



# VIVEKANANDA COLLEGE

(GOVT. SPONSORED) (NAAC ACCREDITED GRADE 'A')

## **DEPARTMENT OF GEOGRAPHY**

### **LIST OF ADD-ON COURSES**

1	BASIC COURSE ON GEOSPATIAL SCIENCE
2	FUNDAMENTALS OF RESEARCH METHODS IN GEOGRAPHY

## IQAC recommendation

IQAC, Vivekananda College, Thakurpukur, met on 04 May 2018, to envisage, formulate, and design Add-On Courses, beyond the prescribed Curriculum.

A. It was decided that all the departments of Humanities, Science and Commerce would design and formulate 30 hour Add-On Courses for 2018-19 Academic calendar, as per UGC guidelines.

B. It was decided that the Departments would be free to choose the Courses based on their (subject) relevance, practicality, and feasibility.

C. It was decided that the Departments would have a Course Coordinator, who would design the Course and Course material in consultation with all teachers of the Department.

D. It was decided that each Department would design its format.

E. It was decided that the Departments would be encouraged to use and utilize their resources while formulating the Add-On Courses, rather than relying on Outsourcing.

F. IQAC would send its recommendations to the Principal/TIC for perusal and implementation.

  
04/5/18  
Coordinator  
IQAC  
Vivekananda College  
Kolkata-700 053



# VIVEKANANDA COLLEGE

(GOVT. SPONSORED) (NAAC ACCREDITED GRADE 'A')

Ref. No. \_\_\_\_\_

Date 10/05/18

## Notice

It is hereby notified that Vivekananda College, Thakurpukur, will offer Add-On Courses to All Honours students for the Academic year 2018-19.

Each Department will offer an Add-On Course as per UGC guidelines. Each Course will be structured & overseen by a Course Coordinator, selected from the respective Department. Departmental Heads are requested to take up the matter on an urgent basis.

*H. Padhee*  
10/05/18

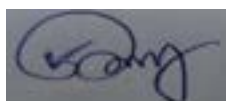
Principal  
Vivekananda College  
Thakurpukur, Kol-80

# **NOTICE**

**DEPARTMENT OF GEOGRAPHY**

**VIVEKANANDA COLLEGE THAKURPUKUR**

All the faculty members of the concerned department are hereby requested to attend a departmental meeting on 11<sup>th</sup> May 2018 from 2.30 pm onwards positively for discussion and selection of Add on Course and Course Coordinator as per the Principal's notice dated on 10<sup>th</sup> May, 2018.



Kunaljeet Roy

Head of the Department

Department of Geography

Dated: 11th May, 2018

**Resolutions and outcomes from the departmental meeting held on 11th May, 2018.**

- In the Departmental meeting dated 11th May, 2018, the teachers of Department of Geography unanimously decided that 2<sup>nd</sup> Semester Honours students would be offered a 30 hour (comprising 8 classes of 1 hour duration each and 11 classes of 2 hours duration) Add on Course on "Fundamentals of Research Methods in Geography" which is going to start from 7<sup>th</sup> July, 2018.
- The choice of this "topic" is made not only for its existing importance and immense applicability but also 'Research Methodology' is not only confined within the domain of Geography but also adopted by the fraternity of researchers in every discipline.
- It also decided in the meeting that Ms. Alolika Mangal, Department of Geography, would be the course Coordinator for the Add on Course on "Fundamentals of Research Methods in Geography" for the Academic session 2018-2019.
- It is also decided that the coordinator would prepare a comprehensive Course Structure with all consideration and after consultation with everyone. The course details would be shared with students interested in the course.
- The enrolment of students would be done by the Course Coordinator, with the help of all the teachers of the department. The Course coordinator would be responsible for maintaining the Attendance of all the students enrolled in the Add-on course.
- It was decided that the syllabus/ portions would be appointed among teachers of the department by the Course Coordinator. Each teacher would be responsible for keeping a record of classes by taking Student's Attendance.
- Certificates will be given to each student after submitting the project.
- The add on course on "Fundamentals of Research Methods in Geography" would be conducted in a classroom environment for the session 2018-19.

**Names/Signatures of the faculty members:**



Baishali Mukherjee

SamikChakraborty

**Add-on Course on**

**“FUNDAMENTALS OF RESEARCH METHODS IN GEOGRAPHY”, Department of Geography,**

**Vivekananda College**

**Thakurpukur, Kolkata: 700063**

Department of Geography

**Date: 14/06/2018**

To

The Principal  
Vivekananda College,  
Thakurpukur, Kolkata.

Respected Sir,

The Department of Geography would offer, in collaboration with IQAC, an add on course on “FUNDAMENTALS OF RESEARCH METHODS IN GEOGRAPHY” designed by the undersigned and accepted unanimously by all of the faculty members of the Department of Geography. The course will commence from 28<sup>th</sup> July, 2018.

The following expenses should be incurred as mentioned below.

Sl No.	Category		Expenses
1.	Certificates	126 students @ Rs 10/-	1260
2.	Flex		280
3.	Printout		740
4.	Xerox		320
5.	Miscellaneous		400
	Total		3000

You are requested to sanction the above sum of money for conducting the add on course smoothly.

