

National Academy of Science and Technology

(Affiliated to Pokhara University)

Dhangadhi, Kailali

Pre University Examinations

Level : Bachelor

Semester: IV_Spring

Year : 2024

Programme: B.E. Computer

F.M. : 100

Course: Research Fundamentals

P.M. : 45

Time : 3hrs.

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

Attempt all the questions.

- 1.a) What do you mean by research? Differentiate between qualitative and quantitative research. 8
- b) What are the aims and objectives of research? 7
- 2.a) What do you understand by plagiarism? Explain about the types of plagiarism. 8
- b) What do you mean by literature review? Elaborate the sources of literature with examples. 7
- 3.a) What do you mean by research strategy? Indicate the difference between case study and ethnographic study. 8
- b) What are the rights of people directly involved in the research process? 7
- 4.a) What do you understand by data collection? Distinguish between focus group discussion and documents. 8
- b) What is research ethics? Mention the responsibilities of an ethical researcher in the research process. 7
- 5.a) What is triangulation in research? Mention the types of triangulation in a research project. 8
- b) What do you mean by research question? Write about the characteristics of research question. 7
- 6.a) What is research proposal? Explain about the components of research proposal. 8
- b) What is a research report? Mention the significance of a Research Report 7
- 7. Write short note on (any two) 5*2=10
 - i. Citation and its types
 - ii. Conceptual framework
 - iii. The 6Ps of Research



Pokhara University
Internal Examination

Level: Bachelor

Year 2024

Program: BE Computer IV

Full Marks: 100

Pass Marks: 45

Subject: Research Methodology

Candidate are required to give their answer in their own words as far as practicable

The figures in the margin indicate full marks

Attempt all the Questions

1 a	Define the Term "Research." Why Are Objectives of a Research Proposal Significant?	7
1 b	What Are Various Types of Research Design? Differentiate Between Qualitative vs Quantitative Research.	8
2 a	What are 6Ps why researcher always focusses on them? Explain?	8
2 b	Why is Literature Review Significant in Research? Explain Various Styles of Conducting Literature Review in Modern Research.	7
3 a	Why Are Research Questions Needed in Research? Explanation its Various Styles in Academic Writing.	7
3 b	What Are Citations? Prepare a bibliography of following using APA, Vancouver and MLA Author: John Smith Title of Article: A Comparative Study of Modern and Traditional Technology of Web Surfing Using Artificial Technology Journal Name: Engineering Technology Journal Volume: 5th December Publisher: School of Stanford DOI: http://234554353 Pages: 33-56	8
4 a	What is Plagiarism? How Can You Ensure Your Writing is Free from It? Explain you key points.	7
4 b	How is the Concept of Triangulation Useful in a Research Project? Explain its Advantage in Academic Research.	8
5 a	What is Research Ethics? List Responsibilities of an Ethical Researcher.	7
5 b	What Are the Various Components of a Research Proposal? List Them Out in.	8
6 a	How Research Data will be Generated in Research? Explain Its Techniques and Instruments for Data Collections.	7
6 b	Differentiate Between Case Study and Action Research Design.	8
7	Any two short note	15
a	Questionnaire Survey	5
b	Ethnography study	5

discipline

NEPAL COLLEGE OF INFORMATION TECHNOLOGY
ASSESSMENT – SPRING

Level: Bachelor

Year : 2024

Programme: BE SE/COMP

Full Marks: 100

Course: Research Fundamental

Pass Marks: 45

Time : 3 hrs.

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Attempt all the questions.

