বিষয় সম্পৰ্কীয় ঐচ্ছিক পাঠ্য

ASM-HE-6056

প্ৰকল্প

মূল্যাংক ঃ ১০০

এই কাকতখনৰ বাবে ছাত্ৰ-ছাত্ৰীয়ে বিভাগীয় শিক্ষকৰ তত্ত্বাৱধানত কোনো গুৰুত্বপূৰ্ণ স্থান, উৎসৱ-পাৰ্বণ, লোকাচাৰ, লোকপৰিৱেশ্য কলা, লোক সাহিত্য, লোকভাষা আদি যিকোনো এটা বিষয়ত প্ৰকল্প প্ৰস্তুত কৰিব লাগিব। প্ৰকল্পৰ শব্দসংখ্যা ৪০০০-৫০০০ ৰ ভিতৰত হ'ব লাগিব। বিভাগৰ মুৰব্বী/ অধ্যাপক/অধ্যাপিকাই তত্ত্বাৱধায়কৰ সহযোগত মূল্যায়নৰ ব্যৱস্থা কৰি প্ৰকল্পটি আৰু নম্বৰ তালিকা বিশ্ববিদ্যালয়ৰ পৰীক্ষা নিয়ন্ত্ৰকলৈ প্ৰেৰণ কৰিব। এই প্ৰকল্পৰ মুঠ 100 নম্বৰৰ ভিতৰত 80 নম্বৰ প্ৰকল্পৰ বাবে আৰু 20 নম্বৰ মৌখিক পৰীক্ষাৰ বাবে ধাৰ্য কৰা হৈছে।

CSC-HE-5036: Project Work / Dissertation

Credits 6

The students will be allowed to work on any project based on the concepts studied in core / elective or skill based elective courses.

The group size should be maximum of three (03) students. Each group will be assigned a teacher as a supervisor who will handle both their theory as well lab classes.

A maximum of Four (04) projects would be assigned to one teacher.

QP: Software Developer (SSC/Q0501)
NSQF Level: 7
SEMESTER V
Credit:6
(Total Marks 100)
Paper **INT-VE-5036**: OJT / Mini Project

OJT + MINI PROJECT REPORT + VIVA

1. ON JOB TRAINING :40

2.PROJECT REPORT : 40

3.VIVA: 20

On job training to be conducted in Software farm, Software industry, Govt and semi govt agencies for a minimum of 5 to 7 days.

QP: Software Developer (SSC/Q0501)
NSQF Level: 7

SEMESTER VI

Credit: 6

(Total Marks 100)

Paper INT-VE-6036: OJT / Major Project

OJT + PROJECT REPORT + VIVA

1. ON JOB TRAINING :40

2.PROJECT REPORT : 40

3.VIVA: 20

On job training to be conducted in Software farm, Software industry, Govt and semi govt agencies for a minimum of 5 to 7 days.

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Paper: FPM-VE-6036- Project/ Internship

Total credit: 6
Total marks: 100

Conduct in workplace: A student will undergo either a project supervised by any teacher or industrial internship in the field of their specialization during this semester of the academic year. Evaluation will be done by the department based on the outcome of the project or on feedback received from the industrial management on the student's performance during the tenure.

Report making and verbal presentation:

After completion of the project, the student will prepare a report on his work and experience. Evaluation will be based on the quality of the report and presentation.

Project report + presentation+ viva **100 marks**

The end

Paper: FPM-VE-5036- Project/ Internship

Total credit: 6
Total marks: 100

Conduct in workplace: A student will undergo either a project supervised by any teacher or industrial internship in the field of their specialization during this semester of the academic year. Evaluation will be done by the department based on the outcome of the project or on feedback received from the industrial management on the student's performance during the tenure.

Report making and verbal presentation:

After completion of the project, the student will prepare a report on his work and experience. Evaluation will be based on the quality of the report and presentation.

Project report + presentation+ viva	**100 marks**

BBA- SE-5024 SUMMER PROJECT **(SEC-2)**

(Duration 1st July to 15th August)

BBA- HE-5036 **(DSE-1)**

BBA- HE-5046 **(DSE-2)**

A Student can choose any two papers from any one of the 3 groups of Discipline Specific Electives (Finance, Marketing or Human Resource) the detailed syllabus for which are given after syllabus for sixth semester.

