



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## Criterion 1 - Curricular Aspects

### 1.2 Academic Flexibility

1.2.1 Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc. (where the students of the institution have enrolled and successfully completed during the last five years)

| Sl. No. | Academic Session | No of courses offered | No. of participating students |
|---------|------------------|-----------------------|-------------------------------|
| 1       | 2018-19          | 1                     | 16                            |
| 2       | 2019-20          | 6                     | 158                           |
| 3       | 2020-21          | Nil                   | NA                            |
| 4       | 2021-22          | 2                     | 448                           |
| 5       | 2022-23          | 3                     | 64                            |
| Total   |                  |                       | 686                           |

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary  
Dist- Paschim Medinipur : PIN-721135  
[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

## **Add on/Certificate/Value added and other online courses during the Last Five Years**

**DOCUMENTS: Institutional program brochure/notice for Certificate/Value added programs with course modules and outcomes**

### **Contents**

- 1. List of Courses Offered**
- 2. Brochure /Syllabus/Schedule for the courses and course outcome**

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## List of Add on/certificate/value added and other online courses offered DURING THE LAST FIVE YEARS

| Sl. No. | Name of the value added course   | Salient Objective                       | Tenure                   | Number of unique participants |
|---------|--|---|--------------------------|-------------------------------|
| 1.      | Laboratory Pathology: Hands on Training on Selected Methods                    | To generate scope for self -employment  | 26.11.2018 to 12.12.2018 | 16                            |
| 2.      | Mushroom Cultivation   | To generate self-employment             | 16.08.2019 to 30.09.2019 | 10                            |
| 3.      | Knowing Human Past and Present : an Applied Approach                           | To generate awareness                   | 15.10.2019 to 31.12.2019 | 48                            |
| 4.      | Man-animal encounters: towards conservation of habitat and ecosystem           | To generate awareness on environment    | 17.10.2019 to 26.12.2019 | 23                            |
| 5.      | Management of Hazardous Waste for Healthy Environment                          | To generate awareness on environment    | 17.10.2019 to 30.12.2019 | 14                            |
| 6.      | Recitation (Abritti)   | To generate self-employment             | 17.10.2019 to 28.12.2019 | 34                            |
| 7.      | Santali Scriptology (□□□□□□ □□□□)  | To generate self-employment             | 17.10.2019 to 28.12.2019 | 29                            |
| 8.      | Knowing the campus butterfly diversity: A step towards pollinator conservation | To generate awareness & self-employment | 04.03.2022 to 11.04.2022 | 34                            |
| 9.      | Man-animal encounters: towards conservation of habitat and ecosystem           | To generate awareness on environment    | 16.04.2022 to 08.05.2022 | 414                           |
| 10.     | Medicinal Plant Identification and Uses  | To generate awareness & self-employment | 4.11.2022 to 14.11.2022  | 13                            |
| 11.     | Mastering Vermicomposting  | To generate awareness & self-employment | 01.03.2023 to 30.04.2023 | 11                            |
| 12.     | Communicative English and Competitive Exams                                    | To assist personality development       | 16.5.2023to 25.5.2023    | 40                            |

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# **GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY**

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

**Brochure /Syllabus/Schedule for the courses and course outcome**

## **1. Laboratory Pathology: Hands on Training on Selected Methods**

by

**Department of Zoology**

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)



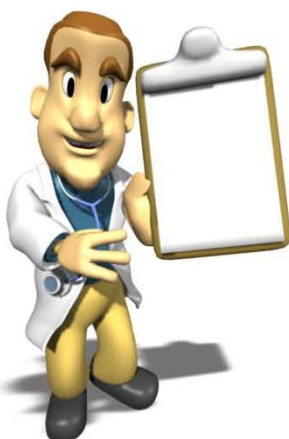
Addon Course on:

***"Laboratory Pathology:***

***Hands on Training on Selected Methods"***


**OFFERED BY:**

DEPARTMENT OF ZOOLOGY,  
GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY  
VILLAGE: TILABONI MAHISHAMURA, P.S. KESHIARY  
DIST. PASCHIM MEDINIPUR, PIN 721135



**FOR:**

THE STUDENTS OF LIFE SCIENCES &  
CHEMICAL SCIENCES,  
GGDC, KESHIARY

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in



सत्यमेव जयते

## Department of Zoology Government General Degree College, Keshiary

Tilaboni Mahishamura P.S. Keshiary, Dist. Paschim Medinipur, PIN 721135

### Value Added Course on:

### "Laboratory Pathology: Hands on Training on Selected Methods"

#### Introduction:

The vast population of India is in need of trained doctors and nurses along with skilled laboratory technicians in order to render a proper healthcare service. In this scenario, there is a dearth of skilled laboratory technicians in the Government and Private health care facilities which cause a delay in diagnostics and urgent healthcare functionalities. A graduate of biological sciences and chemical sciences can be inspired to take up training courses in Laboratory Pathology which they can utilize in pursuing their respective career opportunities.

The Department of Zoology, GGDC, Keshiary within its limited scope has thus taken up the challenge to induct a value-added course on **Laboratory Pathology** utilizing its own laboratory facilities. The course would empower the young graduates to understand human physiology on experimental basis and the means to access selected protocols and methodologies. The training would likely infuse confidence among the trainee to take up Laboratory Pathology as a profession in their future career and it would render benefit to the society in long run.

#### Aims and objectives:

- To train a student with the common protocols of a pathological laboratory
- To make a student oriented with various instruments and tests in laboratory
- To inspire a student to choose laboratory pathology as a career option

#### Duration of the course:

The course would be conducted for not less than 30 hours over a period of three months.

#### Admission Procedure:

Candidates for admission to the course should be students of the Government General Degree College at Keshiary, Paschim Medinipur. Interested students from the departments of Life Sciences and Chemical Sciences can apply for admission at the time of notification in the prescribed form. Certificates would be issued to the candidates on successful completion of the course.

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## Contact Information:

Dr. Manidip Shasmal, Asstt. Prof. in Zoology, Mob. No: 9831785614; Email: [mshasmal1982@gmail.com](mailto:mshasmal1982@gmail.com)

Mr. Debarshi Mondal, Asstt. Prof. in Zoology, Mob. No: 8509411435; Email: [rishi2.deb@gmail.com](mailto:rishi2.deb@gmail.com)

Dr. Sudipta Chakraborty, Asstt. Prof. in Zoology, Mob. No: 94336 02565; Email: [meschakraborty@gmail.com](mailto:meschakraborty@gmail.com)

## Course objectives:

- To make a trainee introduced to the basic requirements of a pathological laboratory
- To make a trainee accustomed to simple pathological tests in laboratory that can develop in him/her acumen to first aid and laboratory methods

## Syllabus:

### Laboratory Pathology: Hands on Training on Selected Methods


| Sl. No. | Topics  | Assigned hours |
|---------|---|----------------|
| 1.      | Measurement of body temperature using thermometer                                       | 1hr            |
| 2.      | Measurement of blood pressure using sphygmomanometer and digital blood pressure monitor | 1hr            |
| 3.      | Determination of blood group (ABO and Rh) using antibody kit                            | 1 hr           |
| 4.      | Estimation of bleeding time and clotting time   | 1 hr           |
| 5.      | Using and maintenance of simple and compound microscope                                 | 3 hrs          |
| 6.      | Micrometric measurement using stage micrometer and ocular micrometer                    | 2 hrs          |
| 7.      | Estimation of cell viability using Trypan Blue assay                                    | 2 hrs          |
| 8.      | Estimation of total count of RBC using haemocytometer                                   | 2 hrs          |
| 9.      | Estimation of total and differential count of WBC                                       | 3 hrs          |
| 10.     | Estimation of haemoglobin in blood using haemoglobinometer                              | 3 hrs          |
| 11.     | Estimation of erythrocyte sedimentation ratio (ESR) of blood                            | 3 hrs          |
| 12.     | Estimation of serum protein using colorimetry/spectrophotometry (Lowry's method)        | 2 hrs          |
| 13.     | Estimation of amylase using colorimetry/spectrophotometry                               | 2 hrs          |
| 14.     | Introduction to histology and microtomy   | 4 hrs          |

## Selected reference books:

- Guyton and Hall Textbook of Medical Physiology - 14<sup>th</sup> Edition, Elsevier
- Ganong's Review of Medical Physiology, 26<sup>th</sup> Edition by Kim E. Barrett, Susan M. Barman, Scott Boitano, Jane F. Reckelhoff, Mc Graw Hill.
- Dacie and Lewis Practical Haematology, 12<sup>th</sup> edition, Elsevier.
- Laboratory Tests and Diagnostic Procedures by Cynthia C. Chernecky, Barbara J. Berger, 6<sup>th</sup> Edition, Elsevier.

