Question 1: Create a worksheet with the following fields: Student ID, Name, Test 1 score, Test 2 score, Test 3 score, Final Exam Score, Total Score, Grade

a) Use appropriate formulas to calculate the Total Score and Grade based on the following criteria:
Total Score = Sum of Test 1, Test 2, Test 3, and Final Exam scores
Grade:
A: 90-100
B: 80-89
C: 70-79
D: 60-69
F: Below 60
b) Use the CLEAN function to remove any non-printable characters from the student names.
c) Use Goal Seek to determine the minimum score needed on the Final Exam for a student to achieve a desired grade.
d) Create a pivot table to analyze the distribution of grades among the students.

Question 2:

a) Create three worksheets: "Monthly Expenses," "Quarterly Expenses," and "Yearly Expenses."

Monthly Expenses:
Columns A-D: Date, Category, Description, Amount

Quarterly Expenses:
Columns A-D: Quarter, Category, Total Expenses, Average Expenses

Yearly Expenses:
Columns A-B: Year, Total Expenses

b) Enter monthly expenses data into the "Monthly Expenses" sheet.

c) Use formulas to calculate total and average expenses for each category in the "Quarterly Expenses" sheet, grouping expenses by quarter.

d) Aggregate the total expenses for each year in the "Yearly Expenses" sheet.

e) Use formulas to dynamically update the quarterly and yearly expenses based on changes in the monthly expenses sheet.

Question 3:
Develop a worksheet to manage employee leave requests with the following fields:

Employee ID
Employee Name
Start Date
End Date
Number of Days

a) Use the DATEDIF function to calculate the Number of Days between the Start Date and End Date.

b) Implement Data Validation to ensure that the Start Date is before the End Date.

c) Utilize the NETWORKDAYS function to calculate the number of business days between the Start Date and End Date, excluding weekends and any specified holidays.

d) Create a chart to visualize the distribution of leave requests over different months or quarters.

Question 4:

a) Create a worksheet for Budget Tracking: Sheet should contain categories such as Housing, Food, Transportation, Entertainment, and Miscellaneous. Input some initial budget amounts for each category. Insert additional rows and columns as needed to accommodate new expenses or income sources. Utilize the Drag & Fill feature to autofill formulas for calculating total expenses, total income, and the remaining budget. Finally, use Aggregate functions such as SUM, AVERAGE, and MAX to analyze the budget data and provide insights into spending patterns.

b) Create a chart to visualize the distribution of the Budget Tracking System.
c) Use of TRIM,CLEAN,SUBSTITUTE,UPPER,PROPER Data cleaning functions in Excel.
d) Use the Goal seek tooland perform a what-if analysis in the above sheet.

Question 5:

a) Create a worksheet to import and manipulate the sales data, including data entry, sorting, and filtering. Apply advanced Data Validation techniques to ensure accuracy in data entry. Utilize Pivot Tables and Pivot Charts to summarize and visualize the sales data effectively
b) Record macros to automate repetitive tasks such as data formatting, sorting, or filtering.
c) Assign macro shortcuts or buttons to easily execute these tasks with a single click, improving productivity and efficiency.

Question 6:

a) Createworksheetwithfollowingfields:Empno,Ename,BasicPay(BP),TravellingAllowance(TA), Dearness Allowance(DA), House Rent Allowance(HRA), Income Tax(IT),ProvidentFund(PF),NetPay(NP).Useappropriateformulastocalculatetheabovescenario. Analysethedatausingappropriate chartandreportthedata.

b) Use DATEVALUE, TIMEVALUE, REPT, REPLACE Data cleaning functions in Excel.

c) Use an appropriate what if analysis tool to summarize the Gross pay for 3 consecutive months.

d) Retrieve only the tuples of employees whose Net Pay is between 15,000 to 30,000.

Question 7:

a) CreateworksheetonInventoryManagement:SheetshouldcontainProductcode,Productname,Producttype,MRP,Costafter%ofdiscount,Dateofpurchase.Useappropriate formulastocalculatetheabovescenario.Analysethedatausingappropriatechartandreport thedata.

b) For the same Product catalogue, mention the cost for the month of April, May, June and July for each East, West, North, South Zones. Work with Multiple worksheets and provide the Summary of every month's Totalcost.

c) Use of TRIM,CLEAN,SUBSTITUTE,UPPER,PROPER Data cleaning functions in Excel.

d) Use Goal seek tool and perform a what if analysis in the above sheet.

Question 8:

a) Create a worksheet on Sales analysis of Merchandise Store:data consisting of OrderID, Customer ID, Gender, age, date of order, month, online platform, Category of product, size,quantity,amount,shippingcityandotherdetails.Useofformulato segregatedifferent categoriesandperforma comparativestudyusingpivottables anddifferentsortsofcharts.

b) Vary any one or two variables and showcase how it impacts the dependent variable using the data tables.

c) Use a Macro named GENDER to filter gender= MALE and reuse.

d) Highlight and differentiate customers whose age is between 40 to 50 years and whose ages are less than 40 years.

Question 9:

a) Create a worksheet on Expense Analysis with
- Columns: Expense ID, Category, Date, Amount, Payment Method, Vendor, Description
- Enter data for each expense, including the category, date, amount, and other relevant details.

Analysis:
- Calculate the total expenses for each category.
- Identify the highest and lowest expense categories.
- Determine the percentage of total expenses contributed by each category.

b) Pivot Table:
    a. Create a pivot table to summarize expense data by category.
    b. Rows: Category
    c. Values: Amount
    d. Use filters to analyze expenses by different dimensions (e.g., Date, Payment Method).
c) Pivot Chart:
    a. Create a pie chart to visualize the distribution of expenses across different categories.
    b. Create a bar chart to compare total expenses among different expense categories.
d) Conditional Formatting:
    a. Apply conditional formatting to highlight categories with unusually high or low expenses.
    b. Use color scales or data bars to visualize variations in expense amounts.

Question 10:

a) Create a worksheet on Scientific Data Analysis

Experiment Data:

- Columns: Experiment ID, Date, Time, Conditions (e.g., Temperature, Pressure), Independent Variable, Dependent Variable, Observations
- Enter data for each experiment, including experimental conditions, variables, and observations.

Analysis:

- Calculate descriptive statistics (mean, median, standard deviation) for the dependent variable.
- Analyze the relationship between the independent and dependent variables using correlation analysis.
- Identify any patterns or trends in the experimental data.

b) Pivot Table:
    a. Create a pivot table to summarize experiment data.
    b. Rows: Date, Time
    c. Values: Dependent Variable
    d. Use filters to analyze data by different experimental conditions.
c) Chart:
    a. Create scatter plots to visualize the relationship between the independent and dependent variables.
    b. Create line charts or bar charts to show trends in the dependent variable over time or under different conditions.
d) Conditional Formatting:
    a. Apply conditional formatting to highlight outliers or unusual observations in the data.
    b. Use color scales or data bars to visualize variations in the dependent variable under different experimental conditions.