14CS804 (A)

**Hall Ticket Number:**

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| **IV/IV B.Tech (Regular / Supplementary) DEGREE EXAMINATION** | | | |
| **July, 2021** | **Computer Science and Engineering** | | |
| **Eight Semester** | **Application Programming Using Python** | | |
| **Time:** Three Hours | | **Maximum:** 60 Marks | |
| *Answer ALL Questions from PART-A.* | | | (12X1 = 12 Marks) |
| *Answer* ***ANY FOUR*** *questions from PART-B.* | | | (4X12=48 Marks) |
| Part - A | | | |

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| --- | --- | --- | --- | --- |
| 1. | Answer all questions | | (12X1=12 Marks) | |
|  | a) | List any four Built –in Functions in Python | |  |
|  | b) | Write any two differences between Break and Continue | |  |
|  | c) | Write any four string functions in python | |  |
|  | d) | Define a Dictionary in python | |  |
|  | e) | Define Encapsulation | |  |
|  | f) | Define Data Model | |  |
|  | g) | List different supervised learning algorithms | |  |
|  | h) | Write any two differences between classification and regression | |  |
|  | i) | Define Core Point in DBSCAN? | |  |
|  | j) | Write any two differences between Supervised and Unsupervised Learning | |  |
|  | k) | Write steps involved in Preprocessing | |  |
|  | l) | What is Entropy? | |  |
| Part - B | | | | |
| 2. | a) | What is a String? Write a python program that print the count of the number of letters in a string | | 6M |
|  | b) | Write a python program to print the following patterns   1. 5 5 5 5 5 (ii)1   4 4 4 4 2 3  3 3 3 4 5 6  2 2 7 8 9 10  1 | | 6M |
|  | | | | |
| 3. | a) | Describe features and advantages of python | | 6M |
|  | b) | Write a python program that print the count of number of letters, words, and lines in a file | | 6M |
|  | | | | |
| 4. | a) | Define a Tuple? Why Tuples are called Immutable? What makes a Tuple different from a List? | | 6M |
|  | b) | What is user defined function in python? How can we pass parameters for user defined function? | | 6M |
|  | | | | |
| 5. | a) | Define List? With suitable examples explain built-in functions of List | | 6M |
|  | b) | Write python program(s) to demonstrate the various file I/O operations. | | 6M |
|  | | | | |
| 6. | a) | Define Machine Learning. Explain different types of Machine Learning? | | 6M |
|  | b) | Explain k-Nearest Neighbor algorithm with suitable example | | 6M |
|  | | | | |
| 7. | a) | Define Supervised Learning. Explain Linear Regression algorithm with suitable example | | 6M |
|  | b) | Find the Simple Linear Regression equation for the following data using Least Squares method   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | X | 17 | 13 | 12 | 16 | 14 | 16 | | Y | 94 | 73 | 59 | 93 | 85 | 66 | | | 6M |
|  | | | | |
| 8. | a) | Define Unsupervised Learning. Discuss challenges in unsupervised Learning | | 6M |
|  | b) | Define Clustering. Explain k-means algorithm with suitable example | | 6M |
|  | | | | |
| 9. |  | If Epsilon is 1.5 and min\_point is 3, what are the clusters that DBSCAN would discover with the following 16 examples: (0, 0), (1, 0), (1, 1), (2, 2), (2, 3), (3, 3), (3, 6) (4, 1) (4, 3), (5, 1), (7, 1), (7, 5), (7, 6), (8, 2), (8, 3), (8, 5). Draw the 10 by 10 space and represent the discovered clusters and the samples in each of the clusters | | 12M |

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**Scheme of Valuation**

**Unit-I**

**2a) definition -2M**

**Program-4M**

**b) (i) program-3M**

**(ii) program-3M**

**3a) features of python-4M**

**Advantages-2M**

**b) program- count of letters- 2M**

**count of words-2M**

**count of lines-2M**

**Unit-II**

**4a) Definition-2M**

**Reason- 2M**

**Difference-2M**

**b) create a table-2M**

**Insert data-2M**

**Drop Table-2M**

**5a) Definition-2M**

**Example programs- 4M**

**b) Lifecycle-3M**

**example program-3M**

**Unit-III**

**6a) Definition- 2M**

**Types-4M**

**b) Algorithm- 4M**

**example- 2M**

**7a) Definition-2M**

**Algorithm & example- 4M**

**b) reason-2M**

**Justification- 4M**

**Unit-IV**

**8a) Definition-2M**

**Challenges-4M**

**b) Definition-2M**

**Algorithm & example- 4M**

**9a) Definition-2M**

**Algorithm- 4M**

**9b) Definition-2M**

**Program-4M**