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Question Paper Code: U3C06

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2024

Third Semester

Computer Science and Business Systems

21UCB306– COMPUTATIONAL STATISTICS

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The Shape of the normal curve is _____. CO1- U
(a) Flat (b) Flat (c) Circular (d) Rectangle (e) all of the above
2. The value of constant 'e' appearing in normal distribution is _____. CO1- U
(a) 2.7836 (b) 2.1783 (c) 3.7836 (d) -2.1783
3. How many types of discriminant analysis are there? CO1- U
(a) 0 (b) 1 (c) 2 (d) 3
4. What are alpha and beta in LDA? CO1- U
(a) objects (b) class (c) parameters (d) all of the above
5. PCA is used to find _____. CO1- U
(a) Relationship between components (b) Linear regression
(c) Linear relation (d) Inter relation
6. There are _____ types of Supervised Learning algorithms used for classification in Machine Learning. CO1- U
(a) 2 (b) 3 (c) 4 (d) 5
7. What will be the output of the following Python expression if $x=56.236$? CO1- U
`print("%.2f"%x)`
(a) 56.236 (b) 56.23 (c) 56.0000 (d) 56.24

8. Which of the following character is used to give single-line comments in Python? CO1- U
- (a) // (b) # (c) ! (d) /*
9. In the client server model of the cluster _____ approach is used. CO1- U
- (a) Load configuration (b) FIFO (c) Bankers algorithm (d) Round robin
10. A single shared cluster must have exclusive use of its _____ servers. CO1- U
- (a) local (b) global (c) config (d) none of the above

PART – B (5 x 2= 10 Marks)

11. Write an example of multiple regression? CO1- U
12. How does discriminant function support classification? CO3- Ana
13. What is the application of factor analysis? CO1- U
14. What libraries are available in the Python Standard library? CO1- U
15. What is meant by hierarchical clustering? CO1- U

PART – C (5 x 16= 80 Marks)

16. (a) Briefly Describe about Multiple linear Regression ? CO1- U (16)
- Or
- (b) What is linear regression? Explain the different relationship of linear regression? CO1- U (16)
17. (a) To solve Linear Discriminant function analysis CO2- App (16)
 $C1 \rightarrow X1 = (X1, X2) = \{(4, 1), (2, 4), (2, 3), (3, 6), (4, 4)\}$
 $C2 \rightarrow X2 = (X1, X2) = \{(9, 10), (6, 8), (9, 5), (8, 7), (10, 8)\}$
- Or
- (b) Explain in detail about algorithms of linear discriminant analysis. CO1- U (16)
18. (a) What are the Algorithms for conducting Principal component analysis? CO1- U (16)
- Or
- (b) Discuss about how many steps involved in factor analysis model? CO1- U (16)
19. (a) Explain in detail about Python Interpreter and program execution? CO1- U (16)
- Or
- (b) Discuss about Statements and Expressions? CO1- U (16)

20. (a) Explain in detail about Clustering and its Methods? CO1-U (16)
Or
(b) Briefly discuss about Partitioning clustering? CO1-U (16)

