Printed Pages – 2

नोट : सभी 04 प्रश्न पत्र हल करना अनिवार्य है।

नोट : *प्रत्येक खण्ड को पृथक्-पृथक् उत्तर-पुस्तिका में लिखना अनिवार्य है।*

Note: *Each section is compulsorily written on separate answer sheet.*

H-2651

M. Sc. (Second Semester) Examination, 2021

COMPUTER SCIENCE

Paper : First

(Theory of Computation)

Maximum Marks : 40

Note: *Attempt all questions. Each question carry equal marks. Each question must be answered in maximum 800 words.*

1. Write a procedure that convert on NDFA to DFA.

2. Write short note on two-way DFA.

3. Show that the following grammar is ambiguous

$S \rightarrow aSbS \mid bSaS \mid \in$

4. Write short note on Chomsky hierarchy.

5. Write a note on universal turing machine. Also explain the turing machine model.

H-2652

M. Sc. (Second Semester) Examination, 2021

COMPUTER SCIENCE

Paper : Second

(Database Management System)

Maximum Marks : 40

Note: *Attempt all questions. Each questions carry equal marks. Each question must be answered in maximum 800 words.*

1. Define DBMS? Discuss its characteristics?

2. Discuss and differentiate rotational, hierarchical and network model with example.

3. What is multivalued dependency? Explain with example.

4. What are various approaches to database security? Explain.

5. Define looking? Explain various types of Locks with example?

H-2653

M. Sc. (Second Semester) Examination, 2021

COMPUTER SCIENCE

Paper : Third

(Data Communication & Computer Network)

Maximum Marks : 40

Note: *All questions are compulsory. Each questions carry equal marks. Each question must be answered in maximum 800 words.*

1. What are the data communication networks? Explain in detail.
2. Explain error detection methods with example.
3. What are the wireless media protocols? Explain any 3 (three) protocols in detail.
4. Explain data encryption with example in detail.
5. Explain Telnet with its working architecture.

H-2654

M. Sc. (Second Semester) Examination, 2021

COMPUTER SCIENCE

Paper : Fourth

(Data Structure and Algorithm using C++)

Maximum Marks : Regular 40

Note: *All questions are compulsory. All questions carry equal marks. Each question must be answered in maximum 800 words.*

1. Explain stack and write alrgorithms for PUSH and POP operations.
2. Write an algorithm to insert a node in a Doubly Linked List.
3. Consider the following unsorted array :

   23, 54, 18, 11, 72, 10, 3, 90, 87, 66

   which sorting method will you apply to sort the above array? Justify your answer.
4. What is graph? How is it represented?
5. Explain various indexing techniques.