Regards

Kunaljeet Ray

Head, Department of Geography

## FUNDAMENTALS OF RESEARCH METHODS IN GEOGRAPHY

'Re' and 'Search' refers to search again that is already there in order to find solution to any problem. It's a voyage of discovery in a systematic way. Research inculcates scientific and inductive thinking and promotes development of logical habits of thinking. In order to learn the basics of research one has to acquire the fundamental knowledge of research methods. It's not just about finding something new, the essence of research lies within the designing of the whole thought process in a meaningful, systematic and scientific framework. In the interest of it learning research methods and designs are necessary. Natural science and Social science both the themes are continuously evolving, but not without some emerging issues that has full potential to be solved by research. Over the decades geography has expanded beyond traditional academic boundaries and into issues relevant to the society. As this subject which is often called as "mother of all sciences" deals with both the branches (Physical & Human) that has immense opportunity to cater any kind of problem related to the natural and social environment, it's important to inculcate the fundamental knowledge of research into the young minds. Research is the only key by which one can try address the issues with the help of knowledge its methods and designing process. Young minds and spirits of undergraduate students are filled with ideas that needs to be framed and designed through an interdisciplinary lens of research. This course will deal with the dynamic methods of research as without the notion of research methods it is difficult to amalgamate the scattered ideas into a systematic framework. It will help the young geographers to understand the importance of research in their future endeavours. The learning will also encourage them to look into various natural and social issues and express their ideas clearly and concisely, extracting key points and explaining the potential of research for the betterment of human society.

### **Objectives of the Course:**

- To provide ideas regarding the fundamentals of research and build the concept of methodologies used for research in Geography and related social science fields.
- To help students learn and practice established methodologies of research in the Human and Physical field of Geography.
- To provide some exposure for practice and improvement of the presentation skills as well as research related skills for the future endeavors of the students.
- To help the students learn the process of selecting goals to successfully execute any project in future and achieve them on their own.
- To inculcate logical and systematic thought process in students which is required for enhancement of understanding of the subject matter for UG level Geography papers.
- To help students build better insight to any issues around them other than their Syllabus of UG level.

### **Relevance of the Course:**

This course is specifically designed for students for learning basic concepts of research methodology who are pursuing UG in Geography. It will help them learn

methods and design Projects in future. They will learn to design projects and maintain originality of the writings. The course will encourage young minds to explore new topics and boundaries of the subject. They might also feel pursuing their higher studies and research further about the previously worked topics. The students will understand the need and importance to research and explore social science as a part of the scientific research.

They will be given ideas about the emerging trends of research in geography. The young minds will be encouraged to consider the Earth as their arena of research. The students will understand the importance of research on Physical Geography as a part of Geography and also will be interested to take part in it. The Students will be interested to Work on Human geography also as a part of Geography and the relevance of research in Human geography related issues in modern world of academics.



**Department of Geography**

**BASIC COURSE**

**ON**

**‘FUNDAMENTALS OF RESEARCH METHODS IN GEOGRAPHY’**

**Programme Schedule**

<b>DAYS</b>	<b>TOPICS</b>	<b>DURATION</b>	<b>Teachers Name</b>
<b>Day1</b> 28-07-2018	Research in Geography: Meaning Types and Significance	1 hour +1 hour	Samik Chakraborty
<b>Day2</b> 04-08-2018	Identification of Research Gaps and Selection of Problem	1 hour +1 hour	Alolika Mangal
<b>Day3</b> 11-08-2018	Quantitative and Qualitative Research Methods	2 hours	Kunaljeet Roy
<b>Day4</b> 18-08-2018	Trends and Issues in Research	2hours	Baishali Mukherjee
<b>Day5</b> 25-08-2018	Research Fundamentals	1 hour + 1 hour	Alolika Mangal
<b>Day6</b> 01-09-2018	Types of Research	1 hour + 1 hour	Alolika Mangal
<b>Day7</b> 08-09-2018	Research Methods and Research Methodology	2 hours	Kunaljeet Roy
<b>Day8</b> 15-09-2018	Research Design	2 hours	Samik Chakraborty
<b>Day9</b> 22-09-2018	Implication of sample design	2 hours	Kunaljeet Roy
<b>Day10</b> 29-09-2018	Sampling Fundamentals	2 hours	Baishali Mukherjee

<b>Day11</b> <b>17-11-2018</b>	Methods of Data Collection	2 hours	Kunaljeet Roy
<b>Day12</b> <b>24-11-2018</b>	Basics of data: Its properties and data analysis	2 hours	Baishali Mukherjee
<b>Day13</b> <b>01-12-2018</b>	Theories of Hypothesis	2 hours	Alolika Mangal
<b>Day14</b> <b>08-12-2018</b>	Tests of Normality, Reliability and Validity	2 hours	Baishali Mukherjee
<b>Day15</b> <b>15-12-2018</b>	Interpretation and report writing	2 hours	Kunaljeet Roy

### **IQAC recommendation**

IQAC, Vivekananda College, Thakurpukur, met on 03 May 2019, to envisage, formulate, and design Add-On Courses, beyond the prescribed Curriculum.