## Outcome of the course:

- Trainee would be able to handle simple and compound microscope in laboratory
- Trainee would be able to provide first-aid support to needy individuals by using simple instruments like thermometer, sphygmomanometer etc.
- Trainee would be able to perform simple yet lifesaving assay in laboratory related to human blood
- The experience would assist the trainee to get self-reliant in his pursuit to the job of laboratory pathology

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary  
Dist- Paschim Medinipur : PIN-721135  
[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

## 2. Mushroom Cultivation

By

Department of Botany

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary





सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

Add -On Course offered by  
Department of Botany  
GGDC, Keshiary



**VALUE-ADDED COURSE ON**

## **MUSHROOM Cultivation**



Contact :  
Department of Botany  
GGDC at keshiary

1 | Page

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)



सत्यमेव जयते

## Department of Botany

### Government General Degree College at Keshiary

Telipukur, Tilaboni Mahisamura, Keshiary, Paschim Medinipur, PIN : 721135

#### VALUE-ADDED COURSE ON MUSHROOM CULTIVATION

##### *Scheme of Examination and Syllabus*

#### **Introduction:**

Mushroom culture is the process of growing mushrooms from spores or mycelium on a suitable substrate. Mushrooms are fungi that lack chlorophyll and depend on organic matter for nutrition. They have a complex life cycle that involves alternation of generations between a haploid gametophyte and a diploid sporophyte. Mushroom culture can be done for food, medicine, or industrial purposes. Some of the steps involved in mushroom culture are:

- Obtaining a pure culture of the desired mushroom species from spores or tissue samples on agar plates or liquid media.
- Multiplying the culture on grain spawn or liquid culture syringes.
- Preparing the substrate from agricultural wastes, such as straw, sawdust, or compost.
- Inoculating the substrate with the spawn or liquid culture and maintaining the optimal temperature, humidity, and ventilation for colonization.
- Harvesting the mushrooms when they reach maturity and processing them for consumption or storage.

Mushroom culture is a sustainable and profitable way of utilizing agro-wastes and producing nutritious and medicinal food. Mushrooms have been used as food and medicine since ancient times. Mushroom contains all essential amino acids, vitamin B complex, iron, calcium, potassium, phosphorous, folic acid and other biochemical compounds. It is also a good source of dietary fibre. It is regarded as highly edible even for people suffering from cholesterol problems, heart diseases, diabetes and cancer. Mushroom cultivation has become a source of income generation since there is a large demand for healthy and quality food products. Many value-added products are also obtained from mushrooms. The cultivation procedure is characterized by small initial investment and year-round production. It is an eco-friendly agricultural practice.



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

Considering the commercial viability and self-employment potential of mushroom cultivation and marketing, the Department is offering the same as an add-on certificate course to the undergraduate students of the College.

## Aims of the Course

1. To enable the students to identify the edible and poisonous mushrooms.
2. To provide hands-on training for the preparation of beds for mushroom cultivation and its harvesting, pests and diseases control and post-harvesting management.
3. To provide the students with awareness about the marketing trends of Mushrooms.
4. To give the students exposure to the experiences of experts in the field and to functioning mushroom farms.
5. To help the students to learn a means of self-employment and income generation.

**Duration of Course:** The course shall extend over a period of three months (30 hrs).

## Admission Procedure:

Candidates for admission to the course should be students of the **Government General Degree College at Keshiary**, Paschim Medinipur. Interested students shall apply for admission at the time of notification in the prescribed form. Certificates will be issued to the candidates on successful completion of the course.

## Contact Details:

**Dr Nilay Kumar Maitra**

HOD & Assistant Professor in Botany

Mobile No: 9831397985

Email Id: [HOD\\_botany@ggdckeshiary.ac.in](mailto:HOD_botany@ggdckeshiary.ac.in)

**Dr. Susanta Maity**

Assistant Professor in Botany

Mobile No: 9732114631

**Sk Md Ismail Al Amin**

Assistant Professor in Botany

Mobile No: 9153022716



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## SYLLABUS

### MUSHROOM CULTIVATION

#### Course objectives

- To facilitate self-employment.
- To know the nutrient value of mushrooms.
- To study the morphology and types of Mushrooms.
- To know the spawn production technique.
- To be aware of the identification of edible and poisonous Mushrooms.
- To learn the prospects and scope of mushroom cultivation in small-scale industry.
- To understand the Diseases. Post-harvesting techniques of Mushrooms.

#### UNIT I

Introduction – History of mushroom cultivation; Classification and distribution of mushroom; life cycle of mushroom. Identification of poisonous mushrooms.

#### UNIT II

Spawn preparation - Isolation of pure culture; Nutrient media for pure culture; layout of spawn preparation room; raw material of spawn; sterilization; preparation of mother spawn and multiplication.

#### UNIT III

Cultivation of mushroom, layout of mushroom shed - small scale and large scale production unit. Types of raw material – preparation and sterilization; Mushroom bed preparation – maintenance of mushroom shed; harvesting method and preservation of mushrooms.

#### UNIT IV

Nutrient values of mushroom – protein, carbohydrate, fat, fibre, vitamins and amino acids contents; short and long term storage of mushroom; preparation of various dishes from mushroom. Medicinal value of mushroom – cultivation, extraction, isolation and identification of active principle from mushroom. Pharmacological and economic values of mushroom.

#### UNIT V

Cultivation of following types of mushroom – milky mushroom; oyster mushroom, button mushroom and any one medically valuable mushroom.

**Practical: All the items included in theory.**



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## SUGGESTED BOOKS

1. Paul Stamets, J.S. and Chilton, J.S. 2004. Mushroom cultivation A practical guide to growing mushrooms at home, Agarikon Press.
2. Tewan and Pankaj Kapoor S.C. 1993. Mushroom cultivation. Mittal Publication. Delhi.
3. Marimuth et al., 1991. Oyster Mushrooms. Dept. of Plant pathology, TNAU, Coimbatore.
4. Nita Bahl. 1988. Hand book of Mushrooms, 2<sup>nd</sup> Edition, Vol I & II.
5. Shu Fing Chang, Philip G. Miles and Chang, S.T. 2004. Mushrooms Cultivation, nutritional value, medicinal effect and environmental impact. 2<sup>nd</sup> ed., CRC press.

## Course Outcome

- Students can start a small-scale industry of Mushroom cultivation.
- Students study the morphology and types of Mushrooms.
- They are aware of the identification of edible and poisonous Mushrooms.
- Students will be able to produce spawn on their own.
- Learned the prospects and scope of mushroom cultivation in small-scale industry.
- Studied the technique of Mushroom cultivation.
- Understood the Diseases. Post-harvesting techniques of Mushrooms.



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary


Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

## 3. Knowing Human: Past and Present an Applied Approach

by

Department of Anthropology

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## ADDON COURSE BROCHURE

ON

### *KNOWING HUMAN: PAST AND PRESENT AN APPLIED APPROACH*

**STARTING FROM 15/10/2019 – 31/10/2019**

**ORGANISED BY : Department of Anthropology,  
Government General Degree College, Keshiary. Paschim Medinipur**

**COURSE DURATION : 32 HOURS(OFFLINE BASIS)**

**WHO CAN APPLY: HAVE BIOLOGY IN HIGHER SECONDARY LEVEL**

**TOTAL NO OF SEAT : 50**


#### WE WILL STUDY ABOUT

##### THEORETICAL

- 1) Fundamentals of human anatomy (skeletal) : Anatomical changes occur in human anatomy due to the erect posture and bipedal gait
- 2) Comparative Human Anatomy
- 3) Importance of Primate Study in Anthropology Fundamental human evolution (out line study on Hominoid & Hominid Evolution)
- 4) Geological time scale
- 5) Bio- Cultural process & Fundamentals of Prehistoric Archaeology
- 6) Basic tool typology & technology

##### PRACTICAL

- 1) Identification of human skull bones, long bones ( humerus, radius, ulna, femur, tibia & fibula), vertebrae, pelvic girdle
- 2) Comparative Anatomy of Human & Apes
- 3) Half day FIELD SURVEY to ZOOLOGICAL GARDEN OF KOLKATA, for primate study
- 4) Half Day Field SURVEY TO INDIAN MUSEUM, KOLKATA
- 5) Half Day FIELD SURVEY to An Archaeological site of WEST BENGAL
- 6) Comparative Typo-Technological analysis of - Cutting tools, Chopping tools, Piercing tools, Fshing implements, Hoeing implements & Ploughing implements.

