DEPARTMENT OF GEOGRAPHY

SARAT CENTENARY COLLEGE

LESSON PLAN OF B.A. 4YR/3YR (NEP) GEOGRAPHY (SEC)

COURSE 1 (CODE: GEOG 1051)

COURSE TITLE: COMPUTER BASICS AND COMPUTER APPLICATION

SEMESTER-I

1. Numbering Systems; Binary Arithmetic
2. Data Computation, Storing and Formatting in Spreadsheets: Computation of Rank, Mean, Median, Mode, Standard Deviation,
3. Moving Averages, Derivation of Correlation, Covariance and regression; Selection of technique and interpretation.
4. Preparation of annoted diagrams and its interpretation: Scatter diagram and Histogram

Detailed Practical Lesson Plan for NEP Students of Geography

Lesson Plan Overview

Subject: Geography
Grade Level: NEP (National Education Policy) Students
Duration: 2 Hours
Lesson Title: Data Computation and Analysis Using Spreadsheets and Binary Arithmetic

Lesson Objectives

1. Understanding Numbering Systems: Students will learn binary arithmetic and its application.
2. Data Computation in Spreadsheets: Students will practice computation techniques such as rank, mean, median, mode, and standard deviation.

3. Statistical Analysis: Students will perform moving averages, correlation, covariance, and regression analysis. They will learn to select appropriate techniques and interpret results.
4. Annotated Diagrams: Students will prepare and interpret scatter diagrams and histograms.
5. Internet Research: Students will generate and extract information through internet research related to geographical data

Materials Needed

Computers with spreadsheet software (e.g., Microsoft Excel, Google Sheets)
Projector and whiteboard
Access to the internet
Handouts with sample data sets
Graphing tools or software for creating diagrams
Notebooks and pens

Lesson Breakdown

1. Numbering Systems; Binary Arithmetic (20 minutes)

Objective: Understand binary arithmetic and its relevance to data computation.

1. Introduction to Numbering Systems:
   Discuss different numbering systems (binary, decimal, hexadecimal).
   Explain the importance of binary in computing.

2. Binary Arithmetic:
   Demonstration: Show how to perform basic binary operations (addition, subtraction).
   Activity: Students will solve simple binary arithmetic problems in pairs using handouts.

3. Application:

Discuss how binary arithmetic applies to data representation in spreadsheets and computational tasks.

Assessment:

Quick quiz on binary arithmetic principles and operations.

2. Data Computation, Storing, and Formatting in Spreadsheets (30 minutes)

Objective: Perform data computations and understand how to store and format data.

1. Introduction to Spreadsheets:

Overview of spreadsheet software features relevant to geography (e.g., Excel, Google Sheets).

2. Data Computation Techniques:

Rank: Calculate the rank of data points.

Mean, Median, Mode: Compute central tendencies using built in functions.

Standard Deviation: Use functions to calculate variability.

3. Activity:

Students will be provided with a data set to compute the above statistics using spreadsheet software.

Assessment:

Review students' spreadsheets and their computations for accuracy.

3. Statistical Analysis (30 minutes)

Objective: Perform moving averages, correlation, covariance, and regression analysis.

1. Moving Averages:
   Explain the concept and purpose of moving averages.
   Activity: Compute moving averages using sample data.

2. Correlation and Covariance:
   Define and explain these concepts.
   Activity: Use spreadsheet functions to calculate correlation and covariance.

3. Regression Analysis:
   Introduction to linear regression.
   Activity: Perform regression analysis on a given data set and interpret the results.

Assessment:
   Students will present their findings and interpretations of statistical analyses.

4. Preparation and Interpretation of Annotated Diagrams (30 minutes)

Objective: Create and interpret scatter diagrams and histograms.

1. Scatter Diagrams:
   Explain scatter diagrams and their use in visualizing relationships between variables.
   Activity: Students will create scatter diagrams based on provided data.

2. Histograms:
   Define histograms and their use in representing data distributions.
   Activity: Students will create histograms using sample data.

3. Interpretation:
   Guide students on how to interpret these diagrams.
   Discuss insights that can be drawn from the visual data.

Assessment:

Evaluate students' diagrams and interpretations for accuracy and insightfulness.

5. Internet Surfing: Generation and Extraction of Information (20 minutes)

Objective: Use internet resources to generate and extract geographical information.

1. Research Techniques:
   Discuss effective internet research strategies.
   Activity: Students will search for geographical data related to a given topic or dataset.

2. Information Extraction:
   Guide students on evaluating the credibility and relevance of online sources.
   Activity: Extract and organize data from reliable sources.

Assessment:
   Review students' research findings and discuss the sources and methods used.