A. It was decided that all the departments of Humanities, Science and Commerce would design and formulate 30 hour Add-On Courses for 2019-20 Academic calendar, as per UGC guidelines.

B. It was decided that the Departments would be free to choose the Courses based on their (subject) relevance, practicality, and feasibility.

C. It was decided that the Departments would have a Course Coordinator, who would design the Course and Course material in consultation with all teachers of the Department.

D. It was decided that each Department would design its format.

E. It was decided that the Departments would be encouraged to use and utilize their resources while formulating the Add-On Courses, rather than relying on Outsourcing.

F. IQAC would send its recommendations to the Principal/TIC for perusal and implementation.

  
03/5/19  
Coordinator  
IQAC  
Vivekananda College  
Thakurpukur, Kolkata-700 063



# VIVEKANANDA COLLEGE

(GOVT. SPONSORED) (NAAC ACCREDITED GRADE 'A')

Ref. No. ....

Date 08.5.19

## Notice

It is hereby notified that Vivekananda College, Thakurpukur, will offer Add-On Courses to All Honours students for the Academic year 2019-20.

Each Department will offer an Add-On Course as per UGC guidelines. Each Course will be structured & overseen by a Course Coordinator, selected from the respective Department. Departmental Heads are requested to take up the matter on an urgent basis.

*H. K. Das*  
08.5.19

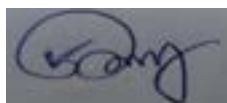
Principal  
Vivekananda College  
Thakurpukur Kol-63

# **NOTICE**

**DEPARTMENT OF GEOGRAPHY**

**VIVEKANANDA COLLEGE THAKURPUKUR**

All the faculty members of the concerned department are hereby requested to attend a departmental meeting on 11<sup>th</sup> May 2019 from 2.30 pm onwards positively for discussion and selection of Add on Course and Course Coordinator as per the Principal's notice dated on 8<sup>th</sup> May, 2019.



Kunaljeet Roy

Head of the Department

Department of Geography

Dated: 9th May, 2019

**Resolutions and outcomes from the departmental meeting held on 11th May, 2019.**

- In the Departmental meeting dated 11th May, 2019, the teachers of Department of Geography unanimously decided that 2<sup>nd</sup> Semester Honours students would be offered a 30 hour (comprising 8 classes of 1 hour duration each and 11 classes of 2 hours duration) Add on Course on "**Basic Course on Geospatial Science**" which is going to start from 27<sup>th</sup> July, 2019.
- The choice of this "topic" is made not only for its existing importance and immense applicability but also 'Research Methodology' is not only confined within the domain of Geography but also adopted by the fraternity of researchers in every discipline.
- It also decided in the meeting that Ms. Alolika Mangal, Department of Geography, would be the course Coordinator for the Add on Course on "**Basic Course on Geospatial Science**" for the Academic session 2019-2020.
- It is also decided that the coordinator would prepare a comprehensive Course Structure with all consideration and after consultation with everyone. The course details would be shared with students interested in the course.
- The enrolment of students would be done by the Course Coordinator, with the help of all the teachers of the department. The Course co-ordinator would be responsible for maintaining the Attendance of all the students enrolled in the Add-on course.
- It was decided that the syllabus/ portions would be appointed among teachers of the department by the Course Coordinator. Each teacher would be responsible for keeping a record of classes by taking Student's Attendance.
- Certificates will be given to each student after submitting the project.
- The add on course on "**Basic Course on Geospatial Science**" would be conducted in a classroom environment for the session 2019-20.

**Names/Signatures of the faculty members:**



Baishali Mukherjee

Samik Chakraborty

**Add-on Course on**

**“Basic Course on Geospatial Science”, Department of Geography,**

**Vivekananda College  
Thakurpukur, Kolkata: 700063  
Department of Geography**

**Date: 12/05/2019**

To

The Principal

Vivekananda College,

Thakurpukur, Kolkata.

Respected Sir,

The Department of Geography would offer, in collaboration with IQAC, an add on course on **“Basic Course on Geospatial Science”** designed by the undersigned and accepted unanimously by all of the faculty members of the Department of Geography. The course will commence from 27<sup>th</sup> July, 2019.

The following expenses should be incurred as mentioned below.

Sl No.	Category		Expenses
1.	Certificates	130 students @ Rs 10/-	1300
2.	Flex		280
3.	Printout		700
4.	Xerox		320
5.	Miscellaneous		400
	Total		3000

You are requested to sanction the above sum of money for conducting the add on course smoothly.

Regards

Kunaljeet Ray

Head, Department of Geography

**Department of Geography**  
**Basic Course on Geospatial Science**

Today, the world is being monitored day and night constantly by high resolution sophisticated earth resources satellites. Availability of repetitive and high-resolution remote sensing (RS) data has increased the scope of identifying, monitoring and evaluating constant change of earth surface due to manmade and anthropogenic activities. In spite of having gained international recognition at a very early stage, these technologies are now gradually gaining its momentum in Indian subcontinent as well. Teaching and learning with GIS technology has always been focused on higher and nobler goals than simply learning GIS skills and tools. Learning GIS is an important skill set, but the ultimate goal is to understand an issue or a problem in a deeper and in more holistic way. As the field is emerging day by day, students of geography and related disciplines are encouraged to learn these technologies as these will not only help them gaining subject knowledge but it will open new pathways just after graduation.

