UNIVERSITY OF NORTH BENGAL

BCA Honours 6th Semester Examination, 2021

DSE7/8/9-BACHELOR OF COMPUTER APPLICATION (63)

Full Marks: 40

ASSIGNMENT

The figures in the margin indicate full marks.
Candidate should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.

The question paper contains DSE63:E1 and DSE63:E2 and DSE63:E3
The candidates are required to answer any *one* from *three* courses.
Candidates should mention it clearly on the Answer Book.

DSE63:E1

DIGITAL IMAGE PROCESSING

Answer any *two* questions   20×2 = 40

1. What is spatial filtering? How it is useful for Image enhancement, also discuss different types spatial filters used in Image enhancement.   20

2. Explain Fourier Transformation and its properties in Digital Image Processing with example.   20

3. Explain Perspective Projection with Example. Write a short note on Brightness Adaptation and Discrimination.   14+6

4. Explain Image Compression and Redundancies in a digital image. Explain Lossy and Lossless compression.   14+6

DSE63:E2

INTRODUCTION TO DATA SCIENCES

Answer any *two* questions   20×2= 40

1. What is Data Science? Explain with a diagram the main phases of the Data Science Lifecycle.   20

2.   Explain the different types R object with suitable example.   20

3.   Explain the different types of control structure used in R programming with suitable example.   20

4.   What is data cleaning? Explain the Different Ways of Cleaning Data.   20

DSE63: E3

DATA MINING

Answer any *two* questions from the following   20×2= 40

1. (a) Differentiate classification and clustering.   4
   (b) What is data mining? What is Metadata? What are the advantages of data mining?   2+2+6
   (c) List few applications of data mining.   6

2.   Name the different Data Mining techniques and explain the scope of Data Mining.   15+5

3.   What are the types of Data Mining? What is Data Purging? Define strong association rule. Discuss major issues of data mining.   5+5+5+5

4. (a) What is OLAP? How is it different from OLTP?   2+2
   (b) Name the different storage models that are available in OLAP?   4
   (c) Explain Decision Tree-Based Algorithms, Neural Network Based Algorithms and Rule-Based Algorithms with suitable example.   4×3

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