1. a) Explain the differences between research and a project, including the specific purposes and outcomes associated with each. 7
b) Describe the potential outcomes or products of the research. Compare and contrast research with project work. 4+4
2. a) What do you mean by research question? Why is it crucial for the research? 3+5
b) Discuss the key features of research and explain how they differentiate the quantitative and qualitative types of research. 7
3. a) What do you mean by the conceptual framework of a research process model? Discuss briefly about data generation methods. 4+4
b) What do you mean by participant? Explain the rights of the participants. 2+5
4. Write down the Literature Review about given article 15

Credit card fraud (CCF) is a type of identity theft in which someone other than the owner makes an unlawful transaction using a credit card or account details. A credit card that has been stolen, lost, or counterfeited might result in fraud. Card-not-present fraud, or the use of your credit card number in e-commerce transactions has also become increasingly common as a result of the increase in online shopping. Increased fraud, such as CCF, has resulted from the expansion of e-banking and several online payment environments, resulting in annual losses of billions of dollars. In this era of digital payments, CCF detection has become one of the most important goals. As a business owner, it cannot be disputed that the future is heading towards a cashless culture. As a result, typical payment methods will no longer be used in the future, and therefore they will not be helpful for expanding a business. Customers will not always

visit the business with cash in their pockets. They are now placing a premium on debit and credit card payments. As a result, companies will need to update their environment to ensure that they can take all types of payments. In the next years, this situation is expected to become much more severe. In 2020, there were 393,207 cases of CCF out of approximately 1.4 million total reports of identity theft. CCF is now the second most prevalent sort of identity theft recorded as of this year, only following government documents and benefits fraud. In 2020, there were 365,597 incidences of fraud perpetrated using new credit card accounts. The number of identity theft complaints has climbed by 113% from 2019 to 2020, with credit card identity theft reports increasing by 44.6%. Payment card theft cost the global economy \$24.26 billion last year. With 38.6% of reported card fraud losses in 2018, the United States is the most vulnerable country to credit theft. As a result, financial institutions should prioritize equipping themselves with an automated fraud detection system. The goal of supervised CCF detection is to create a machine learning (ML) model based on existing transactional credit card payment data. The model should distinguish between fraudulent and nonfraudulent transactions, and use this information to decide whether an incoming transaction is fraudulent or not. The issue involves a variety of fundamental problems, including the system's quick reaction time, cost sensitivity, and feature pre-processing. ML is a field of artificial intelligence that uses a computer to make predictions based on prior data trends. ML models have been used in many studies to solve numerous challenges. Deep learning (DL) algorithms applied applications in computer network, intrusion detection, banking, insurance, mobile cellular networks, health care fraud detection, medical and malware detection, detection for video surveillance, location tracking, Android malware detection, home automation, and heart disease prediction. We explore the practical application of ML, particularly DL algorithms, to identify credit card thefts in the banking industry in this paper. For data categorisation challenges, the support vector machine (SVM) is a supervised ML technique. It is employed in a variety of domains, including image recognition, credit rating, and public safety. SVM can tackle linear and nonlinear binary classification problems, and it finds a hyperplane that separates the input data in the support vector, which is

superior to other classifiers. Neural networks were the first method used to identify credit card theft in the past. As a result, (DL), a branch of ML, is currently focused on DL approaches. In recent years, deep learning approaches have received significant attention due to substantial and promising outcomes in various applications, such as computer vision, natural language processing, and voice. However, only a few studies have examined the application of deep neural networks in identifying CCF. It uses a number of deep learning algorithms for detecting CCF. However, in this study, we choose the CNN model and its layers to determine if the original fraud is the normal transaction of qualified datasets. Some transactions are common in datasets that have been labelled fraudulent and demonstrate questionable transaction behaviour. As a result, we focus on supervised and unsupervised learning in this research paper. The class imbalance is the problem in ML where the total number of a class of data (positive) is far less than the total number of another class of data (negative). The classification challenge of the unbalanced dataset has been the subject of several studies! An extensive collection of studies can provide several answers. Therefore, to the best of our knowledge, the problem of class imbalance has not yet been solved. We propose to alter the DL algorithm of the CNN model by adding the additional layers for features extraction and the classification of credit card transactions as fraudulent or otherwise. The top attributes from the prepared dataset are ranked using feature selection techniques. After that, CCF is classified using several supervised machine-driven and deep learning models.