**IMPORTANCE:**

- **Spatial thinking** is crucial to understand our increasing interconnected, complex world and it's key to solving these various problems we are facing in that world. Spatial thinking is greatly enabled by using the interactive maps made possible through GIS.
- **It will encourage critical thinking:** Critical thinking must include three aspects like ~~critical~~ thinking about data, critical thinking about methods and critical thinking about Maps.
- **GIS was created to solve problems:** Using GIS in education helps students to frame, visualize and to help them to grapple with problems. It even enables students to create solutions to those problems, whether they are about natural hazards, climate, urban greenways, litter, energy, social inequity or other complex issues of our day. Project Based Learning (PBL) implies active learning and GIS is a natural fit because using GIS, students are actively engaged as scientists, planners and other decision-makers.
- **The effective use of GIS:** The effective use of GIS is keenly tied to this process of inquiry.
- **We should recognize that GIS does provide students with career skills** that will never go out of style. Students who use GIS become valuable employees for non-profit organizations, academia, government agencies, ranging from local to international; and private industry. They are able to make decisions, work with data, and see holistically.

**SPECIFICALLY DESIGNED FOR UNDER GRADUATE STUDENTS:**

- As per the CBCS syllabus (SEM-3, 5) several parts contain topics that relates to remote sensing, GIS & GPS. If students could get a basic training that will help them to dig deeper into the subject knowledge.



- In this competitive environment students mainly coming from humanities background find difficulties to choose career pathways other than academics which will relate to their subject knowledge.
- Map making skills will help them to do small-scale project/ independent research work.
- In geography Remote Sensing and GIS is a part of curriculum as a core paper so prior knowledge will help the students to have profound understanding about the subject.
- Not only Honours students but also students pursuing general degree will also get a chance to gain a professional skill that will help them in future works.
- After having diploma/degree from a renowned institution students could use their knowledge as freelancers.
- Not only Geography but students coming from Environmental Science, Computer Science and other related disciplines will also get a sound knowledge of this field which will further help them in future endeavor.

#### **TENTATIVE TIMING:**

- Once in a week.
- After college class hours on Saturdays.

#### **PLANNING AND TENTATIVE DURATION OF THE COURSE:**

- ❖ Duration of the course- **3 months**
- ❖ Students will be provided with the theory or practical classes every week.
- ❖ After completing **3 months** of training students will be evaluated by a theory and a practical exam.
- ❖ Theory materials and book recommendation will be provided by the respective faculty members.

#### **❖ STRUCTURE OF THE MARKS DIVISION:**

Sl. No.	Module Name	Marks
1	Remote Sensing & GIS (Theoretical)	50 (40 marks written 10 Marks attendance)
		30 marks MCQ & 20 marks SAQ
2	Remote Sensing & GIS (Practical)	50 (40 marks practical 10 Marks attendance)

- ❖ After successfully completing the entire course and submitting the project based on course learning result and certificates will be given to students.
- ❖ **IMPORTANT NOTES:**
  - I. Total intake capacity will be decided on the basis of lab facility.
  - II. Internal assessment will be based on class attendance and class performance.
  - III. Project work is compulsory (here teacher will only assist).
  - IV. Examination will be conducted at the end of the course period.

## Department of Geography

### Basic Course on 'Geo Spatial Science'

#### Programme Schedule

DAYS	TOPICS	DURATION
<b>Theory - RS and GIS</b>		
Day1	Concept of Electromagnetic Radiation: Properties, wavelength regions and their applications, Atmospheric windows, Interaction of EMR with matter, Spectral signatures.	1 hour +1 hour
Day2	Platforms and Sensors	1 hour +1 hour
Day3	Remote Sensing resolutions and light interactions	2 hours
Day4	History of satellites; sensors, Radar, Lidar, features of some important satellites	2 hours
Day5	Satellite image (Information Extraction) and classification	1 hour + 1 hour
Day6	Basic knowledge of PHOTOGRAMMETRY & GEODESY	1 hour + 1 hour
Day7	Application of Geo-Informatics	2 hours
<b>Hands on training - RS and GIS</b>		
Day8	Georeferencing (with the help of scanned maps, Shapefile & Base map)	2 hours
Day9	Downloading data and reading (Open street map & DEM)	2 hours
Day10	Digitization of point, line and polygon layers	2 hours
Day11	Digitization, area and length calculation	2 hours
Day12	Managing map layers (attribute query & data attachment)	2 hours
Day13	Identification of various features from Landuse and Landcover Maps	2 hours
Day14	Overlapping Consecutive Aerial Photographs	2 hours
Day15	Identifying various physical and cultural features from common area	2 hours

### IQAC recommendation

IQAC, Vivekananda College, Thakurpukur, met on 08 July 2020, to envisage, formulate, and design Add-On Courses, beyond the prescribed Curriculum.

A. It was decided that all the departments of Humanities, Science and Commerce would design and formulate 30 hour Add-On Courses for 2020-21 Academic calendar, as per UGC guidelines.

B. It was decided that the Departments would be free to choose the Courses based on their (subject) relevance, practicality, and feasibility.

