INFO2130
Sample Final / Credit-By-Exam
Instructions

1) External Data and Excel Basics (15 points)

a) Import the data from the file "Acme Car Corporation.csv" into "Worksheet 1" of the Excel Workbook.
b) Change the name of "Worksheet 1" to "Acme Sales Data".
c) In column G, create a formula that calculates the average sales / unit for each month. Label the column as "Average Sales / Unit".
d) Apply the currency format to column G and do not show any trailing decimal points.
e) Apply "Table Style Medium 21" to the data set.

2) Advanced Formulae & Functions (30 points)

a) In the Invoices worksheet, in cell B1, enter **7/1/2016** as the current date. Note the defined name CurrentDate has been assigned to cell B1.
b) The sales rep commission rate varies for each sales rep. In column D, use a function to look up the commission rate for each sales rep according to the table range A4:B7 in the Commission worksheet, and then multiply the commission rate by the invoice amount to calculate the commission.
c) In column G, calculate the days past due. If the number of days since the invoice was sent (CurrentDate – Invoice Date) is greater than 30, calculate the days past due (Current Date – Invoice Date – 30); otherwise, enter 0.
d) Create the following formulas to assign the value in the Invoice Amount column to one of five columns—Current, 1–30 days, 31–60 days, 61–90 days, and Over 90 days:
    i) In the Current column, create a formula to display the invoice amount (column F) in the Current column if the number of days past due is 0.
    ii) In the 1–30 days column, create a formula to display the invoice amount if the number of days past due is greater than or equal to 1 and less than or equal to 30.
    iii) In the 31–60 days column, create a formula to display the invoice amount if the number of days past due is greater than or equal to 31 and less than or equal to 60.
    iv) In the 61–90 days column, create a formula to display the invoice amount if the number of days past due is greater than or equal to 61 and less than or equal to 90.
    v) In the Over 90 days column, create a formula to display the invoice amount if the number of days past due is greater than or equal to 91 days.
    vi) Format columns H through L using the Accounting format with two decimal places.
e) The invoice amount (column F) for each invoice can only appear once in columns H through L. In column N, do the following to create a formula to verify this rule.
    i) In cell N3, enter the label Error Check.

ii) In the range N4:N105, enter a formula to count the number of cells that have an entry in columns H through L for each invoice. If the count is greater than one, the formula displays "Error"; otherwise, it leaves the cell blank.

f) Copy the Invoices worksheet to a new sheet and name it Overdue Accts. In the Overdue Accts worksheet, do the following:
   i) Filter the records so only invoices whose balance is past due are displayed.
   ii) Sort the filtered data by invoice date (oldest first).
   iii) Include a Total row in this table and display sums for columns I through L.
   iv) Hide columns C, D, F, H, and N.
   v) Remove the filter buttons and gridlines from the table. (Hint: Use options on VIEW tab and the TABLE TOOLS DESIGN tab.)

g) In the Invoice Reports worksheet, use a function to count the number of invoices for each sales rep.

h) In the Invoice Reports worksheet, complete the Sales Rep Analysis report. In the Commission and Total Amount columns (columns C and D), use functions to summarize commissions and the invoice amount for each sales rep. In row 7 of the report, calculate the totals. Format these columns appropriately.

i) In the Invoice Reports worksheet, complete the Accounts Receivable Aging report in the range F1:H8 by creating formulas that count the number of invoices for each group in the Invoices worksheet and sum the total amounts for those invoices.

j) In the Invoice Reports worksheet, enter 1000 in cell B13. In the range A12:B17, use different functions to complete the following report.
   i) In cell B15, count the number of invoices greater than the amount in cell B13.
   ii) In cell B16, add the total value of invoices greater than the amount in cell B13.
   iii) In cell B17, calculate the average value of these invoices.

k) Save the workbook.

3) Tables, Charts & Pivot Tables (20 points)

a) Use the worksheet OMT_Data for this problem. You will help Online Management Training (OMT) with analyzing their data for decision support. OMT sells online management training videos and books and has recorded its orders in the worksheet OMT-Data. Answer the following questions:

   The sales manager would like to know the total sales for each region according to the source of contact (Web or email) and Product type (Online or Book).
   i) Which combinations of region, source and product type have the highest and the lowest total sales?
   ii) What are those sales numbers?

The sales manager is interested in tracking the number of transactions for each payment method.

iii) What form of payment is the most commonly used for each of the product types?
iv) What form of payment is the most commonly used for each of the regions?

v) What are total sales for each type of payment (i.e., Credit and Paypal)? What is the average amount paid by Credit in the South region?
vi) Create a 3-D Column pivot chart to show the total sales for each region for each product for each payment type. Rotate the chart on the X-axis to be 30º. Format each chart with the appropriate titles, legends, and data labels.

b) Use the worksheet Vehicles for this problem. You will help a facilities department analyze their vehicle data for decision support. Answer the following questions.

