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School of Computing
FIRST CIA Test – Aug 2024
Course Code: INT317
Course Name: DATA MINING AND ANALYTICS
Duration: 90 minutes   Max Marks: 50

PART - A

Answer All the Questions   **3X10 =30 Marks**

1. A) Here, the data set holds two types of attributes. One is buys_computer and another one is Age. Examine the correlation between two attributes using X^2 test. Observed frequencies are shown in following table. The probability level of α is 0.05 and the critical value is 3.84.   (7 Marks)

buys_computer / Age	Middle_ age	Senior
Yes	120	3020
No	4600	13784

B) Explain the different methods to handlethe missing data. (3 Marks)

2. A database has 8 transactions with min_sup=25% and min_cof=60%

Transaction id	Items
T1	{A, B, C, D}
T2	{A, C, D, F}
T3	{C, D, E, G, A}
T4	{A, D, F, B}
T5	{B, C, G}
T6	{D, F, G}
T7	{A, B, G}
T8	{C, D, F, G}

i.   Find all frequent itemset using Apriori Algorithm
ii.   List all the strong association rule
iii.   Analyze misleading association rule which is obtained from ii

3. Write down the steps involved in the FP-GROWTH algorithm.List the advantages and disadvantages of the FP-GROWTH algorithm.For the following data, find frequent item sets using the FP-GROWTH algorithm. Consider the minimum threshold for support = 50%, Confidence= 60%.

Transaction	List of items
T1	I1, I2, I3
T2	I2,I3,I4
T3	I4, I5
T4	I1, I2,I4
T5	I1, I2, I3, I5
T6	I1, I2, I3, I4

PART-B

Answer All the Questions   **1X20 =20 Marks**

4. A) Create the distance matrix between the following data points such as O1,O2, O3 and O4.   (10 Marks)

O1	12	23	12	23
O2	45	12	45	87
O3	12	45	21	45
O4	24	54	28	37

B)Consider the following data (in increasing order) for the attributeage: 13, 15, 16, 16, 19, 20, 20, 21, 22, 22, 25, 25, 25, 25, 30, 33,33, 35, 35, 35, 35, 36, 40, 45, 46, 52, 70. Using the data for age,answer the following:

(a) Use min-max normalization to transform the value 35 for ageonto the range [0.0,1.0].   (4 Marks)

(b) Use z-Score normalization to transform the value 35 for age,where the standard deviation of age is 12.94 years.   (3 Marks)

(c) Use normalization by decimal scaling to transform the value35 for age.   (3 Marks)

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School of Computing
First CIA Exam – Aug 2024
Course Code: CSE332
Course Name: Usability Design of
Software Applications

Duration: 90 minutes   Max Marks: 50

PART A   (10*2=10)

1. Implement strategies to enhance the usability of the websites Aariv develops for his start-up.
2. Evaluate the advantages and disadvantages of having a multidisciplinary team in the development of an interactive product.
3. While developing an interactive product for 'ABC' company's desktop application, how would you apply best practices to ensure its safety?
4. Given the task of developing a user-friendly mobile banking app, how would you apply the basic activities of interaction design to ensure its effectiveness?
5. Analyze the problem space of an existing online learning app?
6. Evaluate the physical interfaces and interaction styles when designing for WAP-enabled mobile phones.
7. Explain interface metaphors, and can you provide some examples?
8. Mention types of interaction paradigms guide the conceptual model?
9. Analyze how attention and memory interact to affect user understanding and experience in a fitness tracking application.
10. Use conceptual frameworks for cognition to understand users in a ticket booking application.

PART B   (3*10=30)

11. Illustrate the design and usability principles in detail for ecommerce applications.
12. Explain the usability and user experience goals to consider in the interaction design of an online shopping platform, and provide a suitable diagram.
13. Utilize conceptual models to understand user interactions of a ticket booking application.

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THINK MERIT | THINK TRANSPARENCY | THINK SASTRA

School of Computing
First CIA Exam – Aug 2024
Course Code: INT318
Course Name: IT WORKSHOP
SCILAB/MATLAB
Duration: 90 minutes   Max Marks: 50

PART- A   10 x 2 =20 Marks

Answer all the questions

1. Differentiate between M-files and MAT files.
2. How to manage the matlab session and command window?
3. Write a program to print the following series without conditional statements : [2 2 4 4 6 6 8 8]
4. List out the matlab commands to get help for particular topics.
5. Write a matlab command to generate 6 digits OTP.
6. Brief note on commands relate to variables.
7. How to control the appearance of the floating point numbers?
8. What are the types of plotting methods used to visualize the numeric data set?
9. Write a program to compute the following

$$\text{sum} = 1 + \frac{1}{1^1} + \frac{1}{2^2} + \frac{1}{3^3} + \cdots + \frac{1}{n^n}$$

10. Consider a matrix A = [1 2 3; 4 5 6; 7 8 9].Write a command to get the matrix B=[7   8   1   0; 4   5   0   1].

PART-B   3 x 10=30 Marks

Answer all the questions

11. Design an app to demonstrate the operators supported in matlab.
12. Describe the built-in functions for matrix and vector operations.
13. a) Solve the linear equations using the matrix methods
       $2x+y+z=2$, $-x+y-z=3$, $x+2y+3z=-10$
    b) Read an image in the size of 800 x 600 pixels, convert the gray scale image into binary image and then slice the image into three equal parts in both vertically and horizontally.

PART A

1   Define HRM

2   What is Strategic Human Resource Management

3   State the meaning for the following terms
    a) HR Score card

4   b) HR Audit

5   c) Job Specification

6   d) Synergic effect

7   e) Job Description

8   f) Job analysis

9   g) HRIS

10 h) Human Resource Planning

PART B

Answer all the Questions   3 x10 = 30Marks

11.   Classify the various changing roles of HR manager.

12   Describe the various methods involved in Human Resource Planning

13   Explain Strategic Human Resource Model in detail

PART A   5 x 2 = 10 Marks
Answer all the Questions

1. Define financial Management.
2. Write a short note on capital markets
3. Give the meaning of doubling period.
4. If you deposited Rs.55,650 in a bank, which was paying a 15 per cent rate of interest on a ten-year time deposit, how much would the deposit grow at the end of ten years? CVF of 'Re.1 as 4.046
5. Define book value and replacement value.

PART B   2 x 12=24 Marks
Answer all the Questions

4. Explain the financial manager's role in raising funds and allocating funds?

5. (a) 'The profit maximization is not an operationally feasible criterion'. Do you agree? Illustrate your views.

(b) Define bond and explain its features.

PART C   1 x 16 = 16 Marks
Answer the following Question

6 (a) Explain Modern approach to finance function.