C. It was decided that the Departments would have a Course Coordinator, who would design the Course and Course material in consultation with all teachers of the Department.

D. It was decided that each Department would design its format.

E. It was decided that the Departments would be encouraged to use and utilize their resources while formulating the Add-On Courses, rather than relying on Outsourcing.

F. IQAC would send its recommendations to the Principal/TIC for perusal and implementation.

  
Coordinator  
08/07/20  
**I Q A C**  
Vivekananda College  
Kolkata-700 063

### IQAC recommendation

IQAC, Vivekananda College, Thakurpukur, met on 14/Sept/2021, to envisage, formulate and design Add-On Courses, beyond prescribed Curriculum

A. It was decided that all the departments of Humanities, Science and Commerce would design and formulate 30 hour Add-On Courses for the session 2021-22, Academic calendar, as per UGC guidelines.

B. It was decided that the Departments would be free to choose the Courses on the basis of their (subject) relevance, practicality and feasibility.

C. It was decided that the Departments would have a Course Coordinator, who would design the Course and Course materials, in consultation with all teachers of the Department.

D. It was decided that each Department would design its own format; and could follow a blended mode of instruction.

E. It was decided that the Departments would be encouraged to use and utilize their own resources while formulating the Add-On Courses, rather than relying on Outsourcing.

F. IQAC would send its recommendations to the Principal/TIC for perusal and implementation.

  
14/09/21  
Co-ordinator  
IQAC  
Vivekananda College  
Kolkata-700 063





# VIVEKANANDA COLLEGE

(GOVT. SPONSORED) (NAAC ACCREDITED GRADE 'A')

Ref. No. \_\_\_\_\_

Date 21/9/21

## Notice

It is hereby notified that Vivekananda College, Thakurpukur, will offer Add-On Courses to All Honours students for the Academic year 2021- 22.

Each Department will offer an Add-On Course as per UGC guidelines. Each Course will be structured & overseen by a Course Coordinator, selected from the respective Department. Departmental Heads are requested to take up the matter on an urgent basis.

*thp*  
21/9/21

Principal  
Principal Vivekananda College  
Thakurpukur, Kol-63

## **NOTICE**

**DEPARTMENT OF GEOGRAPHY**

**VIVEKANANDA COLLEGE THAKURPUKUR**

All the faculty members of the concerned department are hereby requested to attend a departmental meeting on 23<sup>rd</sup> Sept 2021 from 2.30 pm onwards positively for discussion and selection of Add on Course and Course Coordinator as per the Principal's notice dated on 21<sup>st</sup> Sept, 2021.

*Alolika Mangal*

Head of the Department

Department of Geography

Dated: 22<sup>nd</sup> Sept, 2021

**Resolutions and outcomes from the departmental meeting held on 23<sup>rd</sup> Sept 2021**

- In the Departmental meeting dated 23<sup>rd</sup> Sept 2021, the teachers of Department of Geography unanimously decided that 2<sup>nd</sup> Semester Honours students would be offered a 30 hour (comprising 8 classes of 1 hour duration each and 11 classes of 2 hours duration) Add on Course on "Fundamentals of Research Methods in Geography" which is going to start from 13<sup>th</sup> Nov, 2021.
- The choice of this "topic" is made not only for its existing importance and immense applicability but also 'Research Methodology' is not only confined within the domain of Geography but also adopted by the fraternity of researchers in every discipline.
- It also decided in the meeting that Mrs.Baishali Mukherjee, Department of Geography, would be the course Coordinator for the Add on Course on "Fundamentals of Research Methods in Geography" for the Academic session 2021-2022.
- It is also decided that the coordinator would prepare a comprehensive Course Structure with all consideration and after consultation with everyone. The course details would be shared with students interested in the course.
- The enrolment of students would be done by the Course Coordinator, with the help of all the teachers of the department. The Course coordinator would be responsible for maintaining the Attendance of all the students enrolled in the Add-on course.
- It was decided that the syllabus/ portions would be appointed among teachers of the department by the Course Coordinator. Each teacher would be responsible for keeping a record of classes by taking Student's Attendance.
- Certificates will be given to each student after submitting the project.
- The add on course on "Fundamentals of Research Methods in Geography" would be conducted in a classroom environment for the session 2021-2022.

**Names/Signatures of the faculty members:**



Baishali Mukherjee



**Add-on Course on**

**“FUNDAMENTALS OF RESEARCH METHODS IN GEOGRAPHY”, Department of Geography,**

**Vivekananda College**

**Thakurpukur, Kolkata: 700063**

Department of Geography

**Date: 25/09/21**

To  
The Principal  
Vivekananda College,  
Thakurpukur, Kolkata.

Respected Sir,

The Department of Geography would offer, in collaboration with IQAC, an add on course on “**FUNDAMENTALS OF RESEARCH METHODS IN GEOGRAPHY**” designed by the undersigned and accepted unanimously by all of the faculty members of the Department of Geography. The course will commence from 13<sup>th</sup> Nov,2021.

The following expenses should be incurred as mentioned below.

Sl No.	Category		Expenses
1.	Certificates	107 students @ Rs 10/-	1070
2.	Flex		280
3.	Printout		800
4.	Xerox		350
5.	Miscellaneous		500
	Total		3000

You are requested to sanction the above sum of money for conducting the add on course smoothly.

