



Roll no.....

End Semester Examination, December 2024
Pan University –3rd Semester
Google Data Analytics (VAC173)

Time: 2.5 hrs.

Max Marks: **50**

Note: **All Questions are compulsory.** Marks are indicated against each question.

PART-A

- Q.1 (a) Shortcut command to show all formulas in Google sheet?
- a. Ctrl + F
 - b. Ctrl + Shift + F
 - c. Ctrl + &
 - d. Ctrl + ~ [CO-1] [L-1] **1**
- (b) Which function calculates the sum of a range based on one or more true or false conditions in google sheet?
- a. ADD
 - b. SUM
 - c. SUMIF
 - d. SUMIFS [CO-1] [L-3] **1**
- (c) In Google sheets, the default number format is ____.
- a. Automatic
 - b. Number
 - c. Currency
 - d. Time [CO-1] [L-2] **1**
- (d) Which symbol is not recognized as mathematical operators within Google Sheets?
- a. ^
 - b. @
 - c. /
 - d. * [CO-1] [L-2] **1**
- (e) You have a dataset with sales data for different regions and products. For calculating the percentage of total sales for each product, we create a new column. Which formula would you use, assuming the total sales are in cell B2 and the sales for the current product are in cell B3?
- a. B3/B2
 - b. B3*B2
 - c. B3-B2
 - d. B3+B2 [CO-1] [L-1] **1**
- (f) You want to replace outliers in your dataset with the median value. Which Excel function would you use?
- a. MEDIAN
 - b. SUBSTITUTE
 - c. IF
 - d. VLOOKUP [CO-1] [L-1] **1**
- (g) You want to identify outlier in dataset using inner and outer fence method using ____ function.
- a. STDEV
 - b. QUARTILE
 - c. MEDIAN
 - d. MAX AND MIN [CO-1] [L-1] **1**
- (h) What is the primary goal of data splitting and concatenation?
- a. To create new features
 - b. To handle missing data
 - c. To prepare data for analysis

d. To remove outliers

[CO-1] [L-1] 1

(i) What is the primary purpose of data cleaning?

- a. To improve the quality of data
- b. To make data more accessible
- c. To ensure data security
- d. To increase the quantity of data

[CO-1] [L-1] 1

(g) Which of the following is not a key stage in the data analysis process?

- a. Data Interpretation
- b. Data Visualization
- c. Data Modelling
- d. Data Storage

[CO-1] [L-1] 1

2x5

PART-B

Q.2 (a) Illustrate how Pivot Tables in Google Sheets can be utilized for data summarization and analysis.

(b) Compare and contrast the INDEX and MATCH functions in Google Sheets.

[CO-2] [L-2] 10

OR

(a) Analyze the benefits of using INDEX and MATCH over VLOOKUP and HLOOKUP for data analysis tasks.

b) Create a scenario where data needs to be cleaned and analyzed for a specific purpose. [CO-2] [L-3] 10

Q.3 You are tasked with summarizing product sales by region and product category. Explain how you would use Pivot Tables in Excel to create this report, demonstrating the steps involved in setting up row and column fields and summarizing key metrics.

[CO-1] [L-2] 10

OR

The operations team needs insights into inventory demand patterns based on historical data. Describe how you would use data cleaning functions and Pivot Tables in Excel to analyze trends, identify peak demand times, and make recommendations for inventory optimization.

[CO-1] [L-4] 10

Q.4 Your company has a large dataset containing customer feedback and sales data from multiple regions. The management team has tasked you with using Microsoft Power BI to gain insights into customer satisfaction and its correlation with sales performance.

- a) Outline the steps you would take in Power BI to connect and analyze this data, focusing on data integration, cleaning, and preparation.
- b) Describe how you would design a dashboard to visualize customer satisfaction metrics, segmented by region and product category, to help the management team identify areas for improvement.
- c) Discuss how Power BI's AI and machine learning capabilities could assist in predicting future customer satisfaction trends and support strategic decision-making.

[CO-4] [L-2] 10

OR

You are a data analyst at a logistics and supply chain company that recently implemented Microsoft Power BI to improve operational efficiency, track delivery performance, and optimize routes.

- a) Describe the process of using Power BI to analyze delivery performance data over the past year.
- b) Explain how Power BI's real-time data processing and interactive dashboards can help make informed decisions to optimize delivery routes and reduce operational costs.
- c) Discuss potential challenges in implementing Power BI across various departments, such as operations, fleet management, and customer service, and propose solutions to address them.

[CO-4] [L-4] 10

Q.5 Explain the different mathematical functions in NumPy with suitable examples.

[CO-3] [L-4]

OR

Describe the most used NumPy Input/Output functions with examples and code snippets. [CO- 3] [L-3] **10**