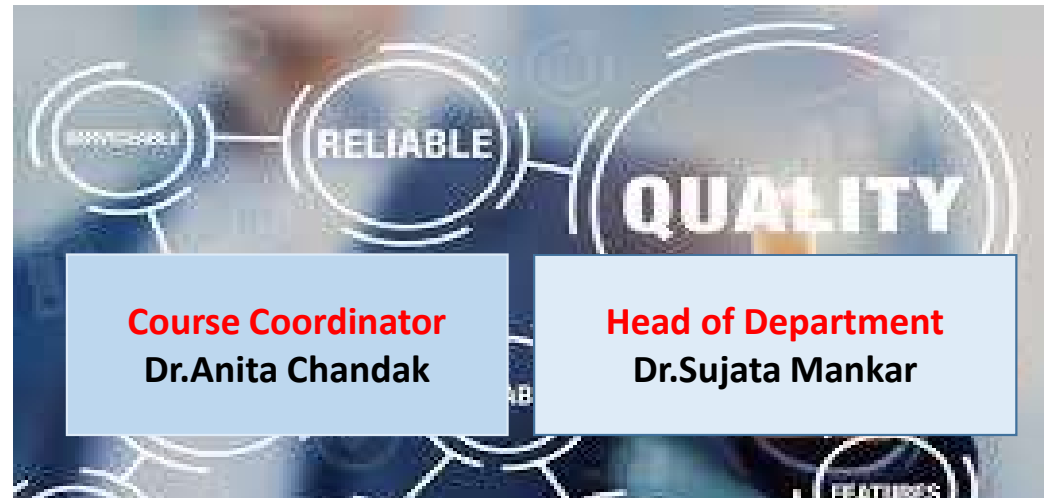
- helps better plant growth and crop yield
- improves physical structure of soil.
- enriches soil with micro-organisms
- attracts deep-burrowing earthworms already present in the soil which, indirectly improves fertility of soil.
- increase water holding capacity of soil.
- enhances germination, plant growth, and crop yield.
- improves root growth of plants.
- enriches soil with plant hormones such as auxins and gibberellic acid.
- it is helpful in elimination of biowastes .

**Coordinator**  
**Dr. (Mrs.) Z. N. Kashmiri**  
**Associate Professor**  
**Department of Zoology**

# Certificate course on Food Safety and Quality Management

## Course Contents:

Understanding the implementing guidelines of food safety system  
Basics of Microbiology  
Different Types of Food  
Basics of Food Safety and Personal Hygiene  
Implementation of Food Safety  
Food Preservation methods



**Course Duration: 30 hours [Theory and Lab included]**



DEPARTMENT OF MICROBIOLOGY  
Dada Ramchand Bakhru Sindhu Mahavidyalaya



# **CERTIFICATE COURSE** **ON** **BASICS OF GST** **(GOODS AND SERVICE TAX)**

**DEPARTMENT OF COMMERCE**

**B.COM SEM II**

## ***TOPICS TO DISCUSS:***

Introduction of GST  
Tax Invoices  
Input Tax Credit Composition  
GST Registration  
Procedure of GST Return  
Accounting for GST  
Payment of Tax

## ***COURSE COORDINATORS:***

**Dr. S.V Tewani**

**Dr. Amit S. Nanwani**

**Dada Ramchand Bakhru Sindhu Mahavidyalaya**



# Certificate Course on + "Basics of Income Tax" +

Department of Commerce +

## B.COM SEM I

### Course Content

- Basic of income tax
- Sources of Income
- Tax Exempted Income
- Tax calculation
- Tax Return
- Deductions
- Credit Repair
- E-Filing of ITR
- Various types of ITR

