

Plot No. 2, Knowledge Park-III, Greater Noida (U.P.) –201306

POST GRADUATE DIPLOMA IN MANAGEMENT (2023-25)
END TERM EXAMINATION (TERM -II)

Subject Name: **Advanced Excel & Data Visualization**

Time: **02.00 hrs.**

Sub. Code: **PG23**

Max Marks: **40**

Note:

1. All questions are compulsory. Section A carries 8 marks, Section B carries 32 marks having 4 questions (with internal choice question in each) of 8 marks each.
2. The first sheet of excel workbook should carry your details.
3. Student are supposed to save the file using Room No., full name, Admission No. and Section. For example (Room No._ramkishan_PGDM23123_D).
4. Students are supposed to submit the soft copies using a PD. Each student to carry his/her own Pen Drive (PD). Sharing of PD for submitting final ANSWER / SOLUTION is not allowed.

Kindly write the all the course outcomes as per your TLEP in the box given below:

- CO1-** Use advanced Excel features to build analytical models to solve varied business problems
CO2- Apply advanced Excel features to empower business
CO3- Evaluate best, worst and most likely case scenarios for varied business problems
CO4- Develop full range dashboards and analyze data in multi-dimensional formats

SECTION – A

Attempt all questions. All questions are compulsory.

2×4 = 8 Marks

Questions	CO	Bloom's Level
Q.1(A). What is the primary objective of linear programming? What is the difference between linear and non-linear programming? Q.1(B). What is ETL? Q.1(C). A list of names is given. Highlight all the duplicates in green and all the names containing “Ja” in red (Use stop if true for the later). Q.1:(D). Enter employee first names in the cell range M3:M15 with the help of data validation list. The only employees of the company are Jen, Greg, Vivian, Jon, and John. Use the List option in data validation to ensure that no one misspells a first name. Generate an error message if a value that is not included in a list is entered in the cell range, you're validating.	CO 1	L3

SECTION – B

All questions are compulsory (Each question have an internal choice. Attempt any one (either A or B) from the internal choice)

8 x 4 = 32 Marks

Questions	CO	Bloom's Level
Q. 2: (A). The company owner wants to add two variable data table with the units sold values going from 1000 to 5000 units with 500-units increments, and price per unit from \$1300 to \$1600 with \$1000 increment. Calculate net income by using two variable data table in cells E4:H12. Apply conditional formatting (color scales) to these cells. <p style="text-align: center;">Or</p> Q. 2: (B). A supermarket dataset is given. Extract the values from this dataset with the help of VLOOKUP and MATCH function in the cells B23:Q31 as per the Order ID mentioned from A23:A31.	CO 2	L3

Q. 3: (A). A company produces a certain drug at its Los Angeles, Atlanta, and New York facilities. Each month, the Los Angeles plant can produce up to 10,000 pounds of the drug. Atlanta can produce up to 12,000 pounds, and New York can produce up to 14,000 pounds. Each month, the company must ship the number of pounds 9000, 6000, 6000, and 13000 to the four regions of the United States—East, Midwest, South, and West respectively. The cost per pound of shipping the drug to each region of the country is given in the matrix below:

	EAST	MIDWEST	SOUTH	WEST
LA	\$ 5.00	\$ 3.50	\$ 4.20	\$ 2.20
ATLANTA	\$ 3.20	\$ 2.60	\$ 1.80	\$ 4.80
NEW YORK CITY	\$ 2.50	\$ 3.10	\$ 3.30	\$ 5.40

What is the cheapest way to get each region the quantity of the drug it needs?

Or

Q. 3: (B). Shoeco manufactures three types of shoes. Demand for shoes is unlimited and 40 hours per week of machine time and labor are available. A pair of shoes yields the following profit and uses the **number of minutes** of machine time and labor given in the table below. Assuming the number of pairs of shoes made each week must be an integer, how can Shoeco maximize weekly profit?

	Shoe 1	Shoe 2	Shoe 3
Profit	\$40.00	\$25.00	\$30.00
Minutes labor used	40	20	30
Minutes machine time used	45	25	26

Q. 4: Metalix Ltd. is an UK based company. The HR manager wants to get the real-time insights into key HR metrics to make informed decision by comprehensive view of workforce data and trends. The data is given in the MS Excel sheet “Q4”. Create dashboard by creating **any 5 insights** given below:

- Employee count by Department. (Pivot Bar Chart, sort smallest to largest)
- Average salary by Status. (Pivot Column Chart, sort largest to smallest)
- Employee count by Gender. (Pivot Doughnut Chart, Show data labels in Category and percentage, remove legend)
- Average salary by “years of experience”, Group “Years of experience” in 5 classes. (Pivot Column Chart, sort largest to smallest)
- Count of hired employees by year. (Pivot Line Chart)
- Average Job Rating by Department. (Pivot Bar Chart, sort smallest to largest)
- Attrition_count by Status. (Pivot Doughnut Chart, Show data labels in Category and percentage, remove legend)

You can use the icons in dashboard provided in sheet. Each chart should have its title. Add three slicers on **Department, Gender** and **Attrition**. Give appropriate title to the Dashboard. Add two boxes on both sides of the dashboard title displaying **total employee count** and **highest salary** respectively (by pivot table).

Q.5 (A) i) Load the data in power query. Rename the query “Data Cleaning”. Split data into columns as per column headers in first row. Make first row as header. Remove extra spaces in data. All columns should be in Proper case. Load the query to sheet “Q 5 (A)” cell C1.

ii) Create a duplicate query and rename it as “Data Cleaning 2”. Group the rows by “Product” and calculate sum of sales. Load the query to sheet “Q 5 (A)” cell P1.

Go to the "Home" tab in the Power Query Editor, click on "Advanced Editor," copy the script and then paste on the same Excel sheet after loading query (for both queries).

CO
3

L4

CO
3

L4

CO
4

OR

Q.5 (B) i) Load the data in power query. Rename the query “Data Cleaning”. Split data into columns as per column headers in first row. Make first row as header. Remove extra spaces, if any. Load the query to sheet “Q 5(B)” cell C1.
ii) Create a duplicate query and rename it as “Data Cleaning 2”. Extract first 6 letters of column “Business Travel”. Add prefix “JR-“ in column “Job Role”. Load the query to sheet “Q 5(B)” cell P1.
Go to the "Home" tab in the Power Query Editor, click on "Advanced Editor," copy the script and then paste it on the same Excel sheet after loading query (for both queries).

L5

Kindly fill the total marks allocated to each COs in the table below:

COs	Marks Allocated
CO1	8 Marks
CO2	8 Marks
CO3	16 Marks
CO4	8 Marks

Blooms Taxonomy Levels given below for your ready reference:

L1= Remembering

L2= Understanding

L3= Apply

L4= Analyze

L5= Evaluate

L6= Create