MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS
2021/ 2022 ACADEMIC YEAR
FIRST YEAR FIRST SEMESTER

SCHOOL OF PURE, APPLIED AND HEALTH SCIENCES.
DEGREE IN APPLIED STATISTICS WITH COMPUTING.

COURSE CODE: STA 1106-1

COURSE TITLE: STATISTICAL DATA ANALYSIS I.

DATE: 1ST APRIL, 2022   **TIME: 1100-1300**

Question One

a. Group the following variables into the appropriate level of measure

(3 marks)

    i. Medal award in an Olympic game

    ii. Temperature in ^0C

    iii. Religion

b. A data set contains Five variables (Gender, Age, Weight, Religion and Marital_status). The variables Gender, Religion and Marital status were coded as follows: Gender (1 = Female, 2=Male), Religion (1 = Christian, 2= Catholic, 3 = Muslim, 4 = Other religions), Marital status (1=Single, 2 = Married, 3 = Widowed, 4 = Separated). Write down SPSS code that will do the following;

    i. Select Females who are Muslims and weigh at least 35 Kg **(2 marks)**

    ii. Filter out Married youths (A youth is a person between 18 – 35 years) **(2 marks)**

    iii. A 32-year-old single lady is looking for a Muslim guy who is older than her. Kindly write a code to assist him with this for the given data set **(2 marks)**

c. Give the following question the appropriate question type **(3 marks)**

    i. What is your marital status?

    ii. What is the GPS of your house?

    iii. What is your weight in Kg?

d. The extract below shows an excel extract, use it to answer the questions that follows.

	A	B	C	D	E	F
1		Weight	Height	BMI		
2		56	1.18			
3		85	1.48			
4		117	1.02			
5		88	1.77			
6		69	1.43			
7		65	1.78			
8		88	1.12			
9		88	1.04			
10		102	1.52			
11	MEAN					
12	MEDIAN					
13	MODE					
14	INTERQUARTILE RANGE					

i.   Write a cell referencing function to compute the values of the following cell **(4 marks)**
  a) B11
  b) C13
  c) B12
  d) C14

ii.   The BMI of an individual is given by the formula (weight in KG/squared height in meters) given that column B is weight in KG and column C is height in meters.
  a) Write an excel function to compute the value of cell D2 **(1 mark)**

iii.   A BMI of 25.0 or more is considered overweight, while the healthy range is a BMI of 185 to 24.9. A BMI of below 18.5 is considered as an underweight. Using the IF function, write a function to implement this for cell D2 in E2.   **(2 marks)**

iv.   Describe what you will do to implement replicated the functions in part (a) and (b) above in cells D3:E10 **(1 mark)**

Question Two

a. Below is an extract of a survey questionnaire use it to answer the questions that follows;
Kindly fill in the following details about yourself
1. Name:_____
2. Marital status

 Single [ ] Married [ ] Divorced [ ] Widowed [ ] Separated [ ]
3. Highest level of education

No schooling [ ] Primary [ ] Secondary [ ] Middle level college [ ]
Bachelor's degree [ ] Masters [ ] PhD [ ]
4. Phone number:_____
5. HIV/AIDs Status

Positive [ ] Negative [ ] Unknown [ ]
b) What did you do on 10th of February 7 years ago?

c) "Excessive consumption of alcohol is harmful to someone's health". Do you think it's good for an individual consume alcohol?

Yes [ ] No [ ]
d) Do you dislike alcohol and like smoking?

Yes [ ] No [ ]
e. What is the temperature of your body?
   i.   Create a survey worksheet for this questionnaire with question 4 required   **(7 marks)**
   ii.   discuss any five failures of the author of this questionnaire with regard to its construction

(8 marks)

Question Three

a. You have been appointed as economic consultant by your county government to investigate the belief that Covid19 has affected the county's economy. Write a letter to the county government explaining the steps you will follow to assess this belief   **(10 marks)**

b. The following are questions from a survey conducted in the year 2009 and 2019.