Regards

Alolika Mangal

Head, Department of Geography

Basic Course on

## FUNDAMENTALS OF RESEARCH METHODS IN GEOGRAPHY

'Re' and 'Search' refers to search again that is already there in order to find solution to any problem. It's a voyage of discovery in a systematic way. Research inculcates scientific and inductive thinking and promotes development of logical habits of thinking. In order to learn the basics of research one has to acquire the fundamental knowledge of research methods. It's not just about find something new, the essence of research lies within the designing of the whole thought process in a meaningful, systematic and scientific framework. In the interest of it learning research methods and designs are necessary. Natural science and Social science both the themes are continuously evolving, but not without some emerging issues that has full potential to be solved by research. Over the decades geography has expanded beyond traditional academic boundaries and into issues relevant to the society. As this subject which is often called as "mother of all sciences" deals with both the braches (Physical & Human) that has immense opportunity to cater any kind of problem related to the natural and social environment, it's important to inculcate the fundamental knowledge of research into the young minds. Research is the only key by which one can try address the issues with the help of knowledge its methods and designing process. Young minds and spirits of undergraduate students are filled with ideas that needs to be framed and designed through an interdisciplinary lens of research. This course will deal with the dynamic methods of research as without the notion of research methods it is difficult to amalgamate the scattered ideas into a systematic framework. It will help the young geographers to understand the impotence of research in their future endeavours. The learning will also encourage them to look into various natural and social issues and express their ideas clearly and concisely, extracting key points and explaining the potential of research for the betterment of human society.

### Objectives of the Course:

- To provide ideas regarding the fundamentals of research and build the concept of methodologies used for research in Geography and related social science fields.
- To help students learn and practice established methodologies of research in the Human and Physical field of Geography.
- To provide some exposure for practice and improvement of the presentation skills as well as research related skills for the future endeavors of the students.
- To help the students learn the process of selecting goals to successfully execute any project in future and achieve them on their own.
- To inculcate logical and systematic thought process in students which is required for enhancement of understanding of the subject matter for UG level Geography papers.
- To help students build better insight to any issues around them other than their Syllabus of UG level.

**Relevance of the Course:**

This course is specifically designed for students for learning basic concepts of research methodology who are pursuing UG in Geography. It will help them learn methods and design Projects in future. They will learn to design projects and maintain originality of the writings. The course will encourage young minds to explore new topics and boundaries of the subject. They might also feel pursuing their higher studies and research further about the previously worked topics. The students will understand the need and importance to research and explore social science as a part of the scientific research.

They will be given ideas about the emerging trends of research in geography. The young minds will be encouraged to consider the Earth as their arena of research. The students will understand the importance of research on Physical Geography as a part of Geography and also will be interested to take part in it. The Students will be interested to Work on Human geography also as a part of Geography and the relevance of research in Human geography related issues in modern world of academics.

## **Department of Geography**

### **BASIC COURSE**

### **ON**

### **‘FUNDAMENTALS OF RESEARCH METHODS IN GEOGRAPHY’**

#### **Programme Schedule**

<b>DAYS</b>	<b>TOPICS</b>	<b>DURATION</b>	<b>Teachers Name</b>
<b>Day1 13-11-2021</b>	Research in Geography: Meaning Types and Significance	1 hour +1 hour	Alolika Mangal
<b>Day2 20-11-2021</b>	Identification of Research Gaps and Selection of Problem	1 hour +1 hour	Alolika Mangal
<b>Day3 27-11-2021</b>	Quantitative and Qualitative Research Methods	2 hours	Kunaljeet Roy
<b>Day4 04-12-2021</b>	Trends and Issues in Research	2hours	Baishali Mukherjee
<b>Day5 11-12-2021</b>	Research Fundamentals	1 hour + 1 hour	Alolika Mangal
<b>Day6 18-12-2021</b>	Types of Research	1 hour + 1 hour	Alolika Mangal
<b>Day7 08-01-2022</b>	Research Methods and Research Methodology	2 hours	Kunaljeet Roy

<b>Day8</b> <b>15-01-2022</b>	Research Design	2 hours	Kunaljeet Roy
<b>Day9</b> <b>22-01-2022</b>	Implication of sample design	2 hours	Kunaljeet Roy
<b>Day10</b> <b>29-01-2022</b>	Sampling Fundamentals	2 hours	Baishali Mukherjee
<b>Day11</b> <b>12-02-2022</b>	Methods of Data Collection	2 hours	Kunaljeet Roy
<b>Day12</b> <b>19-02-2022</b>	Basics of data: Its properties and data analysis	2 hours	Baishali Mukherjee
<b>Day13</b> <b>26-02-2022</b>	Theories of Hypothesis	2 hours	Alolika Mangal
<b>Day14</b> <b>05-03-2022</b>	Tests of Normality, Reliability and Validity	2 hours	Baishali Mukherjee
<b>Day15</b> <b>12-03-2022</b>	Interpretation and report writing	2 hours	Kunaljeet Roy