Conclusion and Reflection (10 minutes)

1. Recap Key Points:
   Summarize the day's activities and key takeaways.

2. Q&A Session:
   Address any remaining questions or clarifications needed.

3. Feedback:
   Collect feedback on the lesson to improve future sessions.

Homework/Extended Activity

1. Data Analysis Project:

Assign a project where students must use spreadsheet software to analyze a new dataset, create annotated diagrams, and write a report on their findings.

2. Further Research:

Encourage students to explore additional internet resources related to their project topic and integrate this information into their analysis.

End of Lesson Plan5. Internet surfing: generation and extraction of information

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LESSON PLAN OF B.A. 4YR/3YR (NEP) GEOGRAPHY (SEC)

COURSE 2 (CODE: GEOG 2052)

COURSE TITLE: FIELD TECHNIQUES

SEMESTER-II

1.Fieldwork in Geographical studies – Role and significance, Selection of study area and objectives, Pre-field preparations, Ethics of fieldwork

2. Preparation of Survey Schedule and Questionnaires (open, closed, structured, non-structured)

3. Interview with special reference to focused group discussions

4. Field techniques and tools: Landscape survey using transects and quadrants, constructing a sketch, photo and video recording

5. Collection of samples. Preparation of inventory from field data. Post-field tasks

Lesson Plan: Fieldwork in Geographical Studies

Course Duration: 6 Months

Target Audience: Undergraduate Geography Students

Week 1-2: Introduction to Fieldwork in Geographical Studies

Objectives:

Understand the role and significance of fieldwork in geography.

Learn the process of selecting a study area and defining objectives.

Review pre-field preparations and ethics of fieldwork.

Activities:

Lecture: Importance of fieldwork in geographical studies.

Discussion: Selecting a study area and setting research objectives.

Workshop: Pre-field preparations (e.g., logistics, equipment, permissions).

Case Study Analysis: Ethics in fieldwork and real world examples.

Assignments:

Prepare a brief proposal for a potential fieldwork study, including objectives and study area.

Week 3-4: Preparation of Survey Schedules and Questionnaires

Objectives:

Learn to design and prepare survey schedules and questionnaires.

Differentiate between open, closed, structured, and non-structured questionnaires.

Activities:

Lecture: Types of questionnaires and their applications.

Workshop: Design and creation of different types of questionnaires.

Group Activity: Review and critique sample questionnaires.

Assignments:

Develop a set of questionnaires for a specific research topic.

Week 5-6: Conducting Interviews and Focused Group Discussions

Objectives:

Understand the methodology of conducting interviews and focused group discussions.

Learn techniques for effective data collection through interviews.

Activities:

Lecture: Techniques for conducting interviews and focused group discussions.

Role Play: Simulate interviews and group discussions.

Workshop: Develop interview guides and discussion frameworks.

Assignments:

Conduct a mock interview or focus group discussion and submit a summary of findings.

Week 7-8: Field Techniques and Tools

Objectives:

Master field techniques such as landscape surveys using transects and quadrants.

Learn to construct sketches and use photo and video recording tools.

Activities:

Lecture: Introduction to field techniques and tools.

Practical Session: Conduct landscape surveys using transects and quadrants.

Workshop: Training on sketching, photo, and video recording.

Assignments:

Perform a mini field survey and create a report including sketches and photos.

Week 9-10: Collection and Analysis of Samples

Objectives:

Learn methods for collecting samples and preparing inventories.

Understand how to analyze and interpret field data.

Activities:

Lecture: Sample collection techniques and inventory preparation.

Practical Session: Collect samples from a designated area and prepare an inventory.

Workshop: Analyze collected data and interpret results.

Assignments:

Submit a sample collection report and inventory.

Week 11-12: Post-Field Tasks

Objectives:

Understand the importance of post-fieldwork tasks.

Learn how to compile and present field data.

Activities:

Lecture: Overview of post-fieldwork tasks such as data compilation and analysis.

Workshop: Data entry, organization, and presentation techniques.

Group Activity: Prepare a fieldwork report or presentation.

Assignments:

Complete a final fieldwork report or presentation based on the collected data.

Week 13-16: Review and Integration

Objectives:

Integrate knowledge and skills acquired throughout the course.

Prepare for practical application and future research.

Activities:

Review Sessions: Discuss key learnings and address any questions.

Practical Integration: Apply skills in a comprehensive project.

Guest Lecture: Invite a professional geographer for insights on fieldwork.

Assignments:

Submit a comprehensive project that integrates all aspects of the course.

Assessment and Evaluation

Continuous Assessment:

Weekly assignments and participation.

Midcourse review based on assignments and practical work.

Final Assessment:

Comprehensive fieldwork report or project.

Presentation of findings and methodologies used.