Course Coordinator

**DR.RICHA KALYANI**



TAXY

DADA RAMCHAND BAKHRU SINDHU MAHAVIDYALAYA



**DADA RAMCHAND BAKHRU SINDHU MAHAVIDYALAYA**  
*Panchpaoli, Nagpur*



# ***Certificate Course on M.Commerce & Online Transactions***

## ***Department Of Commerce B.Com Sem VI***

### **Course Contents-**

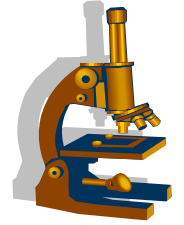
- Types of Mobile Commerce Services
- Mobile Marketing & Advertising Tools
- Mobile Advertising & Brand Building
- Concepts & Components of E- Commerce
- Career Opportunities in E- Commerce
- Mobile Applications
- Mobile Auction, Mobile Distance Education
- Social Media- Applications, Opportunities, Challenges & Precautions
- Security aspects of E-Commerce
- E- Payment Methods & Mobile Banking



**Course Coordinators-**  
**Mr. G. G. Rughwani**  
**Dr. Bhavna Choudhary**



**Dada Ramchand Bakhru Sindhu  
Mahavidhyalaya, Nagpur**



**CERTIFICATE COURSE  
IN  
BIO-FERTILIZER PRODUCTION**



**Department of Microbiology**

# Certificate course in Bio-fertilizer Production

## Introduction:

Nitrogen, phosphorous and potassium are the three major plant nutrients. Fertilizer industry greatly depends on petroleum reserves that will be almost exhausted. It is estimated that annually 25.1mt of nutrients (N, P, K ) are removed from the soil. Whereas, only 15.0 mt are supplied from soil sources including organics. The fertilizer production in our country is less than the required amount. Organics wastes and biofertilizers are the alternate sources to meet the nutrient requirement of crops. Further, knowing the deleterious effects of using only the chemical fertilizers on soil health, use of chemical fertilizers supplemented with organic waste and biofertilizer help in efficient and sustainable management of soil ecosystem.

A **biofertilizer** is a substance which contains living microorganisms, when applied to seed, or soil, colonizes the rhizosphere or the interior of the plant and promotes growth by increasing the supply or availability of primary nutrients to the host plant. In bio-fertilizer microbes remain symbiotically associate with plant roots and provide lots of beneficial effect to the plant

Certain microorganisms like bacteria; they live freely in the soil and perform nitrogen fixation. Some of them are saprotrophic, living on organic remains, e.g., *Azotobacter*, *Bacillus polymyxa*, *Clostridium*, *Beijerinckia*. and blue-green algae or free-living cyanobacteria, have the property of nitrogen fixation, e.g., *Anabaena*, *Nostoc*, *Aulosira*, *Totypothrix*, *Cylindrospermum*, *Stigonema*. have the ability to use atmospheric nitrogen and transfer this nutrient to the crop plants. Some of these nitrogen fixer like rhizobia are obligate symbionts in leguminous plants, while others like *Azospirillum* colonize root zones and fix nitrogen in loose association with plants.

## Objectives:

- **Bio-fertilizer is ecofriendly, sustainable approach, no harmful effect and improves soil fertility.**
- **It is based on integrated organic approach over chemical fertilizer.**
- **It is good self employment technique.**
- **Easy production and cost- effective.**
- **Low investment & Market demand**

## **Syllabus:**

- **Unit-I Introduction, Definition, types of Biofertilizer**
- **Unit-II Details free living and symbiotic nitrogen fixing Bacteria**
- **Unit-III Study of *Rhizobium* and *Azotobacter sp.***
- **Unit-IV Mass Production, Packaging and Marketing**

## **Practicals:**

- 1.1 Preparation of Media for *Rhizobium* and *Azotobacter sp.*
- 1.2 Collection and treatment of soil and healthy nodules from leguminous plant
- 1.3 Isolation ,purification and culturing of *Rhizobium* and *Azotobacter sp.*
- 1.4 Morphological and Biochemical study of *Rhizobium* and *Azotobacter sp.*
- 1.5 Standard Plate Count for viable count
- 1.6 Pot trials of prepared Biofertilizer with inoculated seeds
- 1.7 Packaging of Biofertilizer

(Incharge)