#### IQAC recommendation

IQAC, Vivekananda College, Thakurpukur, met on 18/June/2022, to envisage, formulate and design Add-On Courses, beyond prescribed Curriculum. The IQAC has also decided to organise a program on staff training:

- A. It was decided that all the departments of Humanities, Science and Commerce would design and formulate 30 hour Add-On Courses for 2022-23, Academic calendar, as per UGC guidelines.
- B. It was decided that the Departments would be free to choose the Courses on the basis of their (subject) relevance, practicality and feasibility.
- C. It was decided that the Departments would have a Course Coordinator, who would design the Course and Course materials, in consultation with all teachers of the Department.
- D. It was decided that each Department would design their own format; and could follow a blended mode of instruction.
- E. It was decided that the Departments would be encouraged to use and utilize their own resources while formulating the Add-On Courses, rather than relying on Outsourcing.
- F. IQAC would send its recommendations to the Principal/TIC for perusal and implementation.
- G. The IQAC would also organise a Staff Training programme - 'Effective Working Style' Conducted by IPE Of Professional Excellence On 25th June 2022 .

  
18/06/22

Co-ordinator  
IQAC  
Vivekananda College  
Kolkata-700 083



# VIVEKANANDA COLLEGE

(GOVT. SPONSORED) (NAAC ACCREDITED GRADE 'A')

(033) 2497 6824  
(033) 2497 6834

Ref. No. ....

Date. ....

## Notice

It is hereby notified that Vivekananda College, Thakurpukur, will offer Add-On Courses to All Honours students for the Academic year 2022-23.

Each Department will offer an Add-On Course as per UGC guidelines. Each Course will be structured & overseen by a Course Coordinator, selected from the respective Department. Departmental Heads are requested to take up the matter on an urgent basis.

*[Handwritten Signature]*  
24/6/22

Principal

Vivekananda College  
Thakurpukur, K-53

NOTICE

DEPARTMENT OF GEOGRAPHY,  
VIVEKANANDA COLLEGE, THAKURPUKUR

Dated: 4<sup>th</sup> July 2022

All the faculty members of the concerned department are hereby requested to attend a departmental meeting on 7<sup>th</sup> July, 2022 from 2.30 pm onwards positively for discussion and selection of Add-On Course and Course Coordinator as per the Principal's notice dated on 24/6/22.

*Alotika Mangal*  
Alotika Mangal

HoD, Geography

4/7/2022  
HEAD  
DEPARTMENT OF GEOGRAPHY  
VIVEKANANDA COLLEGE



Resolutions and outcomes from the departmental meeting held on 7th July, 2022

→ In the Departmental meeting dated 7th July, 2022 the teachers of Department of Geography unanimously decided that 3rd year Honours students would be offered a 30 hour (comprising 8 classes of 1 hour duration each with 11 classes of 2 hours duration) Add on Course on "Geo Spatial Science".

→ The choice of this "topic" is made not only for its existing demand and immense potential and applicability but also 'Geo Spatial Science' is not only confined within the domain of Geography but also adopted by the fraternity of researchers in almost every discipline.

→ It is also decided in the meeting that Mr. Labani Sarkar, Department of Geography, would be the Course Coordinator for the Add on Course on "Basic Course on Geospatial Science" for the Academic session 2022-2023.

→ It is also decided that the Coordinator would prepare a comprehensive Course Structure with all considerations and after consultation with everyone. The course details would be shared with students interested in the course.

→ The enrolment of students would be done by the Course Coordinator, with the help of all the teachers of the department. The Course Co-ordinator would be responsible for maintaining the Attendance of all the students enrolled in the Add-on Course.

- It was decided that that the syllabus/ portions would be appointed among teachers of the department by the course coordinator. Each teacher would be responsible for keeping a record of classes taken and students' attendance.
- Certificates will be given to each student after submitting the project.
- The add on course on 'Geospatial Science' would be conducted in a blended mode for the session 2022-23.

Signature of the faculties:

- 1) Baishali Mukherjee
- 2) Alakshya Mangal
- 3) Ady
- 4) Labani Sankar

**Add-on Course on**  
**“Basic Course on Geospatial Science”, Department of Geography,**

**Vivekananda College**  
**Thakurpukur, Kolkata: 700063**  
**Department of Geography**

**Date: 8/07/2022**

To  
The Principal  
Vivekananda College,  
Thakurpukur, Kolkata.

Respected Sir,

The Department of Geography would offer, in collaboration with IQAC, an add on course on “**Basic Course on Geospatial Science**” designed by the undersigned and accepted unanimously by all of the faculty members of the Department of Geography. The course will commence from 16<sup>th</sup> July, 2022.

The following expenses should be incurred as mentioned below.

Sl No.	Category		Expenses
1.	Certificates	107 students @ Rs 10/-	1070
2.	Flex		280
3.	Printout		740
4.	Xerox		510
5.	Miscellaneous		400
	Total		3000

You are requested to sanction the above sum of money for conducting the add on course smoothly.