- | | | |
|----|---|-----|
| 5. | Write a well-structured research proposal about given article in question | 15 |
| | 4 | |
| 6. | a) How does a well-structured report contribute to knowledge advancement and practical applications in engineering? | 8 |
| | b) Discuss the components of a research report and their role in research effectiveness | 5 |
| 7. | Write short notes on: | 2×5 |
| | a) Product of Research | |
| | b) Plagiarism | |

NEPAL ENGINEERING COLLEGE

Level: Bachelor
Programme: BE
Course: Research Fundamentals

Assessment

Year : 2024
Full Marks: 100
Pass Marks: 45
Time : 3 hrs.

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Attempt all the questions.

- | | |
|---|-----|
| 1. a) What do you mean by research? Explain the types of research in detail and provide examples. ✓ | 2+6 |
| b) What are the 6 P's of the Research? Explain. ✓ | 7 |
| 2. a) What are the objectives of conducting a literature review in research? Describe the process of conducting a systematic literature review. ✓ | 3+5 |
| b) Define plagiarism in the context of academic research and discuss its types. ✓ | 7 |
| 3. a) What is action research, and how is it applied in computer science and engineering research? ✓ | 3+5 |
| b) What are the different types of triangulation that can be used to validate findings in a research project? ✓ | 7 |
| 4. a) What factors should researchers consider when selecting participants for a study? What are the rights of participants? | 4+4 |
| b) What are the responsibilities of an ethical researcher? Discuss in detail. ✓ | 7 |
| 5. a) Define a research proposal and explain its significance in the research process. ✓ | 3+5 |
| b) Discuss the purpose and contents of an abstract in a research proposal. How does it differ from the abstract in the research report? | 7 |
| 6. a) List and describe the main components of a research report. ✓ | 8 |
| b) Why are methodology, data analysis, and findings are essential parts of a research report? Discuss | 7 |
| 7. Write short notes on any two: | 2×5 |
| a) Fundamental Vs Applied | |
| b) Citation and its type | |
| c) Data Generation Methods | |
| d) Intellectual Property Rights (IPR) | |



Pokhara University
Everest Engineering College
Final Internal Assessment
Spring - 2024

Level: Bachelor F.M. 100
Program: BE CMP(4th Semester) P.M. 45
Faculty: Science & Technology Time: 3hrs
Section: A
Subject: Research Fundamentals

Attempt all the questions.

- 1 a) ✓ What is the purpose of Research? How research topics are determined? 7
- b) ✓ When to use a descriptive research design? Give two examples that can be the example of descriptive Research. 8
- 2 a) ✓ How literature review is carried out? Mention the importance of bibliography in Research. 8
- b) ✓ A Hospital wants to conduct research to evaluate the user experience of its appointment booking application. Suggest the suitable research strategies for this context. 7
- 3 a) ✓ List out the various data-generation methods for research? Explain the situations where questionaries are useful? 8
- b) What are textual data? How textual data analysis is performed in Qualitative research? 7
- 4 a) ✓ Explain various visual techniques for Quantitative data analysis. 7
- b) Who is participant observer? How participant observation is carried out? 8
- 5 a) ✓ What is Ethics in Research? Why is it important? 7
- b) ✓ Who are the Participants in Research? What are the various rights of the participants? 8

- 6 a) Why do we need Research Report? How Research Findings are presented Research Report?
b) What is the essence of Research Proposal ~~needed~~? Elaborate the things that are mentioned in the Methodology section of Research Proposal.
- 7 Write short notes on: (Any two)
- a) Ethnography
b) Literature Review
c) Research Hypothesis
d) Applied Research

Best Wishes

Gandaki College of Engineering and Science
Semester

Level: Bachelor

Semester – Spring

Year : 2024

**Programme: BE (Computer and Software) Semester
Course: Research Fundamentals**

Full Marks : 100
Time : 3 hours

Time : 3 hrs

*Candidates are required to give their answer in their word.
The figures in the margin indicate full marks.
Attempt all the questions.*

Attempt all the questions

a) What do you mean?