2009
Smoking of Marijuana is harmful to your brain health because the residue can stay in your head for more than a decade. Would you recommend Marijuana as a pain reliever for a cancer patient?
Yes [ ] No [ ]
2019
Marijuana has the ability suppressing the body nerves hence reduce the felling of pain in an individual. Would you recommend Marijuana as a pain reliever for a cancer patient?
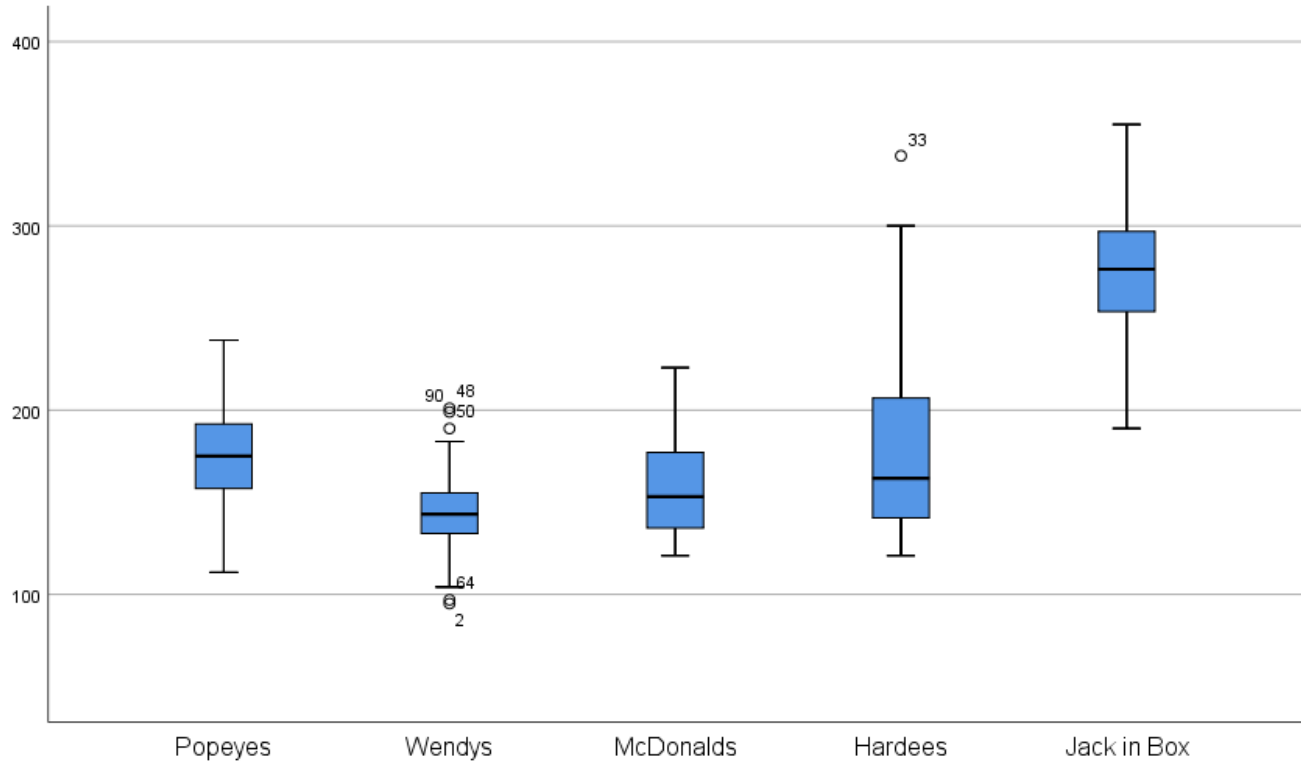*Yes [ ] No [ ]*

   i.   What is the SPSS data type and level of measure for the 2009 question?   **(2 marks)**
   ii.   One of the surveys gave out a yes of 20% while another gave a yes of 88%. Which survey gave out which percentage of yes? Justify your reasoning   **(2 marks)**
   iii. Would you trust the results given by either of these two survey? Justify your reasoning   **(1 mark)**

Question Four

a. Give the meaning of the following terms as used in data management
                                                                                (4 marks)
   i.   Selection

ii.   Sorting

iii.   Splitting

iv.   Restructuring

b. The figure below shows the results of a statistical analysis of number of customers who visited a restaurant in a certain month use it to answer the questions that follows;

i.   Which restaurant had the highest number of extreme observations? **(1 mark)**

ii.   In which restaurants were the number of customers who visited normally distributed? **(2 marks)**

iii.   Give two reasons why standard deviation is not a good measure of dispersion in measuring the average variation for Hardees restaurant **(2 marks)**

iv.   Giving appropriate reason suggest the best measure of central tendency for Wendy's restaurant **(1 mark)**

c. Explain what is meant by encrypted form and how to encrypt an XLSForm **(5 marks)**

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