**POORNIMA UNIVERSITY, JAIPUR**

**END SEMESTER EXAMINATION, November 2022**

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|  | **4BT7152** | Roll No. | Total Printed Pages: 2 |
| **4BT7152** |  |
| B.Tech. IV Year VII- Semester (Main/Back) End Semester Examination, November 2022  **(DS)** | |
| **BDS07101: Data Mining Techniques** | | | |

# Time : **3** Hours. Total Marks: **60**

Min. Passing Marks: **21**

Attempt **five** questions selecting one question from each Unit. There is internal choice from Unit I to Unit V. Marks of each question or its parts are indicated against each question / parts. Draw neat sketches wherever necessary to illustrate the answer. Assume missing data suitably (if any) and clearly indicate the same in the answer.

Use of following supporting material is permitted during examination for this subject.

# **--------------------------Nil--------------------** **2. ------------------Nil-----------------------**

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|  |  | **UNIT-I (CO1)** | **Marks** | **Bloom Level** |
| **Q.1** | **(a)** | Assume you are a data analyst and want to extract noble information from it then discuss Pre Processing Steps involved in Data Mining? Also Differentiate Data Mining with KDD. | **(6)** | **Analyzing** |
|  |  |  |  |  |
|  | **(b)** | Data Mining is Youngest field of computer science for data analysis. Explain it with respect to its Architecture? | **(6)** | **Analyzing** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.2** | **(a)** | For dealing with various missing values appear in data set Define Data Cleaning process stated in data mining? List Various Data Cleaning Methods. | **(6)** | **Applying** |
|  |  |  |  |  |
|  | **(b)** | Let for a given data set there are various missing values appearing corresponds to multiple features, Discuss how to handling such Missing values involved in it? Explain with an example. | **(6)** | **Applying** |
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|  |  | **UNIT-II (CO2)** |  |  |
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| **Q.3** | **(a)** | Discuss why we apply Data Reduction and Transformation in Data Mining? Also explain Dimensionality Reduction and its methods. | **(6)** | **Applying** |
|  |  |  |  |  |
|  | **(b)** | Discuses role of Concept Hierarchy in Data mining. Explain with an example. | **(6)** | **Understanding** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
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| **Q.4** |  | What do you mean by Z-Score Normalization in Data Mining?  Suppose you have an Employee dataset with ‘n’ number of features among them Salary is one of the feature then explain how to Scale (Normalize) a salary Rs.7000/- of an employee Alice for which Mean value of salary for all employees is 3500 and standard deviation is 1500. | **(12)** | **Evaluating** |
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|  |  | **UNIT-III (CO3)** |  |  |
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| **Q.5** | **(a)** | Discuss How to Handling Missing values involved in Data Cleaning Process? Explain with an example. | **(6)** | **Applying** |
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|  | **(b)** | Write and explain Discretization and Binarization in Data mining. Explain with an example. | **(6)** | **Understanding** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
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| **Q.6** | **(a)** | Write & Explain Apriori Algorithm with an example. | **(6)** | **Understanding** |
|  |  |  |  |  |
|  | **(b)** | Assume for a given data set with multiple features then wow to perform Chi Square Measure in Coefficient correlation Analysis for model validation? Explain with an example. | **(6)** | **Analyzing** |
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|  |  | **UNIT-IV (CO4)** |  |  |
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| **Q.7** | **(a)** | Write and explain Back propagation Algorithm for Feed Back Artificial Neural Networks with at least one Hidden layer using Sigmoid Activation Function. | **(6)** | **Understanding** |
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|  | **(b)** | How Probabilistic analysis is carried out by Classification & Prediction in Data Mining? Explain Naïve Bayes Classification with an example. | **(6)** | **Analyzing** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
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| **Q.8** | **(a)** | Discuss role of Artificial Neural Networks in AI? Draw & Explain a simple Feed Forward Artificial Neural Networks with one Hidden layer using Signum Activation Function. | **(6)** | **Applying** |
|  |  |  |  |  |
|  | **(b)** | Write and explain KNN Algorithm in detail. Also discuss various distance measure methods in KNN. | **(6)** | **Remembering** |
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|  |  | **UNITV (CO5)** |  |  |
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| **Q.9** | **(a)** | Discuss utilization of word cloud in text Mining? How it is important in Text interpretation. Create a Text file named as ABC.txt with a paragraph now create a word cloud for ABC.txt which shows highest frequency word in blue color. | **(6)** | **Applying** |
|  |  |  |  |  |
|  | **(b)** | What do you mean by word cloud in text Mining? How it is important in Text interpretation. | **(6)** | **Understanding** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.10** |  | Assume you are a data analyst and want to mining the data for extraction of information from it, explain various text mining operations used for text Mining. Also draw and explain general architecture of text mining. | **(12)** | **Analyzing** |