1. a) What do you mean by research? What are the types of research? Explain any one. 7

b) Compare research with project. What are the reasons for doing research? Explain in brief. 8

2. a) What is a literature review in research? How do you conduct a literature review? 8

b) Explain in brief about the different strategies to answer research question? 7

OR

What are the different types of referencing systems?

Explain any one type of Referencing systems and

citation.

3. a) How do you develop research questions in Research? 7
How can a researcher evaluate a research process?

b) What are the different data generation methods in research process? Explain the types of method triangulation in a research project. 8

OR

Explain the different types of data analysis in research project.

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or
0 E
ough?
use
feat
real-time performance
real-time programming
real-time performance
resource utilization.
better
by

4. a) Who are the participants of research? What are the different laws which must be followed by an ethical researcher? 8
- b) How are the respondents of a research project? What are the responsibilities of an ethical researcher? 8
5. a) What is a research proposal? Why do we need to write a research proposal? 8
- b) Highlighting the major component of research proposal, write a proposal on "Establishing an IT park in Gandaki Province". 7
6. a) What is research report? Why do we need to write a research report? 7
- b) What is research paper? Differentiate peer reviewed article with report. 8
7. Write short notes on (any two). 2*5
- a) 6 Ps in Research
- b) Conceptual Framework of research process
- c) Plagiarism

Lumbini Engineering, Management & Science College

Level: Bachelor

Year: 2024

Program: BE

Full Marks: 100

Course: Research Fundamental

Time: 3 Hrs

*Candidates are required to give their answers in their own words as far as practicable.
The figures in the margin indicate full marks.*

Attempt all the questions.

Q. 1 a) Define and explain the term "Research". Explain its importance and objectives. (7)

b) What are the different types of research. Briefly explain the 6 P's of research. (8)

Q. 2 a) What is a literature review? Explain the effective literature studies approach for research problem. (8)

b) Explain the Research process with a suitable diagram. (7)

Q. 3 a) Explain essentials that are to be considered by a researcher while formulating Research Problem. (7)

b) What is a Research Problem? Explain Components of Research Problem. (8)

Q. 4 a) What is a Questionnaire? Explain the process of construction of a questionnaire. (8)

b) What is collection of data? Explain primary and secondary source to collect the data? (7)

Q. 5 a) What do you mean by plagiarism? Explain different types of plagiarism. (8)

b) Explain how quantitative researches differ from qualitative research. (7)

Q. 6 a) Identify different formats of Research proposal writing. Outline and explain the format of experimental report writing. (7)

b) Define Research report and explain various components of Research report. (8)

Q. 7. Write short notes (Any Two) (2x5=10)

a) Ethnographic research and its types

b) Rights of an ethical researcher

c) Action research

**Madan Bhandari College of Engineering
Urlabari-3, Morang
Final Internal Examination**

Level: Bachelor

Full Marks: 100

Programme: Computer Engineering

Pass Marks: 45

Year/Part: II/II

Time: 3 hrs

Subject: - Research Fundamentals

- ✓ Candidates are required to give their answers in their own words as far as possible.
- ✓ Attempt all questions

1. What is research? Explain various features of research [2+8]
- ✓ 2. Discuss the types of research with their advantages and disadvantages [10]
- ✓ 3. What do you mean by the term "literature review"? Why it should be done by the researcher? Explain in detail with example [2+8]
4. Explain conceptual framework and its components with respect to any research topic with diagram [10]
- ✓ 5. What is case study research? Explain in detail with any suitable case study. Also mention its advantages and disadvantages [2+5+3]
- ✓ 6. Differentiate primary and secondary data in research. Briefly explain different techniques for data collection in research work [3+7]
- ✓ 7. What do you mean by data analysis? What are the methods for data analysis? Explain with suitable examples [2+8]
8. State and briefly explain different responsibilities of Ethical researcher [10]

OR

9. Discuss the features of an Ethical researcher with example [10]
- ✓ 10. What is research proposal? Discuss the need and importance of research proposal [2+8]
- ✓ 11. Briefly explain the components of research proposal [10]

POKHARA ENGINEERING COLLEGE INTERNAL ASSESSMENT

Level: Bachelor Semester – Spring Year : 2023
Programme: B.E. Computer Full Marks: 100
Course: Research Fundamentals Time : 3 hrs.