BCA-HE-5016: PROJECT WORK/DEISSERTATION (Credit: 6)

The students will be allowed to work on any project based on the concepts studied in core / elective or skill based elective courses. The objective of the project is to train the student to independently search, identify and study real-life important topics in CS/IT; to develop skills among students in a particular field of CS/IT; and to expose students to the world of technology, innovation, and research. The problem should be such that the students get a chance to explore one or two technologies in depth and grab good command over those technologies after successful completion of the project. Application problems, if found interesting and arisen at the demand of a particular situation, may also be assigned; but typical information management systems with just two or three simple database tables and/or data- entry forms are to be discouraged.

The group size should be maximum three (03) students. Each group will be assigned a teacher as a supervisor who will handle both their theory as well lab classes. The work will have to be submitted in the form of a dissertation.

A maximum of Four (04) projects would be assigned to one teacher.

M Sc. BIO-PHYSICS

Course Code	Course Title	Hours per week L-T-P	Credit C
BP202311	Project Work-I	0-0-18	9

PROJECT SUGGESTIONS

Simple group projects (two in a group) submitted even in hand written form (CD form along with hard copy)

Subjects like Biology, Chemistry, Biochemistry and Biophysics may be preferred by the students

Works like:

1. Literature survey and analysis in the above mentioned areas.
2. Based on basic theories and simple experiments
3. Projects from Structural Biology and Bioinformatics
4. Projects using new software from the areas like Structural Biology and Bioinformatics

5

BOT-HE-6036
Project Work/Dissertation

Credits : 6

9. **CHE-HE-6036:** Inorganic Materials of Industrial Importance (4) + Lab (2)

DSE-4(Any One from the following)

10. **CHE-HE-6046:** Research Methodology for Chemistry (5) + Tutorials (1)

11. **CHE-HE-6056:** Dissertation

FOURTH SEMESTER SE
ECO-SE-4014: Data Analysis

Course Description:

This course discusses how data can be summarized and analysed for drawing statistical inferences. The students will be introduced to important data sources that are available and will also be trained in the use of statistical softwares like SPSS/PSPP to analyse data.

Course Outline:

1. Data entry in softwares like MS-Excel, SPSS/PSPP

2. Univariate frequency distributions. Measures of central tendency: mean, median and mode; arithmetic, geometric and harmonic mean. Measures of dispersion: range, mean deviation and standard deviation, skewness and kurtosis.

3. Bivariate frequency distribution. Correlation and regression. Rank correlation.

4. Estimation of population parameters from sample data. Unbiased estimators for population mean and variance.

Readings:

THIRD SEMESTER SE

ECO-SE-3014: Data Collection and Presentation

Course Description:

This course helps students in understanding use of data, presentation of data using computer softwares like MS-Excel. Students will be involved practically to preparation of questionnaires/interview schedules, collection of both primary and secondary data and its presentation. Students will also be asked to prepare a report on collected data and will be evaluated accordingly.

Course Outline:

1. Use of Data

Use of data in social sciences; types and sources of data; data collection methods. Population census versus sample surveys. Random sampling.

2. Questionnaires and Schedules

Meaning; how to prepare a questionnaire and interview schedule; use of questionnaire and interview schedule for data collection.

3. Presentation of Data

Data presentation in tabular formats; use of diagrams for data presentation; creating charts and diagrams in MS-Excel – bar, line, pie, scatter, radar, bubble diagrams, population pyramids.

EDU-HC-6026

PROJECT

Total Marks: 100 (External: 80 and Internal: 20)

Credit-6

Course Objectives:

After completion of this course the learner will be able to:

- Explain the process of conducting a Project.
- Prepare a Project Report.

Guideline:

Each student is required to complete anyone project related to any area of the syllabus to be evaluated by Internal and External Examiners jointly through viva-voce test. The project work will be completed according to following heads:

- Title of the Project
- Introduction
- Importance of the Study
- Objectives of the Study
- Review of related literature (if any)
- Methods and Procedure
- Data Analysis and Discussion
- Conclusion

Internal Assessment (20 Marks):

Home Assignment/Group Discussion related to Project: 10 Marks

Library Works: 6 Marks

Attendance: 4 Marks

External Assessment (80 Marks):

Project Report: 60 Marks

Viva Voce: 20 Marks

CBCS-based U.G. Course in Geography, 2019

Syllabus of Core Course

Course Name: Geography of India with Special Reference to N.E. India

Paper Code: GGY-HC-3026

Total Credit: 6 (4+2)

Total Marks: 100

(Theory: 60, Practical: 20 and Internal Assessment: 20)

Course objectives:

- Thisisacorepaperwhichintendstointroducestudentstoindiaasageographicalentity.
- It seeks to develop new insights among students on significant geographical dimensions of the country along with its north-easternpart.
- A field study is incorporated to make the students understand regional diversity of India with respect to its land, people andeconomy.

Course outcomes:

- The paper will be useful for students in developing understanding on Indian geography and its various dimensions.
- It will also be useful for students preparing for various competitive examinations including civil services.

Part 1: Theory

Credit: 4 (60 Marks)

(40 classes of 1 hour duration each)

1. India's location and its significance;administrativedivisions. **(2classes)**
2. Physical setting: Physiographic divisions and their characteristics; Climate and its seasonal and regional characteristics; vegetation; soil types and itsdistribution. **(8classes)**
3. Population: Trend of growth, spatial variation in growth and distribution; Age and sex composition; Linguistic andreligiouscomposition. **(6classes)**
4. Agriculture: Regional distribution and production patterns of rice, wheat andmillet. **(4classes)**
5. Industry: Distribution and production patterns of iron and steel, cotton textile and fertilizers;Roleoftransportsysteminindustrialdevelopment. **(6classes)**
6. North-East India: Land of seven sisters and its locational significance; physiographic framework; forest cover; agricultural practices including shifting cultivation; industrial development scenario; population growth, distribution and ethniccomposition. **(14 classes)**

Part II: Practical and Field Report
Credit: 2 (20 Marks)
(20 classes of 2 hour duration each)

Unit1: Practical Works (10 marks)

(2 Questions of 5 markseach)

1. Trend of population growth and growth rates in India and N.E. India since 1901 using Census data(Source:censusindia.gov.in). **(2assignments)**
2. Choroplethmappingtoshowspatialvariationindecennialpopulationgrowthrateinlndia. **(1assignment)**
3. Spatial variation in the patterns of religious composition of population in India and Social compositionofpopulation(SC,STandGeneral)inN.E.Indiausingpie-graph. **(2assignments)**
4. Trend of foodgrains production (rice, wheat, maize, barley, jowar and bajra) in India since 1950-51usingband-graph. **(1assignment)**
5. Map showing distribution of major tribal groups in North-EastIndia. **(1assignment)**

Unit2: Field Report (6 Marks)

6. Preparation of field report based on field study of observational knowledge about the geographicalpersonalityofanypartofIndia/N.E.Indiaundertheguidanceofteacher(s). (Evaluation of Field Report: 4 marks and Viva-voce: 2 marks)

Unit II: Practical Note-Book and Viva-voce (4 Marks)

1. Evaluation of Practical Note-Book (2 marks)
2. Viva-voce (2 marks)

Reading List:

1. Deshpande C. D., 1992: India: A Regional Interpretation, ICSSR, NewDelhi.
2. Johnson,B.L.C.,ed.2001.GeographicalDictionaryofIndia.VisionBooks,NewDelhi.
3. Mandal R. B. (ed.), 1990: Patterns of Regional Geography – An Intenational Perspective. Vol. 3 –IndianPerspective.
4. Sdyasuk Galina and P Sengupta (1967): Economic Regionalisation of India, Census of India
5. Sharma, T. C. 2003: India - Economic and Commercial Geography, Vikas Publ., New

CBCS-basedU.G. Course in Geography, 2019

Syllabus of Honours Core Course

Course Name: Field Techniques in Geography

Paper Code: GGY-HC-5026

Total Credit: 6 (4+2)

Total Marks 100

(Theory: 60, Practical: 20 and Internal Assessment: 20)

Course objectives:

This paper on Field Techniques in Geography is of pedagogical importance as it helps the students of geography to acquire the first hand experience about the geography of a particular area. It also helpsthe students to learn the various techniques of data collection from the field andto understand any pre-defined problem in proper perspective.

Course outcomes:

- This course will help students to proceed with a research problem and the steps she/he should adopt and the tools and craft to be employed for doing quality research.
- Students perceive fieldwork to be beneficial to their learning, because through it they experience 'geographical reality', and have deeper understanding of the subject.
- The students will have a chance to interact with respondents and collect data through questionnaire directly from the field.
- This course will develop understanding about designing and writing a field report.