Regards  
Alolika Mangal  
Head, Department of Geography

**Department of Geography**  
**Basic Course on Geospatial Science**

Today, the world is being monitored day and night constantly by high resolution sophisticated earth resources satellites. Availability of repetitive and high-resolution remote sensing (RS) data has increased the scope of identifying, monitoring and evaluating constant change of earth surface due to manmade and anthropogenic activities. In spite of having gained international recognition at a very early stage, these technologies are now gradually gaining its momentum in Indian subcontinent as well. Teaching and learning with GIS technology has always been focused on higher and nobler goals than simply learning GIS skills and tools. Learning GIS is an important skill set, but the ultimate goal is to understand an issue or a problem in a deeper and in more holistic way. As the field is emerging day by day, students of geography and related disciplines are encouraged to learn these technologies as these will not only help them gaining subject knowledge but it will open new pathways just after graduation.

**IMPORTANCE:**

- **Spatial thinking** is crucial to understand our increasing interconnected, complex world and it's key to solving these various problems we are facing in that world. Spatial thinking is greatly enabled by using the interactive maps made possible through GIS.
- **It will encourage critical thinking:** Critical thinking must include three aspects like **critical thinking about data**, **critical thinking about methods** and **critical thinking about Maps**.
- **GIS was created to solve problems:** Using GIS in education helps students to frame, visualize and to help them to grapple with problems. It even enables students to create solutions to those problems, whether they are about natural hazards, climate, urban greenways, litter, energy, social inequity or other complex issues of our day. Project Based Learning (PBL) implies active learning and GIS is a natural fit because using GIS, students are actively engaged as scientists, planners and other decision-makers.
- **The effective use of GIS:** The effective use of GIS is keenly tied to this process of inquiry.
- **We should recognize that GIS does provide students with career skills** that will never go out of style. Students who use GIS become valuable employees for non-profit organizations, academia, government agencies, ranging from local to international; and private industry. They are able to make decisions, work with data, and see holistically.

**SPECIFICALLY DESIGNED FOR UNDER GRADUATE STUDENTS:**

- As per the CBCS syllabus (SEM-3, 5) several parts contain topics that relates to remote sensing, GIS & GPS. If students could get a basic training that will help them to dig deeper into the subject knowledge.

- In this competitive environment students mainly coming from humanities background find difficulties to choose career pathways other than academics which will relate to their subject knowledge.
- Map making skills will help them to do small-scale project/ independent research work.
- In geography Remote Sensing and GIS is a part of curriculum as a core paper so prior knowledge will help the students to have profound understanding about the subject.
- Not only Honours students but also students pursuing general degree will also get a chance to gain a professional skill that will help them in future works.
- After having diploma/degree from a renowned institution students could use their knowledge as freelancers.
- Not only Geography but students coming from Environmental Science, Computer Science and other related disciplines will also get a sound knowledge of this field which will further help them in future endeavor.

#### TENTATIVE TIMING:

- Once in a week.
- After college class hours on Saturdays.

#### PLANNING AND TENTATIVE DURATION OF THE COURSE:

- ❖ Duration of the course- **3 months**
- ❖ Students will be provided with the theory or practical classes every week.
- ❖ After completing **3 months** of training students will be evaluated by a theory and a practical exam.
- ❖ Theory materials and book recommendation will be provided by the respective faculty members.

#### ❖ STRUCTURE OF THE MARKS DIVISION:

Sl. No.	Module Name	Marks
1	Remote Sensing & GIS (Theoretical)	50 (40 marks written 10 Marks attendance)
		30 marks MCQ & 20 marks SAQ
2	Remote Sensing & GIS (Practical)	50 (40 marks practical 10 Marks attendance)

- ❖ After successfully completing the entire course and submitting the project based on course learning result and certificates will be given to students.

#### ❖ IMPORTANT NOTES:

- I. Total intake capacity will be decided on the basis of lab facility.
- II. Internal assessment will be based on class attendance and class performance.
- III. Project work is compulsory (here teacher will only assist).
- IV. Examination will be conducted at the end of the course period.

**Department of Geography**

**Basic Course on 'Geo Spatial Science'**

**Programme Schedule**

DAYS	TOPICS	DURATION
<b>Theory - RS and GIS</b>		
Day1	Concept of Electromagnetic Radiation: Properties, wavelength regions and their applications, Atmospheric windows, Interaction of EMR with matter, Spectral signatures.	1 hour +1 hour
Day2	Platforms and Sensors	1 hour +1 hour
Day3	Remote Sensing resolutions and light interactions	2 hours
Day4	History of satellites; sensors, Radar, Lidar; features of some important satellites	2 hours
Day5	Satellite image (Information Extraction) and classification	1 hour + 1 hour
Day6	Basic knowledge of PHOTOGRAMMETRY & GEODESY	1 hour + 1 hour
Day7	Application of Geo-Informatics	2 hours
<b>Hands on training - RS and GIS</b>		
Day8	Georeferencing (with the help of scanned maps, Shapefile & Base map)	2 hours
Day9	Downloading data and reading (Open street map & DEM)	2 hours
Day10	Digitization of point, line and polygon layers	2 hours
Day11	Digitization, area and length calculation	2 hours
Day12	Managing map layers (attribute query & data attachment)	2 hours
Day13	Identification of various features from Landuse and Landcover Maps	2 hours
Day14	Overlapping Consecutive Aerial Photographs	2 hours
Day15	Identifying various physical and cultural features from common area	2 hours