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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)

BCA

SEM: I - THEORY EXAMINATION (2025 - 2026)

Subject: Basics of Data Analytics using Spreadsheet

Time: 3 Hours

Max. Marks: 100

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of **three Sections -A, B, & C**. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.

2. Maximum marks for each question are indicated on right -hand side of each question.

3. Illustrate your answers with neat sketches wherever necessary.

4. Assume suitable data if necessary.

5. Preferably, write the answers in sequential order.

6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION-A

20

1. Attempt all parts:-

1-a. Which tab contains the "Font" formatting options? (CO1,K1)

1

(a) Home

(b) Insert

(c) Data

(d) Review

1-b. What is the shortcut to save a workbook in Excel? (CO1,K1)

1

(a) Ctrl + A

(b) Ctrl + S

(c) Ctrl + Z

(d) Ctrl + P

1-c. How does Excel treat text when using the SUM function? (CO2,K1)

1

(a) Adds text as 0

(b) Includes text in the total

(c) Throws an error

(d) Ignores the text

1-d. Which function is used to find the largest value in a range? (CO2,K1)

1

(a) MAX

(b) MIN

(c) AVERAGE

(d) COUNT

1-e. Which tab contains the Sort & Filter options in Excel? (CO3,K1)

1

- (a) Page Layout
 - (b) Insert
 - (c) Data
 - (d) View
- 1-f. What is the purpose of sorting data in Excel? (CO3,K1) 1
- (a) To filter specific rows
 - (b) To rearrange rows
 - (c) To hide duplicate data
 - (d) To create formulas
- 1-g. What does the LEFT function in Excel do? (CO4,K1) 1
- (a) Extracts leftmost characters
 - (b) Extracts rightmost characters
 - (c) Returns the length of text
 - (d) Converts text to uppercase
- 1-h. What is the purpose of the RIGHT function in Excel? (CO4,K1) 1
- (a) Extracts leftmost characters
 - (b) Extracts rightmost characters
 - (c) Splits text into columns
 - (d) Combines two strings
- 1-i. What is the primary purpose of a column chart in Excel? (CO5,K2) 1
- (a) To compare data
 - (b) To show trends over time
 - (c) To display proportions
 - (d) To organize text-based data
- 1-j. Which chart is best for visualizing trends over time? (CO5,K2) 1
- (a) Scatter Plot
 - (b) Pie Chart
 - (c) Bar Chart
 - (d) Line Chart

2. Attempt all parts:-

- 2.a. Name the five default tabs in the Excel Ribbon. (CO1,K2) 2
- 2.b. What is the purpose of the equal sign (=) in an Excel formula? (CO2,K2) 2
- 2.c. Differentiate between sorting data in ascending and descending order with example? (CO3,K4) 2
- 2.d. Illustrate the purpose of the LEFT function in Excel? Provide an example. (CO4,K2) 2
- 2.e. Describe the purpose of a column chart in Excel? (CO5,K2) 2

SECTION-B 30

3. Attempt all parts:-

- 3.a. Answer any one of the following:-

- 3.a.(i) Demonstrate the different ways to format cells in Excel, including font, font size, font colour, and text alignment. (CO1,K3) 6
- 3.a.(ii) Explain how to apply number formats (currency, percentage, date, etc.) to cells. (CO1,K3) 6
- 3.b. Answer any one of the following:-
- 3.b.(i) Write a formula to calculate the result of $(10 + 5) / 3$ and explain how Excel evaluates it step by step. (CO2,K3) 6
- 3.b.(ii) Create a formula that calculates the total cost given the quantity in A1 and unit price in B1, with an additional 10% tax. (CO2,K3) 6
- 3.c. Answer any one of the following:-
- 3.c.(i) Explain the concept of data validation in spreadsheets. Discuss different types of data validation rules and their importance in maintaining data accuracy and consistency. (CO3,K3) 6
- 3.c.(ii) Explain how conditional formatting is used to highlight important data patterns in a worksheet. Illustrate the use of at least three conditional formatting rules with examples. (CO3,K3) 6
- 3.d. Answer any one of the following:-
- 3.d.(i) Explain the commonly used DATE functions in spreadsheets. Describe the purpose and working of TODAY, NOW, DATE, and DATEDIF functions with examples. (CO4,K3) 6
- 3.d.(ii) Explain the concept of array formulas in spreadsheets. Discuss how array formulas differ from normal formulas and highlight their advantages in handling complex calculations. (CO4,K3) 6
- 3.e. Answer any one of the following:-
- 3.e.(i) Write the steps to add a title to a line chart in Excel. (CO5,K2) 6
- 3.e.(ii) Explain how you can customize the colors in a chart to enhance readability and match your brand colors. (CO5,K2) 6

SECTION-C 50

4. Answer any one of the following:-
- 4-a. Provide a detailed description of the Excel interface, highlighting the key components such as the Ribbon, Quick Access Toolbar, and status bar. (CO1,K4) 10
- 4-b. Explain the concept of tabs and groups within the Ribbon. How can you customize the Ribbon to suit your needs? (CO1,K2) 10
5. Answer any one of the following:-
- 5-a. Define a formula in Excel and explain its importance. Provide examples of at least three calculation operators. (CO2,K3) 10
- 5-b. Describe the role of parentheses in Excel formulas and demonstrate how they affect the order of operations with an example. (CO2,K3) 10
6. Answer any one of the following:-
- 6-a. Explain the steps involved in creating a table from a dataset in a spreadsheet. Discuss the advantages of formatting data as a table.(CO3,K2) 10
- 6-b. Explain how sorting, filtering, data validation, and conditional formatting collectively enhance data analysis and decision-making in spreadsheet 10

applications.(CO3,K4)

7. Answer any one of the following:-

- 7-a. Explain the role of Pivot Charts in data visualization. Describe how Pivot Charts help in understanding trends, comparisons, and patterns in large datasets. (CO4,K3) 10
- 7-b. Explain how advanced functions, PivotTables, and What-If Analysis tools together support data analysis and informed decision-making in spreadsheet applications. (CO4,K3) 10

8. Answer any one of the following:-

- 8-a. Explain the process of creating basic charts in a spreadsheet application. Discuss how column, bar, line, and pie charts are created and customized using chart titles, data labels, legends, and colour schemes to improve data interpretation. (CO5,K2) 10
- 8-b. Explain advanced charting techniques used in spreadsheets. Describe the construction and use of combination charts, sparklines, and data bars, and analyze how these techniques enhance trend analysis and quick data visualization. (CO5,K4) 10

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