

CHUKA



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**THIRD YEAR EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR OF PSYCHOLOGY**

PSYC 301: STATISTICS IN BEHAVIOURAL SCIENCES

STREAMS: B (PSYC) Y3S1

TIME: 2 HOURS

DAY/DATE: MONDAY 03/12/2018

2.30 PM – 4.30 PM

INSTRUCTIONS:

- **Do not write on the question paper**
- **Answer question one and any other two**

Question One

(a) Explain the steps involved in conducting a survey. [10 marks]

(b) Briefly describe the following variables

- (i) Dependent variable [3 marks]
- (ii) Independent variable [3 marks]
- (iii) Antecedent variable [3 marks]

(c) represent the following information on an appropriate graphical frequency distribution. [6 marks]

Colour preference	White	Red	Black	Green	Blue	Brown
Self esteem level	15	20	5	7	12	10

(d) Describe any five characteristics of *t* distribution [5 marks]

Question Two

(a) Data in the table below represents client’s scores on a personality test

Scores	1 – 5	6 – 10	11 – 15	16 – 20	21 – 25	26 – 30
Number of clients	2	4	6	9	5	6

- (i) Determine the modal class [1 mark]
 - (ii) Calculate the median score [5 marks]
 - (iii) Work out the mean score [4 marks]
- (b) (i) Using data in the table below, determine the regression line equation. [7 marks]

X	20	16	27	32	22	23
y	64	61	88	92	77	70

- (ii) Use the regression line equation to determine the value of y and x is 50. [3 marks]

Question Three

- (a) An item in a questionnaire had four options. Of the 100 respondents, 40, 10, 20 and 30 respondents chose each of the four options. Test the hypothesis that there was no difference in the preferences of the four options given the critical value as 5.99. [10 marks]
- (b) Evaluate any two factors that influence the correlation coefficient. [10 marks]

Question Four

- (a) An experiment was conducted using two groups. The results are tabulated below

Experimental group	7	3	10	4	5	6	6
Control group	5	1	7	2	4	3	2

- Compute the t test statistics value. [8 marks]
- (b) Discuss any four properties of a normal distribution curve. [12 marks]