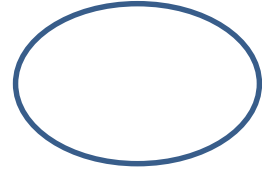KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
DEPARTMENT OF MATHEMATICS AND STATISTICS
Term 141

STAT 211 BUSINESS STATISTICS I

Wednesday October 15, 2014

Name: _____ ID #:_____

Important Note:

- Show all your work including formulas, intermediate steps and final answer

Question No	Full Marks	Marks Obtained
1	5	
2	10	
3	5	
4	25	
Total	45	

Q1: (1 *point each*) At KFUPM University, 800 students are randomly selected and asked the distance of their commute to campus. From this group a mean of 1.6 kilometer is computed.

a. What is the variable of interest?

b. Describe the population of interest.

c. Describe the sample that was collected.

d. Identify the sample statistic.

e. Identify the population parameter.

Q2: the following information can be found in the Murphy Oil Corporation 2004 Annual Report to Shareholders.

1. List of Principal Office (e.g., El Dorado, New Orleans, Houston, and so on)
2. Income (in millions of dollars) from Continuing Operations.
3. Number of new stations added in 2004.
4. Barrels of gasoline sold per day
5. Major exploration and production areas (e.g., Malaysia, Congo, an so on)

a. For each variable, indicate if they are categorical or numerical (and if numerical, continuous or discrete). (*5pts*)

b. For each variable, indicate the level of measurement. (*5pts*)

Q3: A national sampling of prices for new and used houses found that the mean price for a new house is $120,000 with standard deviation is $6100 and that the mean price for a used house is $50,000 with a standard deviation equal to $3150. Which price is more valuable? Explain.   (*5pts*)

Q4: The ordered array below resulted from taking a sample of 25 batches of 500 computer chips and determining how many in each batch were defective

1	2	4	4	5	5	6	7	9	12	12	12	15
17	20	21	23	23	25	26	27	27	28	29	29	

a. Compute the mean, the median, the mode. The standard deviation. Comment on the shape using these numbers.   (*5pts*)

b. Using the z-score, is 1 outlier? Explain   (*2pts*)

c. Do the data satisfy the first condition of the Empirical Rule? Explain.   (*4pts*)

d. Construct a relative frequency histogram including the interval $[5, 10)$. Comment on the graph. *(4pts)*

e. Using the midpoints of the class frequency distribution above, approximate the mean. Comment on the approximate value. *(4pts)*

f. Draw a box plot and comment on it? Explain. *(6pts)*