Notice for submission of Project Report on Computerised Accounting and Introduction to Data Science [SEC (CADC)] of Semester III of B. Com. (3 year and 4 year, under CCF-2022) Examination, 2024

Date: 27.02.2025

The students who are appearing for their Semester III of B.Com. (3 year and 4 year, under CCF- 2022) Examination, 2024 are hereby informed to make **"Computerised Accounting and Introduction to Data Science"** Project Report (in hard copy) in the prescribed format as per the guidelines of the University of Calcutta.

The students are hereby instructed to submit the whole (hard copy) project on **Computerised Accounting and Introduction to Data Science** at the time of (offline) examination which will be published in due time.

Students must answer all the following questions in their project report.

Module-I (Computerised Accounting)

Answer the following Questions

i. What are the applications of computer in accounting? Write the advantages and disadvantages of computerized accounting systems. Differentiate between manual and computerised accounting systems.

ii. Voucher (in Tally):
   a. Define the various types of accounting vouchers: Sales Voucher, Purchase Voucher, Payment Voucher, Receipt Voucher, Contra Voucher, Journal Voucher, Credit Note Voucher, Debit Note Voucher
   b. How do you create, edit and delete of a voucher?

iii. Define the 'short-cut keys' in Tally-ERP-9 of the followings:
   a. Settings related to Inventory masters
   b. Debit note and Credit Note Voucher
   c. Calculator in Tally
   d. To repeat the narration in the voucher
   e. To save the changes in the alteration mode
   f. Transactions related to deposits and withdrawals
   g. To view report in detail
   h. To toggle between the invoice and voucher screens
   i. To delete a voucher type
   j. For vertical balance sheet

iv. Explain the procedure in Tally: to create balance sheet, profit and loss account, trial balance and ratio analysis.

v. Answer the followings (w.r.t. Tally):
   a. How to create, alter and delete of ledger account in Tally?
   b. How to create, alter & deleting company?
   c. How to create, alter & deleting of group?
   d. How to show or display the Balance sheet, Profit & loss A/c, Ratio, Cash & Fund flow statements?

Module-II (Introduction to Data Science)

Solve the following Problems

Problem 1: Marketing Campaign Analysis

You are analyzing the effectiveness of a marketing campaign based on sales data before and after the campaign.

Sales Data:

Month	Sales Before Campaign (in Lakh)	Sales After Campaign (in Lakh)
January	2000	3000
February	2500	3500
March	2200	3200
April	1800	2900
May	2100	3100
June	2300	3300

Tasks:

1. Calculate the **average sales** before and after the campaign.
2. Determine the **percentage change** in sales from before to after the campaign for each month.
3. Create a **line chart** comparing the sales before and after the campaign for each month.
4. Perform a **t-test** to compare whether there is a statistically significant difference in sales before and after the campaign.

Problem 2: Daily Expenses Tracking

You want to track and categorize your daily expenses to see where most of your money goes.

Expense Data:

Date	Category	Amount (in Lakh)
2024-01-01	Groceries	50
2024-01-02	Dining	20
2024-01-03	Entertainment	100
2024-01-04	Groceries	30
2024-01-05	Utilities	60
2024-01-06	Dining	25

Tasks:

1. Calculate the **total amount spent** in each category (use **SUMIF**).
2. Find the **average amount spent per category.**
3. Create a **pie chart** to show the percentage of money spent in each category.
4. Calculate the **percentage change** in spending between two consecutive weeks**.**

Problem 3: Customer Demographic Analysis

You have data on customer demographics, and you need to analyze the distribution of customer age groups and their total spending.

Customer Demographic and Spending Data:

Customer ID	Age Group	Total Spend (in Lakh)
001	18-24	200
002	25-34	300
003	35-44	400
004	25-34	150
005	45-54	500
006	18-24	250

Customer ID	Age Group	Total Spend (in Lakh)
007	35-44	350
008	25-34	220
009	45-54	600
010	18-24	180

Tasks:

1. Calculate the **total spending** for each age group.
2. Find the **average spending** per age group.
3. Create a **pivot table** to summarize spending by age group.
4. Use **conditional formatting** to highlight the age group with the highest average spending.
5. Create a **bar chart** comparing the total spending across different age groups.