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## CLASS SCHEDULE


### THEORITICAL

| SL/NO | TOPIC  | DATE       | TIME          | CLASS ASSIGNED TO        |
|-------|--|------------|---------------|--------------------------|
| 1     | Fundamentals of human anatomy (skeletal) : Anatomical changes occur in human anatomy due to the erect posture and bipedal gait | 15/10/2019 | 3:00pm-5:00pm | Prof. Jayita Roy Tapadar |
| 2     | Comparative Human Anatomy  | 22/10/2019 | 3:00pm-4:30pm | Prof. Jayita Roy Tapadar |
| 3     | Importance of Primate Study in Anthropology. Fundamental human evolution (out line study on Hominoid & Hominid Evolution)      | 29/10/2019 | 3:00pm-4:30pm | Prof. Jayita Roy Tapadar |
| 4     | Geological time scale  | 1/11/2019  | 3:00pm-4:30pm | Prof. Syantan Das        |
| 5     | Bio- Cultural process & Fundamentals of Prehistoric Archaeology  | 14/11/2019 | 3:00pm-4:30pm | Prof. Syantan Das        |
| 6     | Basic tool typology & technology   | 29/11/2019 | 1:30pm-3:00pm | Prof. Aritra Samajdar    |

### PRACTICAL:

| SL/NO | TOPIC   | DATE       | TIME               | CLASS ASSIGNED TO                                  |
|-------|---|------------|--------------------|--|
| 1     | Identification of human skull bones, long bones ( humerus, radius, ulna, femur, tibia & fibula), vertebrae, pelvic girdle                               | 29/11/2019 | 3:30pm-5:00pm      | Prof. Papiya Roy                                   |
| 2     | Comparative Anatomy of Human & Apes   | 3/12/2019  | 3:30pm-5:00pm      | Prof. Papiya Roy                                   |
| 3     | Comparative Typo-Technological analysis of Cutting tools, Chopping tools, Pierching tools, Fshing implements, Hoeing implements & Ploughing implements. | 3/12/2019  | 3:30pm-5:00pm      | Prof. Aritra Samajdar                              |
| 4     | Half day FIELD SURVEY to ZOOLOGICAL GARDEN OF KOLKATA, for primate study  | 27/12/2019 | 11:00 am – 5:00 pm | All Faculty member of Dept. Of Anthropology, GGDCK |
| 5     | Half Day Field SURVEY TO INDIAN MUSEUM, KOLKATA   | 28/12/2019 | 11:00 am – 5:00 pm | All Faculty member of Dept. Of Anthropology, GGDCK |
| 6     | Half Day FIELD SURVEY to An Archaeological site of WEST BENGAL  | 12/12/2019 | 11:00 am – 5:00 pm | All Faculty member of Dept. Of Anthropology, GGDCK |

\*Time, date may be changed as per circumstances & will be notified as per the earliest

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary





सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

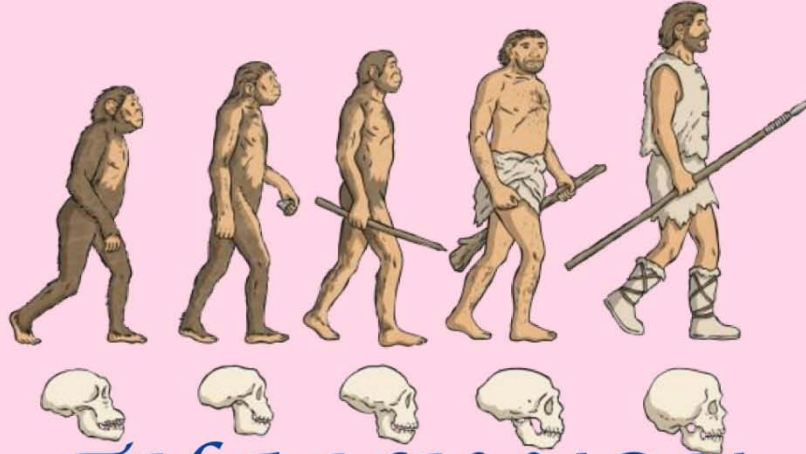
At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

## CONTACT DETAILS:

- 1) Aritra Samjdar (M)- +91 7439599092  
Email ID: [hod\\_anthro@ggdckeshiary.ac.in](mailto:hod_anthro@ggdckeshiary.ac.in)
- 2) Jayita Roy Tapadar (M) +91 9038958757  
Email ID: [jrovcu@gmail.com](mailto:jrovcu@gmail.com)
- 3) Sayantan Das (M)- +91 9830726652  
Email ID: [sayantandas82@gmail.com](mailto:sayantandas82@gmail.com)
- 4) Papiya Roy (M)- +91 9433419886  
Email ID: [rpapivarov@gmail.com](mailto:rpapivarov@gmail.com)



# THANK YOU

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

## 4. Man-animal encounters: towards conservation of habitat and ecosystem

by

Department of Zoology

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)


**Add-On Course offered by  
Department of Zoology  
GGDC, Keshiary**



## VALUE-ADDED COURSE ON **MAN-ANIMAL ENCOUNTERS: TOWARDS CONSERVATION OF HABITAT AND ECOSYSTEM**



Contact :  
Department of Zoology  
GGDC at Keshiary

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)



सत्यमेव जयते

## Department of Zoology Government General Degree College at Keshiary

Telipukur, TilaboniMahishamura, Keshiary, Paschim Medinipur, PIN : 721135

### VALUE-ADDED COURSE ON MAN-ANIMAL ENCOUNTERS: TOWARDS CONSERVATION OF HABITAT AND ECOSYSTEM

#### **Introduction:**


This course is designed to provide students with a comprehensive understanding of the complex interactions between humans and animals, with a focus on conservation efforts to sustain habitats and ecosystems. The course will explore the challenges and opportunities presented by man-animal encounters and equip students with the knowledge and skills needed to contribute to effective conservation strategies.

Man-animal conflict represents a complex scenario where human activities intersect with natural wildlife habitats, resulting in adverse encounters and challenges for both human well-being and wildlife conservation. This phenomenon is increasingly prevalent due to factors such as habitat loss, human population growth, changes in land use, human activities, and climate change. In the context of India, several instances exemplify man-animal conflict. In West Bengal's Medinipur region, encounters between elephants and human settlements have led to crop damage, property destruction, and human fatalities. Similarly, areas like Junnar and Nashik in Maharashtra experience conflicts between humans and leopards due to urban expansion into leopard habitats. The Sundarbans face challenges with tiger-human conflict, prompting strategies for coexistence.

The impact on human communities is profound, encompassing economic losses, safety concerns, and psychological impacts. Crop raids by wildlife lead to significant economic losses for farmers, affecting livelihoods and food security. Attacks on humans by wildlife pose serious safety concerns, causing fear and anxiety within affected communities and resulting in psychological stress.

On the wildlife conservation front, man-animal conflict leads to retaliatory killings and habitat fragmentation. Retaliatory killings threaten conservation efforts for endangered

Page 1

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

species, while habitat fragmentation can isolate populations, impacting genetic diversity and long-term survival.

Mitigation strategies are crucial for addressing man-animal conflict. Community engagement, early warning systems, habitat protection and restoration, technology utilization, and policy interventions play key roles. Involving local communities in conservation efforts fosters understanding and cooperation. Early warning systems help reduce human casualties by enabling preventive measures. Safeguarding natural habitats and restoring degraded areas mitigates conflicts by providing sufficient space and resources for wildlife. The use of technology, such as GPS tracking and camera traps, aids in understanding wildlife movements. Policy interventions, including land-use planning and compensation schemes, are essential for balancing human needs and wildlife conservation.

In conclusion, man-animal conflict necessitates a holistic approach involving communities, policymakers, and conservationists. By addressing root causes and implementing strategic mitigation measures, we can work towards a future where humans and wildlife coexist harmoniously, ensuring the preservation of biodiversity and the well-being of both populations.

