GAUHATI UNIVERSITY
CENTRE FOR DISTANCE AND ONLINE EDUCATION
HOME ASSIGNMENT
Master of Science in Information Technology (M.Sc.-IT)

Semester – IV (Session: 2023-2024, July)

*Guidelines for Submission***:**

1. Learners who have been admitted in the Academic Session (2023-2024,July) will write the Home Assignment.
2. Learners should write their **Roll Number**, **GU Registration Number**, **Subject**, **Semester, Paper Title**, **Paper Code** and **Name of the Study Center** clearly on the first page of the answer script in the space provided.
3. The formats of the answer scripts are available at and can be downloaded from, the GUCDOE website (www.gucdoe.in).
4. There will be 2 (two) compulsory questions in each paper, and each question will have options (Total Marks: 2 questions × 10 marks= 20 marks).
5. **Typed/Computerized answers will not be accepted**. Learners will write the answers neatly in their own handwriting.
6. Learners should not submit any plagiarized answers as such a practice is deemed to be unfair.
7. Learners of different Study Centers under GUCDOE will mandatorily submit the answer scripts at their respective Study Centers.
8. Learners of GUCDOE center will submit their answer scripts at GUCDOE Office.
9. **Last Date of Submission : 22nd September, 2025.**

PAPER: INF 4016 (PROGRAMMING LANGUAGES)

Q. No. 1. Explain the influence of operating systems on programming languages, focusing on system calls, networking, and security.   **10**

OR

Explain the desirable features in programming languages with examples.   **10**

Q. No. 2. Explain the uses of templates in C++ programming with suitable examples.   **10**
OR
Discuss the implementation of different types of polymorphic functions in C++ with suitable examples.   **10**

PAPER: INF 4046 (ARTIFICIAL INTELLIGENCE)

Q. No. 1. . What is Breadth First Search Technique? Explain how water jug problem can be solved using the BFS technique.   **4+6=10**

OR

Explain the different AI problems with the help of an example.   **10**

Q. No. 2. Explain the different ways of knowledge representation with an example each.   **10**

OR

Explain the Bayesian network with the help of an example.   **10**

PAPER: INF 4086 (WIRELESS COMMUNICATION AND NETWORKS)

Answer the following questions   **2 x 10 = 20**

Q. No. 1. Explain the concept of modulation and its different techniques. Is it possible to transmit data without modulation? Justify your answer.   **10**

OR

Explain the basic concepts of multiple access schemes. Which multiple access schemes is used in mobile cellular network?   **10**

Q. No. 2. a What is the principal application that has driven the design of circuit-switching networks?   **10**

OR

Explain the working principles of Common Channel Signaling (CCS).   **10**

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Gauhati University

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Centre for Distance and Online Education

ASNWERSCRIPT FOR HOME ASSIGNMENT

Roll Number (8 digit):   ....

(GUCDOE Enrollment No)

G.U. Registration No.:   ....

Programme Name: ....

Semester: ....

Paper Title: ....

Paper Code: ....

Name of the Study Centre:..

N.B.: Please note that the Name of the Candidate should not be mentioned anywhere. If found, the asnwer script will not be evaluated.)