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Attempt all the questions.

- | | | |
|-----|---|---|
| 1a. | Why do we need research? Explain the types of research. | 8 |
| b. | What are the types of research question? How do you ensure data validity and reliability? | 7 |
| 2a. | Differentiate between project and research. Explain 6P's in research. | 7 |
| b. | A call for application has been announced for a research proposal submission to the university students. Write a draft of research proposal with suitable components. | 8 |
| 3a. | Suppose you are performing a literature review for a study. What are the considerations required for proper literature review? | 8 |
| b. | Describe different citation styles with suitable examples. | 7 |
| 4a. | Define plagiarism. What are the different types of data generation methods. | 8 |
| b. | Define research problem. How do you select a good research problem? | 7 |
| 5a. | What is qualitative data? How do you analyse the qualitative data? | 8 |
| b. | Who are the participants in research? Explain the responsibilities of an ethical researcher? | 7 |
| 6a. | What is research report? What are the components of research report? | 8 |
| b. | Explain scientific research process. | 7 |
| 7 | Write Short notes on: (Any Two) 10 | |
| a. | Informed Consent | |
| b. | Characteristics of good research title | |
| c. | Research hypothesis | |

Universal Engineering & Science College

Affiliated to Pokhara University

Chakupat, Lalitpur

401

Level: Bachelor
Programme : BE Computer
Course: Research Fundamental

Semester: IV
Time: 3 hours

Year: 2023
Full Marks: 100
Pass Marks: 45

Pre-Board Examination - 2081 (Spring 2023)

Candidates are requested to give their answers in their own words as far as practicable. Figure in the margin indicates full marks

Attempt All the Questions

1. a. What is research, list out the aim and objective of the research. 7
b. Why research is important in academic field. Explain the types of research [8]
2. a. list out the 6P of research, Explain the outcomes of research. [7]
b. How researchers are motivated for the doing research? List out the motivation factors [8]
3. a. Define term Plagiarism. Describe why literature necessary for the researchers. [7]
b. Why researchers should be ethical. Write the responsibility of Ethical researchers. [8]
4. a. List out the Data Generation Methods and explain any one, [8]
b. Difference between Quantitative and Qualitative research. [7]
5. a. What is literature review? What is the process of of literature review. [8]
b. What is Proposal Writing? List the Need of a Research Proposal. [7]
6. a. Who is the research respondent? What are the responsibility of respondents. [8]
b. list out and explain the Questionnaire during research. [7]
7. Write short notes on *Any two* [5x2=10]
 - a. Reference
 - b. Research Proposal
 - c. Components of a Research Proposal

Best Of Luck

UNITED TECHNICAL COLLEGE
SPRING

Level: Bachelor

Full Marks: 100

Programme: BE

Pass Marks: 45

Course: Research Fundamental

Time : 3hrs.

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Attempt all questions:

- | | | | |
|----|----|---|---|
| 1. | a) | What is research? What are the research aim and objectives? | 8 |
| | b) | What are the characteristics of research? Explain. | 7 |
| 2. | a) | What are different types of research? Differentiate fundamental and applied research with examples. | 8 |
| | b) | What are the 6Ps of research? Explain. | 7 |
| 3. | a) | What is a literature review? How can a literature review support the research? Explain its importance. | 8 |
| | b) | What is the purpose of citations in academic writing? Explain the different types of citations with examples. | 7 |
| 4. | a) | Describe the different types of data generation methods with their advantages and possible constraints of different data generation techniques. | 8 |
| | b) | What is a research proposal? Why is a research proposal needed? Explain the reason why the research proposal is rejected sometimes? | 8 |
| 5. | a) | What is a research report? Explain the different components of the research report. | 7 |
| | b) | Define research participants. Describe the rights of people directly involved in research. | 7 |
| 6. | a) | What are the various responsibilities of an ethical researcher? Explain. | 8 |
| | b) | Differentiate between bibliographic detail and | 7 |

referencing system.