## Aims of the Course

1. To enable the students to identify the different causes of Man-wildlife conflict
2. They will be equipped with the knowledge and skills to address real-world conservation issues
3. To provide the students with awareness about the tools needed to contribute to the conservation of habitats and ecosystems
4. Making them valuable contributors to the field of conservation ecology
5. By the end of the course, students will have gained a deep understanding of the challenges due to man-animal encounters

**Duration of Course:** The course shall extend over a period of three months (30hrs).



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

## Admission Procedure:

Candidates for admission to the course should be students of **the Government General Degree College at Keshiary**, Paschim Medinipur. Interested students shall apply for admission at the time of notification in the prescribed form. Certificates will be issued to the candidates on successful completion of the course.

## Contact Information:

### Dr. Sudipta Chakraborty

Officer in Charge and Assistant Professor in Zoology

Phn No: 94336 02565

Email: [meschakraborty@gmail.com](mailto:meschakraborty@gmail.com)

### Mr. Debarshi Mondal

Assistant Professor in Zoology

Phn No: 8509411435

Email : [rishi2.deb@gmail.com](mailto:rishi2.deb@gmail.com)

## SYLLABUS

### MAN-ANIMAL ENCOUNTERS: TOWARDS CONSERVATION OF HABITAT AND ECOSYSTEM

#### Course objectives

- To know the different causes of Man-wildlife conflict
- To acquire knowledge and skills to address real-world conservation issues
- To provide the students awareness about the tools needed to contribute to the conservation of habitats and ecosystems
- Gained a deep understanding of the challenges due to man-animal encounters
- Making the students as a valuable contributors to the field of conservation ecology

#### UNIT I

##### Introduction to Man-Wildlife Conflict and Conservation Ecology

Analyzing the causes and consequences of human-wildlife conflict, Case studies of successful and unsuccessful conflict resolution, Developing strategies for minimizing conflict and promoting coexistence, Basic principles of ecology and ecosystem dynamics, Introduction to key conservation concepts and theories

Page 3

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## UNIT II

### Different reasons of Human-Wildlife Conflict

Analyzing the causes and consequences of human-wildlife conflict, Case studies of successful and unsuccessful conflict resolution, Developing strategies for minimizing conflict and promoting coexistence

## UNIT III

### Ethical and Legal Aspects of Conservation

Exploring ethical considerations in conservation, Understanding international and national laws related to wildlife protection, Role of policy-making in habitat conservation

## UNIT IV

### Conservation Technologies

Introduction to modern technologies in conservation, GIS and remote sensing applications in habitat monitoring, Conservation genetics and its role in managing wildlife populations

## UNIT V

### Conservation Planning and Management

Formulating conservation plans for specific habitats and ecosystems, Monitoring and evaluating conservation programs, Integrating sustainable development with conservation goals

**Practical: All the items included in theory.**

### Course Outcome

- Students can understand different causes of Man-wildlife conflict.
- Students learned the knowledge and skills to address real-world conservation issues.
- They are aware about the tools needed to contribute to the conservation of habitats and ecosystems.
- Understood the challenges due to man-animal encounters.
- Students act as a valuable contributors to the field of conservation ecology.



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

## 5. Management of Hazardous Waste for Healthy Environment

by

Department of Chemistry

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary





सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary


Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

**Add-On Course offered by  
Department of Chemistry  
GGDC, Keshiary**

## Management of Hazardous Waste for Healthy Environment

Contact:  
Department of Chemistry  
GGDCat Keshiary

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

**Add-On Course offered by  
Department of Chemistry  
GGDC, Keshiary**

## Management of Hazardous Waste for Healthy Environment

### **Introduction:**

Unplanned disposal of hazardous waste pose the potential threat on human health, environment quality degradation, planetary resources, and aesthetics. A systematic management of the same is essentially required to control risk to health and hazards. A suitable waste management may result into a reduction of waste handling cost along with enhanced recovery of important resources. Hazardous waste handling is risky for human health. Uses of personal protection system along with systematic procedural step are important. Protection of the environment and public health by organizing and communicating knowledge about health risks within a framework is useful for decision-making. The aim of this add-on course is to instil the participant to reduce the hazardous effects of waste on the environment and human health and the systematic and safe handling of the same. Reducing waste will not only protect the environment but will also save on costs or reduce expenses for disposal.

### **Objective of the course:**

This course is designed to provide the knowledge about the wastes that effect healthy environment and the process of their management. This course will also provide hands on training on waste water treatment and sanitizer preparation.

### **Eligibility:**

All undergraduate students who have passed 10+2

### **Syllabus:**

#### **Module 1 (10 hours):**

- **Introductory Class - 1 hours**
- **What is environment - 1 hours**
- **Necessity of healthy environment- 1 hours**
- **Wastes that effect healthy environment- 2 hours**
- **Risk factors during waste handling- 2 hours**
- **Precautions and measures for the waste- 2 hours**
- **Responsibilities as human being- 1 hours**



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

## Module 2 (8 hours):

- Waste categories- 2 hours
- Solid waste management- 2 hours
- Liquid waste management- 2 hours
- Bio hazard management- 2 hours

## Module 3 (10 hours):

### Hand on training Programme

- Waste water treatment: pH measurement, Conductance measurement and Spectroscopic dye degradation analysis of different waste water source. – 6 hours
- Sanitizer preparation for self-protection of waste handling workers – 4 hours

## Module 4 (2 hours):

- Theory and Practical Exam: – 2 hours

## Contact of the course coordinators:

- Dr. Sutapa Ray, Assistant Professor of Chemistry, GGDC, Keshiary  
Mob: 7908762257, email: [hod\\_chemistry@ggdckeshiary.ac.in](mailto:hod_chemistry@ggdckeshiary.ac.in)
- Dr. Soumya Sundar Mati, Assistant Professor of Chemistry, GGDC, Keshiary  
Mob: 8697971976, email: [soumyamati@gmail.com](mailto:soumyamati@gmail.com)



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary  
Dist- Paschim Medinipur : PIN-721135  
[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

## 6. Recitation (Abritti)

by

Department of Bengali

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



সম্মানেষে জয়ন্তে

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary  
Dist- Paschim Medinipur : PIN-721135  
[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

*Add on Course*  
*on*  
*Recitation*  
*(আবৃত্তি)*

**Offered By**  
**Department of Bengali**  
**GGDC Keshiary**



*Chakraborty*  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



সম্মানসহ সত্য

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## ADD – ON COURSE ON RECITATION (আবৃত্তি) OFFERED BY DEPARTMENT OF BENGALI, GGDC KESHIARY

### পরিচয়ঃ

একালের জনপ্রিয়তম একটা বাচিক শিল্প আবৃত্তি। কোন একটা কবিতা কিংবা গদ্যের যথাযথ পাঠ বা আবৃত্তিতেই সম্ভব হতে পারে তার সার্থক মর্মোদ্ধার। একটা সময় পর্যন্ত নাট্য শিল্প বা থিয়েটারের সঙ্গে জড়িয়ে ছিল এই আবৃত্তি শিল্প। কিন্তু এখন আবৃত্তি শিল্পের স্বাধীন এবং স্বতন্ত্র সত্ত্বা। মননের চর্চায় আবৃত্তি বর্তমানে অত্যন্ত গুরুত্বপূর্ণ একটা শিল্প মাধ্যম। আবৃত্তি শিল্প নিয়ে চলছে বহু পরীক্ষামূলক কাজ। বহু বিশিষ্ট আবৃত্তিকার, বহু প্রতিষ্ঠানের নিরন্তর চর্চায় আবৃত্তি শিল্পের ধারা আজ বিস্তৃত। এমনকী তথাকথিত সাংস্কৃতিক পরিমণ্ডলের বাইরে ব্যবহারিক জীবনেও আবৃত্তি শিল্পের গুরুত্ব আজ স্বীকৃত। নিজের সুস্পষ্ট মতামত প্রকাশে অথবা পারস্পরিক ভাবনা কিংবা আলাপের আদান-প্রদানে বাচিক দক্ষতা ভীষণ প্রয়োজন। আবৃত্তি শিল্পের চর্চায় তা অনেক সহজ এবং সুগম হয়। পাশাপাশি আবৃত্তি চর্চার পথে এখন অনেক জীবিকারও সুলুক সন্ধান পাওয়া যায়। স্বভাবতই আবৃত্তি শিল্পের সাথে সম্যক পরিচয় আজ একান্ত প্রাসঙ্গিক এবং প্রয়োজনীয়।