Problem 4: Exam Scores Analysis

You are analyzing exam scores for a class and want to calculate the overall performance.

Exam Score Data:

Student ID	Subject 1 Score	Subject 2 Score	Subject 3 Score	Subject 4 Score
001	85	78	92	88
002	90	80	85	91
003	75	85	90	78
004	80	82	88	84
005	88	90	93	86

Tasks:

1. Calculate the **average score** for each student across all subjects.
2. Find the **highest and lowest scores** for each subject.
3. Determine the **overall class average** for each subject.
4. Create a **pivot table** to summarize the scores by subject.
5. Use **conditional formatting** to highlight the highest and lowest scores in each subject.

Problem 5: Product Sales Analysis

You are analyzing product sales for a company over 6 months and want to identify trends in sales performance.

Product Sales Data:

Month	Product A Sales (Units)	Product B Sales (Units)	Product C Sales (Units)
January	200	300	150
February	220	330	160
March	250	350	180
April	300	400	200
May	280	390	190
June	270	370	210

Tasks:

1. Calculate the **total units sold** for each product over the 6 months.
2. Calculate the **average units sold** per month for each product.
3. Create a **line chart** comparing sales of all three products over the 6 months.
4. Calculate the **percentage change** in sales for each product from January to June.
5. Identify the **product with the highest growth rate**.

Problem 6: Stock Price and Volume Analysis

You have stock data and want to analyze the relationship between stock price and trading volume over a given period.

Stock Data:

Date	Stock Price (in Lakh)	Volume Traded
2024-01-01	100	150000
2024-01-02	102	120000
2024-01-03	105	130000
2024-01-04	110	140000
2024-01-05	108	135000

Tasks:

1. Calculate the **average stock price** and **average volume traded**.
2. Find the **highest and lowest stock price** and **highest and lowest volume traded**.
3. Use **correlation** to assess the relationship between stock price and trading volume.
4. Create a **scatter plot** to visualize the relationship between stock price and volume.
5. Calculate the **percentage change** in stock price and volume from January 1st to January 5th.

Problem 7: Budget vs. Actual Expense Analysis

You are analyzing monthly expenses against the planned budget and want to determine how well actual spending aligns with the budget.

Expense Data:

Month	Budgeted (in Lakh)	Actual Spending (in Lakh)
January	5000	5200
February	4800	4600
March	5100	4950
April	5400	5300
May	5000	4800
June	5500	5450

Tasks:

1. Calculate the **variance** (Actual - Budgeted) for each month.
2. Calculate the **total variance** for the entire 6-month period.
3. Find the **percentage variance** (variance as a percentage of the budget) for each month.
4. Create a **bar chart** to compare actual vs budgeted spending for each month.
5. Identify the month with the **highest and lowest variance**.

<u>Other Important Information:</u>

A. Students must write their **Name of the subject**, **Subject code**, **Year and Semester**, **Calcutta University Registration Number & Calcutta University Roll Number** on the ***front page*** of the Project Report.

B. The ***second page*** named as **contents** page associated with question numbers and page number numbers should also be attached.

C. Students must duly sign in Students' **Declaration page (as *third page*)** of their respective project report before submission.

D. Students are asked to check the college website from time to time for any further information.

E. Students must carry the (hard copy of) Project Report (in a channel file) while appearing in the said examination.

F. Without project report students will never be entertained in the CU-examination.

G. Format of first *three pages* of your project report are attached below.

Principal,
Prafulla Chandra College
23/49, Gariahat Road, Kolkata- 700029

Project Report on

Computerised Accounting and Introduction to Data Science

Subject Name	**:**
Subject Code	**:**
Year	**:**
Semester	**:**
Present Class	**:**
CU registration number	**:**
CU roll number	**:**

Table of contents:

(Signature of Internal Examiner)

(Signature of External Examiner)

Declaration page

I hereby declare that this project work on "**Computerised Accounting and Introduction to Data Science**" of Semester III of B.Com (3 year and 4 year, under CCF- 2002), contains my own efforts under the guidance of ……

I have answered all the questions given in the notice or discussed in the class room. All information in this document has been obtained and presented by me only.

Name :

CU reg. number :

CU roll number :

Signature :

Date :