**Dr. S. A. Mankar**  
Head, Deptt. of Microbiology




**Dada Ramchand Bakhru  
Sindhu Mahavidyalaya, Nagpur.**




**Certificate Course**

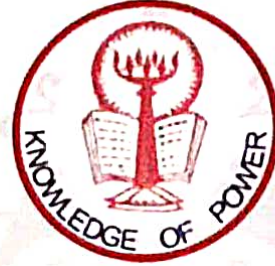
*This is certified that Mr. / Ms. ANJALI PRAMOD RAMTEKE*  
*participated and successfully completed certificate course in BASIC MOLECULAR*  
*BIOLOGY TECHNIQUES held by the*  
*department of BIOTECHNOLOGY Dada Ramchand Bakhru Sindhu Mahavidyalaya*  
*Nagpur during 2022-23*

Date: 06.04.2023

  
Program Co-ordinator

  
Principal

**Dada Ramchand Bakhru  
Sindhu Mahavidyalaya, Nagpur.**



**Certificate Course**

This is certified that Mr. / Ms. kashish Dilip Bikhari  
participated and successfully completed certificate course in Food Safety And  
Quality Management held by the  
department of Microbiology Dada Ramchand Bakhru Sindhu Mahavidyalaya  
Nagpur during 2022-2023

Date: 29/4/23

Bhauddal  
Program Co-ordinator

[Signature]  
Principal

**Dada Ramchand Bakhru  
Sindhu Mahavidyalaya, Nagpur.**



**Certificate Course**

This is certified that Mr. / Ms. Chandu Pimpalkar  
participated and successfully completed certificate course in Vermiculture  
held by the  
department of Zoology Dada Ramchand Bakhru Sindhu Mahavidyalaya  
Nagpur during 2022-23

Date: 4<sup>th</sup> April 23

Zakshmiw  
Program Co-ordinator

  
Principal

**Dada Ramchand Bakhru  
Sindhu Mahavidyalaya, Nagpur.**



**Certificate Course**

This is certified that Mr. / Ms. PRAKASH SAHU  
participated and successfully completed certificate course in HYDROPRONICS  
held by the  
department of BOTANY Dada Ramchand Bakhru Sindhu Mahavidyalaya  
Nagpur during SESSION 2022-2023

Date : 27/04/23

Program Co-ordinator

  
Principal

**Dada Ramchand Bakhru  
Sindhu Mahavidyalaya, Nagpur.**



**Certificate Course**

This is certified that *Mr. / Ms.* HARSH GAURE  
participated and successfully completed certificate course in M. COMMERCE AND  
ONLINE TRANSACTIONS held by the  
department of COMMERCE Dada Ramchand Bakhru Sindhu Mahavidyalaya  
Nagpur during 2022 - 2023

Date : 15/03/2023

*Bhanna*  
Program Co-ordinator

*[Signature]*  
Principal

**Dada Ramchand Bakhru  
Sindhu Mahavidyalaya, Nagpur.**



**Certificate Course**

This is certified that Mr. / Ms. Nusrat Fatema  
participated and successfully completed certificate course in "Basics of GST"  
..... held by the  
department of Commerce ..... Dada Ramchand Bakhru Sindhu Mahavidyalaya  
Nagpur during 2022-23 .....

Date: 29/04/2023

Amitshamani  
Program Co-ordinator

VP  
Principal

**Dada Ramchand Bakhru  
Sindhu Mahavidyalaya, Nagpur.**



**Certificate Course**

This is certified that Mr. / Ms. ANISHA DEWANI  
participated and successfully completed certificate course in TALLY  
..... held by the  
department of COMMERCE ..... Dada Ramchand Bakhru Sindhu Mahavidyalaya  
Nagpur during 2022 - 2023 .....

Date : 25/09/2023

  
Program Co-ordinator

  
Principal

**Dada Ramchand Bakhru  
Sindhu Mahavidyalaya, Nagpur.**



**Certificate Course**

This is certified that Mr. / Ms. Harshita Sarapalli  
participated and successfully completed certificate course in "Basics of Income Tax"  
held by the  
department of Commerce Dada Ramchand Bakhru Sindhu Mahavidyalaya  
Nagpur during 2022-23

Date: 29/04/2023

Sarapalli  
Program Co-ordinator

Vf  
Principal