### উদ্দেশ্যঃ

আবৃত্তি শিল্প চর্চার প্রয়োজনীয়তার প্রেক্ষিতেই আবৃত্তি শিল্প নিয়ে এই কোর্স সংগঠনের ভাবনা। ছাত্র-ছাত্রীদের ব্যক্তিত্ব গঠন, বোধের বিকাশ এবং চিন্তার ব্যাঙিতে আবৃত্তি অপরিহার্য। পাশাপাশি ছাত্র-ছাত্রীদের জীবিকারও দিশা দেখাতে পারে আবৃত্তির চর্চা। সব মিলিয়ে ছাত্র-ছাত্রীদের জন্য একটা সুন্দর আগামী দিনের স্বপ্নের নির্মাণ এই কোর্সের উদ্দেশ্য।

### যোগ্যতাঃ

সমস্ত কলেজ পড়ুয়া ছাত্র-ছাত্রী, যারা ১০+২ পরীক্ষায় উত্তীর্ণ হয়েছে।

### সিলেবাসঃ

মডিউল ১ - আবৃত্তির ধারণা (১ ঘন্টা)

মডিউল ২ - গদ্য পাঠ ও আবৃত্তি এবং কবিতা ও আবৃত্তি (২ ঘন্টা)

- গদ্য পাঠ ও আবৃত্তি (১ ঘন্টা)



সম্মানের সন্মান

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

- কবিতা ও আবৃত্তি (১ ঘন্টা)

মডিউল ৩ - আবৃত্তিঃ কবি, আবৃত্তিকার ও শ্রোতা (২ ঘন্টা)

মডিউল ৪ - আবৃত্তির চর্চা বা অনুশীলন (১১ ঘন্টা)

- কণ্ঠস্বর (স্বরক্ষেপন) (২ ঘন্টা)
- উচ্চারণ (২ ঘন্টা)
- ছন্দ ও যতি (বিরামের মাত্রাভেদ) (১ ঘন্টা)
- ছন্দ (৪ ঘন্টা)
- সুর ও ভঙ্গি (২ ঘন্টা)
- সহযোগী অনুশঙ্গ (আলো, আবহ ইত্যাদি) (১ ঘন্টা)

মডিউল ৫ - আবৃত্তি উপস্থাপন কিংবা প্রতিযোগিতায় অংশগ্রহণ সংক্রান্ত বিষয় (২ ঘন্টা)

মডিউল ৬ - নির্বাচিত কিছু গদ্য পাঠ এবং কবিতা আবৃত্তি অভ্যাস (১২ ঘন্টা)

#### যোগাযোগঃ

- Dr. Monua Panja, Assistant Professor of Bengali  
Mob. - 9875570272, email: [pmonua@gmail.com](mailto:pmonua@gmail.com)
- Ashok Das, Assistant Professor of Bengali  
Mob. - 9143859969 email: [ad9232471904@gmail.com](mailto:ad9232471904@gmail.com)



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

## 7. Santali Scriptology (□□□□□□□□□□)

by

Department of Santali

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary





सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary


Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)



*Add on Course*  
*on*  
*Santali*  
*Scriptology*  
(କଣିଠୌଠାଠାଠା ଓଠାଠା)

**Offered By**  
**Department of Santali**  
**GGDC Keshiary**

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



সম্মানেৰে জ্ঞানে

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## ADD ON COURSE ON SANTALI SCRIPTOLOGY (ঐতিহাসিক লিপি) OFFERED BY THE DEPARTMENT OF SANTALI, GGDC KESHIARY

### Introduction:

Santali language is an official language of India and Olchiki is the script of Santali language. West Bengal Government also recognized Santali as a second official language in 2012. At present, in West Bengal, around 50 colleges and 9 Universities offer Santali courses in their curriculums. According to Wikipedia, around 7.6 million people speak the Santali language. Santali has a rich literature written in Olchiki script. As many Santali speakers are not able to read this literature written in Olchiki script that's why this course has been introduced.

**The objective of the Course:** ADD ON course on Santali Scriptology has been introduced for learning the Script of the Santali language 'Olchiki'. Santali language and literature are written in the Santali Script 'Olchiki' and many people don't have sufficient knowledge of this script till now. To know the Santali language and literature this course is very much important. Apart from that, this course also covered the basic knowledge of Santali language.

**Eligibility:** All UG students, who have passed 10+2 Examination.

### Syllabus of the Course:

#### Module 1 (10 hours):

- Introductory Class - 1 hours
- Introduction of Santali language - 3 hours
- Characteristic of Santali language - 3 hours
- Peculiarity of Santali language- 3 hours

#### Module 2 (8 hours):

- Origin and development of Santali script (Olchiki)- 3 hours
- Characteristic of Santali script- 3 hours
- Theories of Scriptology- 2 hours

#### Module 3 (10 hours):

- Word formation rules and composition in Olchiki - 4 hours
- Writing and Reading in Olchiki - 6 hours



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

#### Module 4 (2 hours):

- Theory and Practical Exam: – 2 hours

#### Contact of the course coordinators:

1. Dr. Shila Baske, Assistant Professor, Department of Santali, GGDC, Keshiary  
Mob. No- 9734143843, Email ID- [msbaske19@gmail.com](mailto:msbaske19@gmail.com)
2. Shyamali Majhi, Assistant Professor, Department of Santali, GGDC, Keshiary  
Mob. No- 8918322701, Email ID- [shyamalimajhi3@gmail.com](mailto:shyamalimajhi3@gmail.com)



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# **GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY**

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

## **8. Knowing the campus butterfly diversity: A step towards pollinator conservation**

by

**Department of Zoology**

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

Addon Course on:

***"Knowing the campus butterfly diversity:  
A step towards pollinator conservation"***




OFFERED BY:

THE DEPARTMENT OF ZOOLOGY,  
GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY  
VILLAGE: TILABONI MAHISHAMURA, P.S. KESHIARY  
DIST. PASCHIM MEDINIPUR, PIN 721135

FOR:

THE STUDENTS OF LIFE SCIENCES,  
CHEMICAL SCIENCES,  
ARTS & HUMANITIES,  
GGDC, KESHIARY

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in



सत्यमेव जयते

## Department of Zoology Government General Degree College, Keshiary

Tilaboni Mahishamura P.S. Keshiary, Dist. Paschim Medinipur, PIN 721135

### Value Added Course on:

#### **“Knowing the campus butterfly diversity: A step towards pollinator conservation”**

#### **Introduction:**

Butterflies belong to the class Insecta and the order Lepidoptera. Their short life cycle and quick response to the changes in the surroundings make them sensitive environmental indicators. Being efficient pollinators, they influence the nutrient cycle and food chain in the ecosystems and are often considered as the flagship species. Butterflies depend on specific host plant in order to complete the developmental stages of their life cycle and hence their diversity is also linked with the flowering plant diversity of a geographical location. The college campus of GGDC, Keshiary is located in a rural environment with plenty of greenery within the campus. Moreover, the nearby Hatigeria Forest Range and Langamara Forest Range add to the habitat diversity within its vicinity. The condition promotes growth of a variety of butterflies within the and around the campus round the year.

The Department of Zoology, GGDC, Keshiary within its limited scope has thus taken up the challenge to induct a value-added course on **“Knowing the campus butterfly diversity”** utilizing its own laboratory facilities. The course would empower the young graduates to understand the pollinators, their host plants and plant-animal interaction. The training would likely infuse interest among the students to take up butterfly watching as a hobby or to act as a local guide to butterfly enthusiasts. Moreover, their love and bonding with the topic would propagate the idea of butterfly and their habitat conservation which would be beneficial for the nature as well as the society.

#### **Aims and objectives:**

- To train students on the methods involved in identification of butterflies
- Present study was designed to generate the preliminary checklist of butterflies in the campus of their own educational institute;
- To inspire a student to account butterfly diversity of a geographical location and to take up the art as a hobby or future butterfly guide of an area.

#### **Duration of the course:**

The course would be conducted for not less than 30 hours over a period of three months.

#### **Admission Procedure:**

Candidates for admission to the course should be students of the Government General Degree College at Keshiary, Paschim Medinipur. Interested students from the departments of Life Sciences, Chemical Sciences and Arts and Humanities can apply for admission at the time of notification in the prescribed form. Certificates would be issued to the candidates on successful completion of the course.

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## Contact Information:

Dr. Manidip Shasmal, Asstt. Prof. in Zoology, Mob. No: 9831785614; Email: [mshasmal1982@gmail.com](mailto:mshasmal1982@gmail.com)

Mr. Debarshi Mondal, Asstt. Prof. in Zoology, Mob. No: 8509411435; Email: [rishi2.deb@gmail.com](mailto:rishi2.deb@gmail.com)

Dr. Sudipta Chakraborty, Asstt. Prof. in Zoology, Mob. No: 94336 02565; Email: [meschakraborty@gmail.com](mailto:meschakraborty@gmail.com)

## Course objectives:

- To make a trainee understand the importance of butterflies as a pollinator
- To make a trainee introduced to the basic method to identify a butterfly till the Genus/species level.
- To make a trainee accustomed to the methods of accounting butterfly diversity in a given geographical area and to relate it with the host plant diversity.