Write short Notes (any Two) $(5 \times 2 = 10)$

- a) Quantitative and Qualitative Data
- b) Product of research
- c) Plagiarism

Date:	2081/02/31	Full Marks	50
Level	BE	Time	
Programme	BCE		

Semester IV

Subject: - Research Fundamentals

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate **Full Marks**.
- ✓ Assume suitable data if necessary.

1. a Define research. Discuss the main features that distinguish research from other forms of inquiry. Explain how these features ensure the credibility and reliability of research findings. [7]
- b Explain the concept of research aims. How do they differ from research objectives? How do research objectives support achieving research aims? Provide examples to illustrate your answer. [8]
2. a What is the purpose of a literature review in a research project? Explain its significance in the context of research. Describe the process of conducting a literature review. Outline the steps involved and the best practices for ensuring a comprehensive review. [7]
- b Define citation. Why is it important in academic research? Explain the different types of citations (e.g., in-text, footnotes, endnotes) and their importance in academic research. Provide examples to illustrate your points. [8]

OR

What is plagiarism? Why is it considered unethical in academic research? Discuss the various strategies to avoid plagiarism in research. Include techniques such as proper citation, paraphrasing, and using plagiarism detection tools.

3. a What are the different data generation methods in research? Provide a brief overview. Compare and contrast interviews and questionnaires as data generation methods. Discuss their advantages and disadvantages, and provide examples of when each method might be appropriately used. [7]
- b Define qualitative data analysis. How does it differ from quantitative data analysis? Explain the key differences between qualitative and quantitative data analysis. Discuss the methods used in each type and their respective strengths and weaknesses. [8]

OR

What is a conceptual framework? Why is it important in the research process? How does a conceptual framework guide the research process? Provide examples to illustrate how a well-defined conceptual framework can enhance the clarity and focus of a research study.

4. Write short notes on any one of the following: [5]
 - a. The 6Ps of Research
 - b. Types of triangulation in a research project
 - c. Bibliographic Detail and Referencing Systems

Term Test II

Date:	2081/05/08	Full Marks	50
Level	BE	Time	
Programme	BCE		

Semester IV

1.5 hrs

Subject: - Research Fundamentals

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

Group A
Attempt any three

1. a Critically analyze the concept of research aims and objectives. How do they guide the research process? [7]
b Evaluate the significance of the 6Ps of research in ensuring the rigor and relevance of a research project. [8]
2. a Discuss the key elements and significance of a conceptual framework in research. [7]
b Analyze the role of personal experiences and motivations in shaping the direction and focus of research. [8]
3. a Evaluate the ethical implications of plagiarism in academic research and the measures that can be taken to avoid it. [7]
b Compare the effectiveness of different data generation methods (interviews, observations, questionnaires, and documents) in qualitative research. [8]
4. a Discuss the legal responsibilities of researchers towards participants and how these impact research design. [7]
b Analyze the rights of participants in research and how these rights influence the ethical conduct of research. [8]
5. a Explain the critical components of a research proposal and their importance in the research planning process. [7]
b Assess the role of a research proposal in the context of academic and professional research, focusing on its potential to secure approval and funding. [8]
6. a Discuss the essential elements of a research report and how they contribute to the effective communication of research findings. [7]
b Evaluate the impact of report writing on the dissemination and application of research findings in the academic and professional community. [8]

Group B

7. Write short notes on: (Any one) [1*5=5]
 - a Types of research and their relevance
 - b. Bibliographic detail and referencing systems
 - c. Law and research