Part I: Theory

Credit: 4 (60 Marks)

(40 Classes of 1 hour each)

1. Geography and Field Studies: Geography as a field science; Need of field work in geography; Nature of field studies in physical geography and human geography. (4 classes)

2. Concept of Case Study and Its identification in the varying geographical contexts (Physical/Human/Rural/Urban/Environmental). (4 classes)

3. Tools and Techniques in Field Studies:Nature of data and their collection techniques relating to various geographical phenomena (Physical and Human); Structure of field survey questionnaire; Collection of Physical geographic data: Observations and photography, field interview, questionnaire survey, Equipment/Measurement-based survey, etc; Collection of Human geographic data: Questionnaire survey, Participant observation, PRA, Focus group interview/discussion, etc. (14 classes)

4. Surveying: Concept of ground surveying and mapping;Conduct of traverse surveying with Prismatic Compass; Profile levelling and contouring with Dumpy Level; Pont distribution survey with GPS; Field mapping of Village, River bank, Wetland,

CBCS-basedU.G. Course in Geography, 2019

Syllabus of Honours Core Course

Course Name: Research Methods in Geography and Project Work

Paper Code: GGY-HC-6026

Total Credit: 6 (4+2)

Total Marks: 100

(Theory: 60, Practical: 20 and Internal Assessment: 20)

Course Objectives:

The paper on Research Methods will enable the students:

- To understand how to approach a research problem and to formulate research objectives and research questions in proper perspective. In addition, knowledge of formulation of hypothesis and testing, framing of questionnaires, techniques of collection of both qualitative and quantitative data and their analysis.
- To develop understanding of the basics and utility of review of literature and preparation of research report.

Course Outcomes:

- This course will help the students to proceed with a research problem and the steps she/he should adopt and the tools and craft to be employed while doing quality research.

Part I: Theory

Credit: 4 (60 Marks)

(40 Classes of 1 hour each)

1. Meaning and significance of research; types of research; Basics of research methodology; Review of literature and its need; Ethics of research. (6 Classes)

2. Geographic Research: Meaning and Characteristics; Formulation of research problem. (4 Classes)

5. Statistical Analysis of Data: Qualitative data analysis; Quantitative data analysis; Data representation (Manual and computerised). (5 Classes)

6. Structure of a Research Report: Preliminaries; Text; Tables, Figures and Appendices; Citations, References and Bibliography; Research/Project Report Writing; Executive Summary.

(5 Classes)

Part II: Project Report

Credit: 2 (20 Marks)

(21 classes of two hour duration each)

Project Report Preparation and Evaluation (20 Marks)

1. Each student will have to prepare a Project Report on a suitable geographical problem under the guidance of respective teacher following appropriate methodology, data base and literature review.
2. Length of the Report: 30-40 printed A4 size pages (font size 12 in Times New Roman with 1.5 spacing) including text, tables, figures, references, etc.
3. The project report in binding form (Kutcha or Spiral binding) duly signed by the guide concerned has to be submitted to the department at least 3 days before the scheduled date of examination.
4. The marks distribution of the Project Report in the final semester examination is as follows:
   (i) Total marks: 20
   (ii) Evaluation of Content: 15 (average between external examiner and internal teacher guide)
   (iii) Viva-voce: 5 (exclusively by the external examiner)

Reading List:

1. Creswell J., 1994: *Research Design: Qualitative and Quantitative Approaches* Sage Publications.
2. Dikshit, R. D. 2003. The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.
3. Evans M., 1988: "Participant Observation: The Researcher as Research Tool" in *Qualitative Methods in Human Geography*, eds. J. Eyles and D. Smith, Polity.
4. Kothari, C. R., 1993: *Research Methodology: Methods and Techniques*, 2nd ed., Wiley Eastern Ltd., New Delhi.
5. Misra, H.N. and Singh, V.P., 1998: *Research Methodology in Geography*, Concept

Skill Enhancement Elective Courses

(2 Courses)

HIS –SE-3014: Historical Tourism in North East India
HIS –SE-4014: Oral Culture and Oral History

HIS –SE-3014: Historical Tourism in North East India

Lecture : 03; Tutorial : 01 (per week)

Course Outcome:

After completing this course, students will be able to explain Tourism in North East India with special reference to the historical monuments, cultural and ecological elements and places of the north east India country as tourist and heritage sites of the nation. They will be able to relate to the growing vocation of tourism as an industry and the applicability of historical knowledge for its growth.

In-semester assessment: Students shall carry out a small project (submission not less than 2000 words) based on survey of an area or monument. The project should try to unearth the tourism potential of the surveyed area or monument. The project may also be on an existing tourist site. No sessional examination is required for this paper.