The sales manager would like to know the total maintenance costs according to each make, type and year of vehicles.

i) Which combination of the three parameters (i.e., make, type, and year) has the highest total maintenance cost and what is that cost?
ii) Which combination has the lowest total maintenance cost and what is that cost?
iii) Which department has the highest number of vehicles assigned? In this department, what type of vehicle is found most and how many?
iv) What is the average price of the Ford Trucks in the Housing & Residential Life department?
v) Create a 3-D Column pivot chart to show the total maintenance costs for different departments and make and type of vehicles. Rotate the chart on the X-axis to be 30º. Format the chart with the appropriate titles, legends, and data labels.

4) What-If Analyses (20 points)

a) Use the worksheets Disks & Advertising Model for this problem. Disks, Inc. sells different types of professional frisbee disks. Mike Smith, the general manager of the company has created an Income statement, based on the various data he has, in the worksheet named Disks. The Advertising Model worksheet shows how many units of the disks can be sold for different levels of advertising. Using Excel DSS capabilities, help Mike answer the following questions.

i) Mike Smith wants to know how the Insurance & Maintenance (I&M) expenses for Regular disks the net income for Regular disks. The I&M expenses can vary between $3500 and $5000 (assume step size of $250) and the price per unit of Regular disks can vary between $12 and $24 (assume step size of $2). What are the net income

values for Regular disks under the various combinations of I&M expenses and price per unit as above? What Excel feature did you use to answer this question?

ii) How many units of Tournament disks should be sold by Word of Mouth in order for this disk type to break even? What Excel feature did you use to answer this question?

iii) How many units of Supreme disks should be sold by Word of Mouth in order for the whole company (i.e., Disks, Inc) to break even? What Excel feature did you use to answer this question?

iv) Under the original worksheet values, what should be spent on advertising for each disk type in order to maximize the Net Income for the whole company (i.e., for Disks, Inc)? The total advertising budget is limited to $15000 and the company wants to spend at least $2000 towards promoting each disk type. But, the company can only make a maximum of 5000 Supreme disks to sell. Mr. Smith also wants none of the individual disk types to make a loss. What Excel feature did you use to answer this question?

b) Use the worksheet Seasons for this problem. Seasons, Inc. is a vacation resort company and has four resorts in Colorado and Utah. Sandy Schwarz, the general manager of the resorts, has put together some data on the revenues and expenses of these resorts in the worksheet named Seasons. Using Excel DSS capabilities, help Sandy answer the following questions

i) If the River Usage Tax per client-day decreases by 15% for each resort, by how much in % and in $ will the Grand Total Net Income change?

ii) Reset the cell B15 to $10, cell C15 to $11, cell D15 to $12.50, and cell E15 to $14. Sandy likes to see how the Net Income for Springs Resort will change for various levels of discounts offered to her Clients. For this problem, assume that Sandy wants to try discounts between 5% and 15% (in steps of 1). What Excel feature did you use to answer this question?

iii) When discounts are offered, the number of clients can be increased and Sandy wants to know how the Net Income for Springs Resort will change. Assume that Sandy wants to try discounts between 5% and 15% (in steps of 1) and expects the number of clients can very between 45 and 60 (in steps of 3). What Excel feature did you use to answer this question?

iv) What should the expense per client-day be for Peak resort in order for Seasons, Inc to "break-even" as a company? What Excel feature did you use to answer this question?

v) Sandy is allowed to increase the fee per client per day for Magnolia, Wonderland, and Peak resorts only. What should be the optimal fee per client per day and average number of clients per day for these three resorts to make a Grand Total Net Income of $1,000,000 for Seasons, Inc? Each of the three resorts should make positive net income. Each of the three resorts cannot charge more than $100 as fee per client per

day. The Peak resort cannot handle more than 100 clients per day. What Excel feature did you use to answer this question?

5) Macro Basics (15 points)

a) Use the worksheet "Telephone Company" for this problem. As a service advisor for The Universal Telephone Company you are responsible for extracting data from the company database on a monthly basis and developing a report containing information on customers that recently placed a service request. Due to the fact that this report is developed on a reoccurring monthly basis, use Excel's Macro recording feature to automate the following report formatting tasks.

i) Start recording a macro called "Customer_Report_Format" with the shortcut key "r" (Ctrl + r)
ii) Apply bold and underline formatting to the column headings (first row)
iii) Apply the Accounting Number Format to the "Est_Income", "LongDistance" and "Local" column data.
iv) Change the "Age" column data to "Number" format with no decimal places.
v) Sort the dataset by the "CHURN" column with all "Current" customers showing before "Cancelled" customers.
vi) Enable the "Filter" on all column headings.
vii) Apply conditional formatting to the "Est_Income" column to highlight all cells with values greater than $60,000.00 with Green Fill with Dark Green Text.
viii) Apply 'Table Style Medium 4' to the dataset.
ix) Stop recording the macro and save your workbook.