## Syllabus:

*"Knowing the campus butterfly diversity: A step towards pollinator conservation"*


| Sl. No. | Topics  | Assigned hours    |
|---------|---|-------------------|
| 1.      | Butterfly as a pollinator: an introduction                          | 2 hrs             |
| 2.      | Methods involved in identification of butterflies                   | 5 hrs             |
| 3.      | Methods to account butterfly diversity in a given geographical area | 4 hrs             |
| 4.      | Field study to account butterfly diversity                          | (1 x 15) = 15 hrs |
| 5.      | How to establish a butterfly garden?                                | 2 hrs             |
| 6.      | Application of butterfly watching in career building                | 2 hrs             |

## Selected reference books:

- Kehimkar I. The Book of Indian Butterflies: BNHS Field Guide. Bombay Natural History Society, Mumbai. 2016.
- Ghatak, S.; Basu Roy, A. A Pictorial Guide: Butterflies of Garumara National Park. Department of Forests, Government of West Bengal, Barnana Prakashani, Kolkata, India, 2013.
- Kunte, K. (2000). Butterflies of Peninsular India. Universities Press Limited, Hyderabad, India,
- Smetacek, P. A Naturalist's Guide to the Butterflies of India. Prakash Books India Private Limited.

## Outcome of the course:

- Trainee would be able to identify any butterfly on morphological basis upto the Genus/species level.
- Trainee would be able to apply the methods involved in accounting the butterfly diversity in a given geographical area
- Trainee would be able to relate the butterfly diversity in a given geographical area with the host plant diversity.
- The experience would make the trainee to understand the importance of pollinators in an ecosystem and the need for their conservation
- The trainee would be motivated to take up butterfly watching as a hobby and can act a local butterfly guide to the butterfly enthusiast.

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# **GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY**

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

## **9. Man-animal encounters: towards conservation of habitat and ecosystem**

**By**

**Department of Zoology**

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary





सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

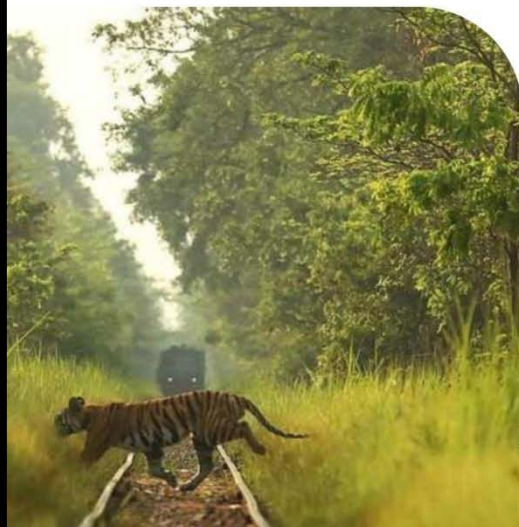
Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

**Add-On Course offered by  
Department of Zoology  
GGDC, Keshiary**



## VALUE-ADDED COURSE ON MAN-ANIMAL ENCOUNTERS: TOWARDS CONSERVATION OF HABITAT AND ECOSYSTEM



Contact :  
Department of Zoology  
GGDC at Keshiary

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)



सत्यमेव जयते

Department of Zoology

Government General Degree College at Keshiary

Telipukur, TilaboniMahisamura, Keshiary, Paschim Medinipur, PIN : 721135

VALUE-ADDED COURSE ON

MAN-ANIMAL ENCOUNTERS: TOWARDS CONSERVATION OF  
HABITAT AND ECOSYSTEM

## Introduction:


This course is designed to provide students with a comprehensive understanding of the complex interactions between humans and animals, with a focus on conservation efforts to sustain habitats and ecosystems. The course will explore the challenges and opportunities presented by man-animal encounters and equip students with the knowledge and skills needed to contribute to effective conservation strategies.

Man-animal conflict represents a complex scenario where human activities intersect with natural wildlife habitats, resulting in adverse encounters and challenges for both human well-being and wildlife conservation. This phenomenon is increasingly prevalent due to factors such as habitat loss, human population growth, changes in land use, human activities, and climate change. In the context of India, several instances exemplify man-animal conflict. In West Bengal's Medinipur region, encounters between elephants and human settlements have led to crop damage, property destruction, and human fatalities. Similarly, areas like Junnar and Nashik in Maharashtra experience conflicts between humans and leopards due to urban expansion into leopard habitats. The Sundarbans face challenges with tiger-human conflict, prompting strategies for coexistence.

The impact on human communities is profound, encompassing economic losses, safety concerns, and psychological impacts. Crop raids by wildlife lead to significant economic losses for farmers, affecting livelihoods and food security. Attacks on humans by wildlife pose serious safety concerns, causing fear and anxiety within affected communities and resulting in psychological stress.

On the wildlife conservation front, man-animal conflict leads to retaliatory killings and habitat fragmentation. Retaliatory killings threaten conservation efforts for endangered

Page 1

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

species, while habitat fragmentation can isolate populations, impacting genetic diversity and long-term survival.

Mitigation strategies are crucial for addressing man-animal conflict. Community engagement, early warning systems, habitat protection and restoration, technology utilization, and policy interventions play key roles. Involving local communities in conservation efforts fosters understanding and cooperation. Early warning systems help reduce human casualties by enabling preventive measures. Safeguarding natural habitats and restoring degraded areas mitigates conflicts by providing sufficient space and resources for wildlife. The use of technology, such as GPS tracking and camera traps, aids in understanding wildlife movements. Policy interventions, including land-use planning and compensation schemes, are essential for balancing human needs and wildlife conservation.

In conclusion, man-animal conflict necessitates a holistic approach involving communities, policymakers, and conservationists. By addressing root causes and implementing strategic mitigation measures, we can work towards a future where humans and wildlife coexist harmoniously, ensuring the preservation of biodiversity and the well-being of both populations.

## Aims of the Course

1. To enable the students to identify the different causes of Man-wildlife conflict
2. They will be equipped with the knowledge and skills to address real-world conservation issues
3. To provide the students with awareness about the tools needed to contribute to the conservation of habitats and ecosystems
4. Making them valuable contributors to the field of conservation ecology
5. By the end of the course, students will have gained a deep understanding of the challenges due to man-animal encounters

**Duration of Course:** The course shall extend over a period of three months (30hrs).



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## Admission Procedure:

Candidates for admission to the course should be students of **the Government General Degree College at Keshiary**, Paschim Medinipur. Interested students shall apply for admission at the time of notification in the prescribed form. Certificates will be issued to the candidates on successful completion of the course.

## Contact Information:

### Dr. Sudipta Chakraborty

Officer in Charge and Assistant Professor in Zoology

Phn No: 94336 02565

Email: [meschakraborty@gmail.com](mailto:meschakraborty@gmail.com)

### Mr. Debarshi Mondal

Assistant Professor in Zoology

Phn No: 8509411435

Email : [rishi2.deb@gmail.com](mailto:rishi2.deb@gmail.com)

## SYLLABUS

### MAN-ANIMAL ENCOUNTERS: TOWARDS CONSERVATION OF HABITAT AND ECOSYSTEM

#### Course objectives

- To know the different causes of Man-wildlife conflict
- To acquire knowledge and skills to address real-world conservation issues
- To provide the students awareness about the tools needed to contribute to the conservation of habitats and ecosystems
- Gained a deep understanding of the challenges due to man-animal encounters
- Making the students as a valuable contributors to the field of conservation ecology

#### UNIT I

##### Introduction to Man-Wildlife Conflict and Conservation Ecology

Analyzing the causes and consequences of human-wildlife conflict, Case studies of successful and unsuccessful conflict resolution, Developing strategies for minimizing conflict and promoting coexistence, Basic principles of ecology and ecosystem dynamics, Introduction to key conservation concepts and theories



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## UNIT II

### Different reasons of Human-Wildlife Conflict

Analyzing the causes and consequences of human-wildlife conflict, Case studies of successful and unsuccessful conflict resolution, Developing strategies for minimizing conflict and promoting coexistence

## UNIT III

### Ethical and Legal Aspects of Conservation

Exploring ethical considerations in conservation, Understanding international and national laws related to wildlife protection, Role of policy-making in habitat conservation

## UNIT IV

### Conservation Technologies

Introduction to modern technologies in conservation, GIS and remote sensing applications in habitat monitoring, Conservation genetics and its role in managing wildlife populations

## UNIT V

### Conservation Planning and Management

Formulating conservation plans for specific habitats and ecosystems, Monitoring and evaluating conservation programs, Integrating sustainable development with conservation goals

**Practical: All the items included in theory.**

### Course Outcome

- Students can understand different causes of Man-wildlife conflict.
- Students learned the knowledge and skills to address real-world conservation issues.
- They are aware about the tools needed to contribute to the conservation of habitats and ecosystems.
- Understood the challenges due to man-animal encounters.
- Students act as a valuable contributors to the field of conservation ecology.