Unit I : Theoretical aspects of tourism, Elementary geography and bio – diversity of North East India

[a] : Tourism – Concept, meaning and significance
[b] : Different types of Tourism
[c] : Physiographical divisions, water bodies and climatic conditions
[d] : Important wildlife habitats : Kaziranga, Manas, Orang, Nameri, Dibru Saikhowa, Namdapha, Keibul Lamjao, Rain forests of Assam.

Unit II : Ancient remains and Important tourist places of the North – East India

[a] : Ancient remains: Goalpara, Ambari, Tezpur, Deopahar, Malinithan,Doyang– Dhansiri Valley
[b] : Tourist places: Shillong, Cherapunjee, Aizwal, Gangtok, Kohima, Tawang, Poa Mecca (Hajo), Azan Pir Dargah, Jatinga

Unit III : Architectural Heritage

[a] :Dimapur, Kasomari, Maibong, Khaspur
[b] :Charaideo, Garhgaon, Sivasagar and Rangpur
[c] :Ujayanta palace, NeerMahal
[d] :Kamakhya, HayagrivaMadhava, Tripura Sundari Temple, Rumtek monastery
[e] :Kangla fort

Unit IV : Fairs and festivals of the North – East

[a] : Festivals - *Bihu, Ali Aye Lrigang, Mopin* festival, Tai – Buddhist festivals in Assam
[b] : *Bhaona, Ras* celebration in Majuli

VI	MAT-HC-6016: Riemann Integration and Metric spaces			DSE-3 MAT-HE-6016 MAT-HE-6026 MAT-HE-6036 MAT-HE-6046	
	MAT-HC-6026: Partial Differential Equations (including practical)			DSE-4 MAT-HE-6056 MAT-HE-6066 MAT-HE-6076	
				Project In lieu of DSE-3 or DSE-4	

Legends: HC: Core Papers HE: Discipline Specific Elective Papers SE: Skill

Sem - VI Env. Ethics (Reg)

Semester VI
PHI-SE-6014
Environmental Ethics (B.A. Regular)

Course Description:

Environmental Ethics primarily deals with issues like how and why do we value the environment and the non-human inhabitants of the earth, why should we care or examine the moral relationship between human beings and non-human beings. This course is an attempt to look at the implications of the moral value of the environment. This course focuses on our ethical relationship to environment and the ecological systems of which we are a part. By dealing through these issues, students will be equipped to participate in contemporary debates and to think anew about their own place in ecosystems. Most importantly, students will learn the skill of confronting complex issues relating to environment. The course is divided into two parts: (a) theory, comprised of introduction to Environmental Ethics and its various theories (units I & II); and (b) practical, comprised of writing a report on local environmental issues on the basis of visit to nearby places of environmental importance.

Course Objectives:

The course aims to:

- Develop the sense of ethical responsibility towards environment
- Explicate the significance of the various components of the environment like land, water, forest, species, ecosystem, cities etc.
- Develop conceptual thinking through, and participating in, complex ethical discussions about nature, the environment, and ecosystems.

Course Outcomes:

On completion of the course students are expected to be able to:

- Articulate the importance and role of Environment.
- Uncover and explicate the fundamental significance of environment in terms of the present as well as the future human and non-human worlds.
- Understand one's duties and responsibilities towards protection of environment.

STA-HE- 6046

Project Work

Total Lectures: 60 Credits: 6

Objective: The aim of the course is to initiate students to write and present a statistical report, under the supervision of a faculty, on some area of human interest. The project work will provide hands on training to the students to deal with data emanating from some real life situation and propel them to dwell on some theory or relate it to some theoretical concepts.

ZOO-HE-6056

DISSERTATION

Dissertation of Zoology Specific subject

GENERIC ELECTIVE COURSES

CODE: ZOO-HG-1016

ANIMAL DIVERSITY

THEORY **(CREDITS 4)**

Unit 1:Kingdom Protista **4**

General characters and classification up to classes; Locomotory Organelles and locomotion in Protozoa

Unit 2: Phylum Porifera **3**

General characters and classification up to classes; Canal System in *Sycon*

Unit 3: Phylum Cnidaria **3**

General characters and classification up to classes; Polymorphism in Hydrozoa

Unit 4:Phylum Platyhelminthes **3**

General characters and classification up to classes; Life history of *Taenia solium*

Unit 5: Phylum Nemathelminthes **5**

General characters and classification up to classes; Life history of *Ascaris lumbricoides* and its parasitic adaptations

Unit 6:Phylum Annelida **3**

General characters and classification up to classes; Metamerism in Annelida

Unit 7:Phylum Arthropoda **5**

General characters and classification up to classes; Vision in Arthropoda, Metamorphosis in Insects