KABARAK UNIVERSITY

UNIVERSITY EXAMINATIONS
THIRD SEMESTER, 2019 ACADEMIC YEAR

EXAMINATION FOR THE DEGREE OF BSC COMP & IT

COMP 328 /INTE 312 RESEARCH METHODOLOGY

STREAM: COMP SCIE / IT / **TIME: 2 HOURS**

EXAMINATION SESSION: DECEMBER **DATE:** 2019

INSTRUCTIONS TO CANDIDATES

1. **Answer Question 1 and any other two questions in the answer booklet provided.**
2. **Do not write on your question papers. All rough work should be done in your answer booklet.**
3. **Clearly indicate which question you are answering.**
4. **Write neatly and legibly and show your workings**
5. **Edit your work for language and grammar errors.**
6. **Follow all the instructions in the answer booklet**

QUESTION ONE: (30 Marks)

a) An experiment was conducted to test the efficacy of chloromycetin in checking typhoid. In a certain hospital chloromycetin was given to 285 out of the 392 patients suffering from typhoid. The number of typhoid cases were as follows:

	Typhoid l	**No Typhoid**	**Total**
Chloromycetin	35	250	285
No chloromycetin	50	57	107
Total	85	307	392

With the help of $\chi 2$, test the effectiveness of chloromycetin in checking typhoid. (The $\chi 2$ value at 5 per cent level of significance for one degree of freedom is 3.841) *(show your workings)* (8 marks)

b) Explain the different types of validity and how they are assessed (6 marks)

c) Describe the research process using suitable diagram (6 marks)

d) Explain by giving examples what you understand the following: (i) Cohort study (ii) panel study (iii) Cross-sectional study (iv) Trend study (8 marks)

e) Explain "specific objectives" in research and show how they differ from general objectives (2 marks)

QUESTION TWO (20 Marks)

a) You are required to interview KABU students and staff on their satisfaction on the use of internet facilities using simple random sampling design. Describe where you will get sampling frame for respondents and computers. (5 marks)

b) Describe APA and IEEE referencing styles using appropriate examples (5marks)

c) Hypothesis testing is seen as a major purpose of research. You are required to:

i. Define hypothesis? (provide a relevant example) (3 Marks)

ii. Outline three characteristics of hypothesis (3 Marks)

d) Describe null hypothesis and alternative hypothesis by providing appropriate example (4 marks)

QUESTION THREE (20 Marks)

a) Using suitable examples explain any three probability sampling techniques and any three non- probability sampling techniques adopted by researchers when conducting research (12 marks)

b) Outline various variables used in research (4Marks)

c) Explain the role of information technology in research process (4Marks)

QUESTION FOUR (20 Marks)

a) The following tables of shows the results of a paired – comparison preference test of cold drinks from a sample of 200 persons

Name	**Fanta**	**Novida**	**Sprite**	**Cocacola**

Fanta	-----	60	105	45
Novida	160	------	150	70
Sprite	75	40	-----	65
Cocacola	165	120	145	----

**To be read as 60 persons preferred Novida over Fanta*

(i) How do these brands rank in overall preference in the sample. [4 marks]
(ii) Develop an interval scale for the four varieties of cold drink [6 marks]

b) The collection and organization of data are an integral and critical part of the research process

i) Distinguish between secondary data and primary data provide example for each (2 marks)

ii) Distinguish between Conceptual research and Empirical research (4 marks)

iii) Explain any FOUR data collection methods in research stating whether the methods are suitable for qualitative or quantitative data (4 marks)

QUESTION FIVE (20 Marks)

a) Literature review is an integral part of research. Discuss its role in research. (7 marks)

b) What do you understand by piloting in research and what are its limitations? (5 marks)

c) On the basis of information given below about the treatment of 200 patients suffering from a disease, State whether the new treatment is comparatively superior to the conventional treatment

	No of patients	
Treatment	**Favourable response**	**No response**
New	60	20
Conventional	70	50

For drawing your inference, use the value of $\chi 2$ for one degree of freedom at the 5 per cent level of significance, at 3.84 (*show your workings)* (8 marks)