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# **GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY**

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary


Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

## **10. Medicinal Plant Identification and Uses**

by

**Department of Botany**

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)



VALUE ADDED / ADD ON COURSE ON

## **Medicinal Plant Identification** **and Uses**

Welcome to "Medicinal Plant Identification and Uses" a 30-hour course designed to provide you with in-depth knowledge and practical skills to become an expert in the art and science of Identification of Medicinal Plants. Whether you're a beginner or an experienced composter, this course will take you on a journey from the basics to basic techniques, ensuring you develop a deep understanding of field study and identification of medicinal plants.

Department of Botany  
GGDC Keshiary

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)



सत्यमेव जयते

## Department of Botany Government General Degree College at Keshiary

Telipukur, Tilaboni Mahishamura, Keshiary, Paschim Medinipur, PIN : 721135

### VALUE-ADDED COURSE ON Medicinal Plant Identification and Uses

#### *Scheme of Examination and Syllabus*

#### **Introduction:**

Welcome to "Medicinal Plant Identification and Uses" a 30-hour course designed to provide you with in-depth knowledge and practical skills to become an expert in the art and science of Identification of Medicinal Plants. Whether you're a beginner or an experienced composer, this course will take you on a journey from the basics to basic techniques, ensuring you develop a deep understanding of field study and identification of medicinal plants.

**Duration of Course:** The course shall extend over three months (30 hrs).

#### **Admission Procedure:**

Candidates for admission to the course should be students of the **Government General Degree College at Keshiary**, Paschim Medinipur. Interested students shall apply for admission at the time of notification in the prescribed form. Certificates will be issued to the candidates on successful completion of the course.

#### **Contact Details:**

**Dr Nilay Kumar Maitra**  
HOD & Assistant Professor in Botany  
Mobile No: 9831397985  
Email Id: [HOD\\_botany@ggdckeshiary.ac.in](mailto:HOD_botany@ggdckeshiary.ac.in)

**Dr. Susanta Maity**  
Assistant Professor in Botany  
Mobile No: 9732114631

**Sk Md Ismail Al Amin**  
Assistant Professor in Botany  
Mobile No: 9153022716





सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## SYLLABUS

### Medicinal Plant Identification and Uses

COURSE OVERVIEW: Welcome to "Medicinal Plant Identification and Uses," a 30-hour course designed to deepen your knowledge of medicinal plants, their identification, and their applications in traditional and modern medicine. This course combines botanical expertise with practical insights into the sustainable and ethical use of medicinal plants.

#### **Module 1:**

- Introduction to Medicinal Plants (2 hours)
- Importance of Medicinal Plants in Healthcare
- Overview of Traditional and Modern Medicinal Practices
- Ethical Considerations in Medicinal Plant Use

#### **Module 2:**

- Botanical Basics for Medicinal Plant Identification (3 hours)
- Plant Morphology and Anatomy
- Basics of Plant Taxonomy
- Using Plant Identification Keys

#### **Module 3:**

- Field Identification Techniques (6 hours)
- Practical Field Identification Skills
- Understanding Plant Habitats
- Documenting and Collecting Plant Specimens

#### **Module 4:**

- Common Medicinal Plants (4 hours)
- Identification, Habitat, and Distribution
- Medicinal Properties and Traditional Uses
- Cultivation and Conservation Strategies

#### **Module 5:**

- Plant Chemistry and Active Compounds (3 hours)



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

- Introduction to Phytochemistry
- Identification of Bioactive Compounds
- Understanding Medicinal Properties

#### **Module 6:**

- Traditional Healing Practices (4 hours)
- Overview of Traditional Healing Systems (Ayurveda, Traditional Chinese Medicine, etc.)
- Case Studies of Traditional Plant Uses
- Integrating Traditional Wisdom with Modern Healthcare

#### **Module 7:**

- Pharmacological Research and Modern Medicine (3 hours)
- Overview of Medicinal Plant Research
- Drug Discovery from Plants
- Evidence-Based Medicine and Clinical Trials

#### **Module 8:**

- Creating Herbal Remedies (2 hours)
- Basic Herbal Medicine Preparation
- Formulating Tinctures, Infusions, and Salves
- Integrating Medicinal Plants into Daily Wellness Practices

*Assessment and Certification: (3 hours)*

*Quizzes and Assignments throughout the course*

*Final Project: Medicinal Plant Identification and Ethical Harvesting Plan*



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary  
Dist- Paschim Medinipur : PIN-721135  
[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

## 11. Mastering Vermicomposting

by

Department of Botany

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)



Add-On Course offered by  
Department of Botany  
GGDC, Keshiary

**VALUE-ADDED COURSE ON**

# MASTERING VERMICOMPOST

**Contact : Department of Botany GGDC at Keshiary**

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)



सत्यमेव जयते

## Department of Botany Government General Degree College at Keshiary

Telipukur, Tilaboni Mahisamura, Keshiary, Paschim Medinipur, PIN : 721135

### VALUE-ADDED COURSE ON MASTERING VERMICOMPOST

#### *Scheme of Examination and Syllabus*

#### **Introduction:**

Welcome to "Mastering Vermicomposting," a 30-hour course designed to provide you with in-depth knowledge and practical skills to become an expert in the art and science of vermicomposting. Whether you're a beginner or an experienced composter, this course will take you on a journey from the basics to advanced techniques, ensuring you develop a deep understanding of vermicomposting.

Here are some key points about vermicompost:

**Vermicompost**, also known as **vermi-compost**, is a nutrient-rich organic fertilizer produced through the decomposition process using various species of worms, such as red wigglers, white worms, and other earthworms.

1. **Process:** Vermicomposting involves feeding organic waste (such as vegetable scraps, food leftovers, and bedding materials) to earthworms. These worms break down the organic matter, creating a mixture called **vermicast** or **worm castings**.
2. **Nutrient-Rich:** Vermicast is rich in essential nutrients like nitrogen, phosphorus, potassium, and micronutrients. It also contains beneficial microorganisms that enhance soil health.
3. **Benefits:**
  - o **Improved Soil Structure:** Vermicompost improves soil structure, aeration, and water retention.
  - o **Enhanced Plant Growth:** The nutrients in vermicast are readily available to plants, promoting healthy growth.
  - o **Reduced Salinity:** Unlike traditional compost, vermicompost has lower salinity levels.
  - o **Eco-Friendly:** It recycles organic waste and reduces landfill burden.
  - o **Sustainable:** Vermicomposting is a sustainable practice suitable for both small-scale and large-scale applications.
4. **Application:**



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

- **Gardening:** Vermicompost is excellent for home gardens, potted plants, and landscaping.
  - **Agriculture:** It can enhance crop yield and quality in organic farming.
  - **Seedlings:** Vermicompost is beneficial for raising healthy seedlings.
  - **Soil Restoration:** It helps restore degraded soils.
5. **Vermiwash:** The liquid runoff from vermicompost, called **vermiwash**, is also valuable. It contains enzymes, nitrogen-fixing bacteria, and other beneficial components.

### Aims of the Course

1. **Production of Quality Compost:** Vermicomposting aims to create nutrient-rich organic compost, known as vermicast or worm castings, which surpasses the quality of traditional inorganic manure. This high-quality compost enhances soil fertility and provides essential nutrients to plants.
2. **Waste Recycling and Solid-Waste Management:** By recycling agricultural and farm waste into useful bioorganic manure, vermicomposting actively participates in waste management. It reduces the burden on landfills and contributes to a cleaner environment.
3. **Improved Soil Fertility and Crop Yield:** Vermicompost enriches the soil with essential nutrients, promoting better plant growth. By enhancing soil structure, aeration, and water retention, it ultimately increases crop yield and quality.
4. **Promotion of Organic Farming:** Vermicomposting aligns with organic farming practices. It encourages sustainable agriculture by utilizing natural processes and minimizing the use of synthetic chemicals.
5. **Augmentation of Food Production:** The nutrient-rich vermicompost directly benefits crop production. By supporting healthy plant growth, it indirectly contributes to increased food production.

