**Practical exam using MegaStat**

**Dr. Nafez M. Barakat**

Answer each question in ONE sheet only

يجب ان تكون اجابة كل سؤال في ورقة اكسل واحدة وتسمى باسم السؤالq1 , q2, ….

الترتيب مهم وعليه جزء من الدرجات والاجابة تكون على ملف الاكسل المرفق والمحتوى على ملفات الواجب

بعض الأسئلة يطلب منك تفريغها في ورقة اكسل جديدة وبعض الأسئلة عبارة عن ملخص البيانات

اكنب اسمك ورقم الجامعة داخل ملف اكسل

درجات هذا الواجب 20درجة ويسلم عبر المودل (ملف اكسل فقط)

Q1: In sheet SalesPlot.xlsx,

1. calculate all descriptive statistics for the data Sales Volume.
2. Find the correlation between Sales Volume and Advertising Expenditure and interpretation of the results
3. Find scatter plot between Sales Volume and Advertising Expenditure and interpretation of the results
4. Calculate the the simple linear regression of Sales Volume on Advertising Expenditure and interpretation of the results.

Q2)

a) Finding P(x < 31.2) When µ = 33 and 

b) A bank randomly selects a sample of 15 of its commercial loan accounts, with mean 1.3433, and standard deviation equal 0.1921, calculate a 95 percent confidence interval for commercial loan accounts.

c) Compute 98 percent confidence intervals for the population proportion p()

pˆ = 0.4 and n =100

q3)

a) the sheet (CreditCd) include the average interest rate charged by U.S, test the following Hypothesis.

b) Test for a population proportion The Following Hypothesis.

Q4)

a)Assume we have selected two independent random samples from population having proportion p1 and p2, and , use 



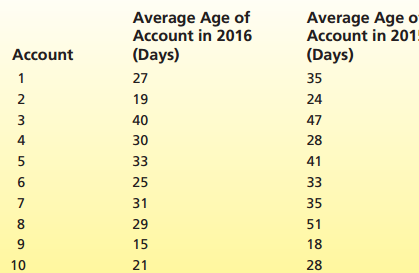
b) using the data in sheet (Catalyst)

c) The company selects 22 sales trainees who are randomly divided into two experimental groups—one receives type Aand the other type Btraining. The salespeople are then assigned and managed without regard to the training they have received. At the year’s end, the manager reviews the performances of salespeople in these groups and finds the following result.



Set up the null and alternative hypotheses needed to attempt to establish that type Atraining results in higher mean weekly sales than does type Btraining (ASSUME VARIANCES AR EQUAL).

d) During 2016 a company implemented a number of policies aimed at reducing the ages of its customers’ accounts. In order to assess the effectiveness of these measures, the company randomly selects 10 customer accounts. The average age of each account is determined for the years 2015 and 2016. These data are given in Table below. Assuming that the population of paired differences between the average ages in 2016 and 2015 is normally distributed:



Set up the null and alternative hypotheses needed to establish that the mean average account age has been reduced by the company’s new policies.

Q4)

a)The shares of the U.S. automobile market held in 1990 by General Motors, Japanese manufacturers, Ford, Chrysler, and other manufacturers were, respectively, 36%, 26%, 21%, 9%, and 8%. Suppose that a new survey of 1,000 new-car buyers shows the following purchase frequencies:



Test to determine whether the current markets hares differ from those of 1990. Use 

b) Test if customer satisfaction depends on the type of investment product purchased ( Data in sheet invest)

c) A marketing research firm wishes to study the relationship between wine consumption and whether a person likes to watch professional tennis on television. One hundred randomly selected people are asked whether they drink wine and whether they watch tennis. The following results are obtained:

