

TRIBHUVAN UNIVERSITY

2082 (New/Old Course)

Bachelor / Education / 6th Semester

ICT.Ed.466 Computer Graphics

Full Marks: 40

Time: 3 hrs.

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

Attempt all questions

Group "B"

6 X 5 marks = 30

1. Explain History and application of computer graphics.
2. Digitize line with end points (3,7) and (10,1) using DDA algorithm.

OR

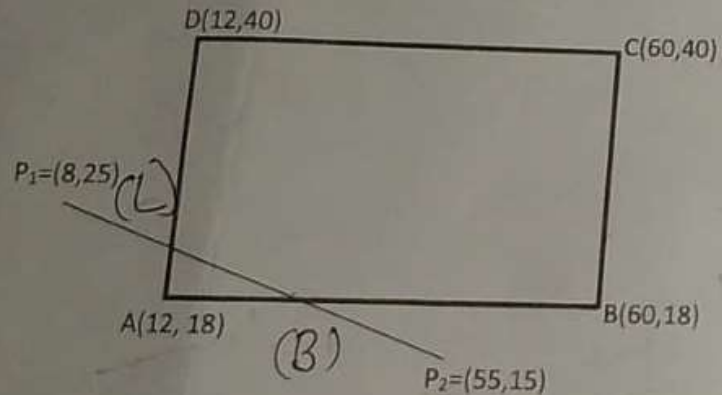
Digitize circle with radius=6 and center at (2,1) using Mid point circle algorithm.

3. Differentiate between RGB and HSV color model with geometrical shape.
4. What is projection? Derive parallel projection matrix in homogeneous form.

OR

What is specular highlight? Explain any one polygon rendering algorithm with supportive geometrical figure.

5. In given figure, ABCD is clipping boundary. Clip the line P_1, P_2 using Cohen Sutherland line clipping algorithm.



6. What is visible surface detection? Explain the concept of a Z-buffer in visible surface detection in Computer Graphics.

TRIBHUVAN UNIVERSITY

2082 (New Course)

Bachelor / Education / 6th Semester

ICT.Ed.469 Digital Pedagogy

Full Marks: 40

Time: 3 hrs.

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

Attempt all questions

Group "B"

6 X 5 marks = 30

- 1/ What are the common challenges faced by institutions and learners in implementing e-learning, and how can they be addressed? Differentiate between synchronous and asynchronous learning methods.
- 2/ Define the concept of Learning Management Systems (LMS) and their role in education. How can you apply and create course, user, and enrollment processes in an LMS?
3. How can teachers ensure that digital pedagogy and the TPACK Framework promote meaningful learning experiences rather than simply substituting traditional teaching methods with technology?

OR

What are the methods for integrating gamification and storytelling concepts in education, and how can social media platforms like Facebook, YouTube, and LinkedIn be used for educational activities?

4. What are Virtual Learning Environments? Compare and contrast the effectiveness of synchronous and asynchronous learning methods for different types of learners.
5. How can formative and summative assessments be effectively implemented in blended learning environments? How do communication and collaboration tools enhance the learning experience in these models?

OR

What are the key components of a Pedagogy Wheel, and how do those components interact to facilitate comprehensive learning experiences?

6. How has e-learning evolved to become E-Learning 3.0? How do instant messaging and discussion forums facilitate student engagement and participation in online learning environments?



TRIBHUVAN UNIVERSITY

2082 (New Course)

Bachelor / Education / 6th Semester

ICT.Ed.468 Network Security

Full Marks: 40

Time: 3 hrs.

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

Attempt all questions

Group "B"

6 X 5 marks = 30

1. Define security. Explain any two basic security terminologies with example.
2. Why security policy need to be developed? Explain the different types of security policies.
3. 'Encryption and Decryption is necessary during transmission of data'. Justify it.

OR

What is cryptography? Explain the use of digital signature.

4. What is authentication? Explain why password aging is being practiced.
5. How is email, user and program security maintained? Explain.

OR

What do you mean by penetration testing? How is it being performed? Explain.

6. What is malware? What are the different types of malware? Explain.



TRIBHUVAN UNIVERSITY

2082 (New Course)

Bachelor / Education / 6th Semester

Full Marks: 60

Ed.462 Research in Education

Time: 3 hrs.

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

Attempt all questions**Group "B"**

6 X 5 marks =30

1. Discuss the concept and importance of educational research.
2. Define purposive sampling. Discuss its process of purposive sampling.

OR

Explain the cycle of action research with example.

3. Find the arithmetic mean value of the students from the following information and interpret the result.

Marks	0-20	20-40	40-60	60-80	80-100
No. of Students	3	6	10	5	6

4. Discuss the importance of literature review in educational research.
5. Distinguish between qualitative and quantitative research in terms of concept and characteristics.

OR

Clarify the concept of narrative research with a suitable example.

6. Explain the major components of research report.

Group "C"

2 X 10 marks =20

7. Explain the concept of questionnaire and develop a model of questionnaire.

OR

Briefly explain the steps of doing survey research with example.

8. Prepare a research proposal in the areas of your interest.



TRIBHUVAN UNIVERSITY

2082 (New Course)

Bachelor / Education / 6th Semester

ICT.Ed.465 Visual Programming

Full Marks: 40

Time: 3 hrs.

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

Attempt all questions

Group "B"

6 X 5 marks = 30

1. Describe the .Net framework structure.
2. What is LINQ? Describe the importance of LINQ with its example.

OR

What do you mean by property in C# language? How is it Different from method? Compare automatic property with other types of property with suitable example.

3. Write a C# program to show insert and select operation in database.
4. Write a C# program to find the area of various shapes like rectangle, circle and triangle using the concept of interfaces.
5. What are various DataSet objects in ADO.Net used in ASP.Net? Explain.

OR

What do you mean by static class and constructor? Explain with a suitable example.

6. What is Razor in C#? Explain it with its syntax and one suitable example.

