



**QUESTION ONE**

- a) For the following *sample* of scores, please
  - a. Calculate the standard deviation [2 marks]
  - b. Convert each raw score to a standard score [2 marks]
  - c. Convert each raw score to a percentile score [2 marks]

X  
8  
9  
12  
15  
16

- b) Find the percentile scores and T-Scores that correspond to each of the following standard scores: +1.6, -1.6, 0.0, +2.9, -.53 [8 marks]
- c) An employee has a rating of 5.7 on a measure of job performance. The mean for employees at that company is 5.5 and the standard deviation is .4. What is that employee’s percentile score for job performance? What is their T-Score? [4 marks]
- d) Company XYZ manufactures and sales four products as shown in the table below. Draw bar chart; line graph and pie chart depicting estimated sales for the first quarter of a year for the four types of products Fana, Cola, Wana and Spat (12mks)

Monthly sales in millions of four products of a company XYZ

	January	February	March	April
Fana	1m	1.6m	2m	1.8m
Cola	1.4m	2.2m	1.6m	2m
Wana	0.8m	0.6m	1.2m	1m
Spat	0.4m	0.8m	0.6m	1.4m

## **QUESTION TWO**

- a) Explain by giving examples some of the tools you are aware of that are used in a descriptive research to collect data for further analysis. (10mks)
- b) By giving examples explain the meaning, types and uses of Non-parametric tests (10mks)

## **QUESTION THREE**

- a) SPSS is statistical software for data analysis. Why is it important to use SPSS?(10mks)
- b) Develop a ten line questionnaire that can be coded and analyzed using SPSS on the relationship between advertising and actual sale in an organization. (10mks)

## **QUESTION FOUR**

A market researcher is interested in the coffee drinking habits of males and females. He asks a sample of male and female office workers to record the number of cups of coffee they consume during a week.

- a) Which parametric statistical technique could the researcher use to determine if males and females differ in terms of the number of cups of coffee consumed in a week? Justify your answer and describe how you would obtain this statistic using SPSS. [4 marks]
- b) What are the key values you would look for in the output? [4 marks]
- c) What assumptions should you check for when using the technique that you chose in question (a), above? [4 marks]
- d) What non-parametric technique could be used to address this research question?[3 marks]
- e) Define Regression as used in SPSS (5mks)

## QUESTION FIVE

The following output was obtained using SPSS.

### Tests of Between-Subjects Effects

Dependent Variable: total perceived stress

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	839.252 <sup>a</sup>	9	93.250	2.831	.003
Intercept	295968.489	1	295968.489	8985.743	.000
SEX	277.994	1	277.994	8.440	.004
AGEGP5	503.367	4	125.842	3.821	.005
SEX * AGEGP5	64.874	4	16.219	.492	.741
Error	13932.591	423	32.938		
Total	324089.000	433			
Corrected Total	14771.843	432			

<sup>a</sup>. R Squared = .057 (Adjusted R Squared = .037)

- Which parametric statistical technique was used to obtain this output? [5 marks]
- What research question/s could be addressed using this output? [4 marks]
- Interpret this output in terms of the research question/s you gave in question 3(b), above. [6 marks]
- It is perceived that people who earn higher salaries live in upmarket houses. Justify such collinearity. (5mks)