**Duration of Course:** The course shall extend over three months (30 hrs).

### Admission Procedure:

Candidates for admission to the course should be students of the **Government General Degree College at Keshiary**, Paschim Medinipur. Interested students shall apply for admission at the time of notification in the prescribed form. Certificates will be issued to the candidates on successful completion of the course.



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

## Contact Details:

**Dr Nilay Kumar Maitra**

HOD & Assistant Professor in Botany

Mobile No: 9831397985

Email Id: [HOD\\_botany@ggdckeshiary.ac.in](mailto:HOD_botany@ggdckeshiary.ac.in)

**Dr. Susanta Maity**

Assistant Professor in Botany

Mobile No: 9732114631

**Sk Md Ismail Al Amin**

Assistant Professor in Botany

Mobile No: 9153022716

## SYLLABUS

### MASTERING VERMICOMPOST

Module 1: Introduction to Vermicomposting (2 hours)

- Definition and Principles of Vermicomposting
- Benefits of Vermicomposting
- Understanding the Role of Worms in the Process

Module 2: Setting Up Your Vermicomposting System (3 hours)

- Choosing the Right Worm Species
- Selecting a Container or Bin
- Creating an Ideal Bedding Mix
- Setting Up the Vermicomposting Environment

Module 3: Worm Biology and Behavior (4 hours)

- Anatomy and Life Cycle of Composting Worms
- Understanding Worm Behavior
- Identifying and Addressing Common Worm Issues

Module 4: Managing Your Vermicompost System (4 hours)

- Monitoring Moisture Levels
- Balancing Carbon and Nitrogen Ratios
- Temperature and pH Considerations
- Troubleshooting Common Problems

Module 5: Feeding Your Worms (3 hours)

- Choosing Suitable Worm Food
- Creating a Balanced Diet for Worms
- Avoiding Harmful Foods

Module 6: Harvesting and Using Vermicompost (3 hours)

- Knowing When Your Vermicompost is Ready



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

- Harvesting Techniques
- Using Vermicompost in Gardens and Potting Mixes

Module 7: Scaling Up and Commercial Vermicomposting (4 hours)

- Expanding Your Vermicomposting Operation
- Commercial Vermicomposting Practices
- Marketing and Selling Vermicompost Products

Module 8: Vermiculture and Biodiversity (3 hours)

- Integrating Vermicomposting into Permaculture
- Encouraging Biodiversity in Your Worm Bin
- Vermicomposting for Soil Regeneration

Module 9: Advanced Techniques and Innovations (4 hours)

- Vermicomposting in Urban Environments
- Worm Farming Innovations
- Advanced Troubleshooting and Solutions

Module 10: Sustainable Practices and Future Trends (2 hours)

- Sustainable Vermicomposting Practices
- Trends and Developments in Vermiculture
- Networking and Community Building

**Practical: All the items included in theory.**

## Course Outcome

1. **Understanding Soil Health:** Students gain a deeper understanding of the importance of vermicompost application to the soil. They learn how vermicompost enriches soil fertility, enhances nutrient availability, and promotes healthy plant growth.
2. **Scopes and Opportunities:** Students explore the various scopes and opportunities related to vermicompost production. This includes understanding its applications in agriculture, horticulture, organic farming, and waste management.
3. **Need for Organic Farming:** Students recognize the need for vermicomposting in organic farming practices. They learn about sustainable approaches to soil enrichment and the role of vermicompost in reducing chemical inputs.
4. **Practical Skills:** Students acquire practical skills in vermicomposting techniques, including bed preparation, earthworm inoculation, and harvesting mature vermicompost. These hands-on skills prepare them for real-world applications.
5. **Entrepreneurial Awareness:** Students gain insights into basic entrepreneurial activities related to vermicomposting. They understand how to set up small-scale vermicompost enterprises and generate income from vermicompost, vermiwash, and earthworm sales.





सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## 12. Communicative English and Competitive Exams

by

Department of English, History and Anthropology

Add on Course

on

## Communicative English and Competitive Exams

**Add-on course framework**

**Course Objectives:**


The objective of the course is to introduce the students to the basic training for competitive exams. The students of the college are deprived of any kind of training for competitive exams. This particular Add- on course will help them to get the basic idea of the different aspects of the competitive exams.

**Curriculum:**

The course shall be structured to meet the demands of preliminary Stage of any government examination. It shall be a 30 hours course comprising of the following units

**1) Basic math which contains the following chapters.**

|    | Course Content   | Hour    | Name of the Teacher Instructor |
|----|--|---------|--------------------------------|
| 1. | Numbers, HCF & LCM, Decimal Fractions, Simplifications, Square and Cube roots, Average, Problems on Numbers, Problems on Ages, Surds and Indices, Percentage, Profit and Loss. | 2 Hours | Guest Faculty                  |
| 2. | Ratio and Proportion, Partnership, Chain Rule, Time and Work, Time and Distance, Simple and Compound Interest  | 2 Hours | -do-                           |
| 3. | Data Interpretation  | 2 Hours | -do-                           |

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

www.ggdckeshiary.ac.in

## 2) Communicative English which contains following chapters.

|    | Course Content  | Hour    | Name of the Teacher Instructor |
|----|---|---------|--------------------------------|
| 1. | Importance of Communicative English : Its Objectives          | 1 Hour  | Dr. Md Ataur Rahaman           |
| 2. | Dimensions: Job Oriented Communication                        | 1 Hour  | Dr. Md Ataur Rahaman           |
| 3. | Self-Introduction   | 1 Hour  | Dr. Md Ataur Rahaman           |
| 4. | Greetings: How to greet and part with people                  | 1 Hour  | Dr. Md Ataur Rahaman           |
| 5. | Specific Situation: How to communicate in different situation | 1 Hour  | Dr. Md Ataur Rahaman           |
| 6. | Sentence Construction   | 1 Hour  | Dr. Md Ataur Rahaman           |
| 7. | Formal Letter writing   | 2 Hours | Dr. Md Ataur Rahaman           |
| 8. | Students Seminar  | 2 Hours | Dr. Md Ataur Rahaman           |

## 3) General knowledge and current affairs which contains following chapters.

|    | Course Content  | Hour    | Name of the Teacher Instructor |
|----|---|---------|--------------------------------|
| 1. | Basic Introduction to Indian History  | 1 hour  | Prof. Inder Mukherjee          |
| 2. | Basic Introduction to Indian Geography  | 1 hour  | Dr. Aritra Samajdar            |
| 3. | Basic Introduction to Indian Constitution   | 1 hour  | Prof. Inder Mukherjee          |
| 4. | Basic Introduction to different policies operating both in Central and State Level in India | 1 hour  | Dr. Aritra Samajdar            |
| 5. | Basic Introduction to Population of India   | 1 hour  | Dr. Aritra Samajdar            |
| 6. | Basic Introduction to Environment   | 1 hour  | Dr. Aritra Samajdar            |
| 7. | Current affairs   | 2 hours | Prof. Inder Mukherjee          |


## 4) Seminar on the preparation for competitive exams. 2 hours.

### Mode of exam

- A) Mock interview: 3 Hours
- B) Mock test: 1 Hour

### Course Outcomes:

Provide a platform to the students for building the fundamental knowledge for competitive examinations preparation Strategy. Establish a framework to help students acquire knowledge to secure employment opportunities in the public sector.

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary



सत्यमेव जयते

Government of West Bengal  
Office of the Principal

# GOVERNMENT GENERAL DEGREE COLLEGE, KESHIARY

At.-Telipukur : P.O.- Tilaboni Mahisamura : P.S.- Keshiary

Dist- Paschim Medinipur : PIN-721135

[www.ggdckeshiary.ac.in](http://www.ggdckeshiary.ac.in)

Course Coordinator:

**1. Dr. Aritra Samajdar**

*Assistant Professor in*

*Anthropology*

*GGDC at Keshiary*

**2. Inder Mukherjee**

*Assistant Professor in History*

*GGDC at Keshiary*

**3. Dr.Md Ataur Rahaman**

*Assistant Professor in English*

*GGDC at Keshiary*

  
Officer-in-Charge  
Govt. Gen. Degree College  
Keshiary