

**FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA**  
**SCHOOL OF SCIENCE AND SCIENCE EDUCATION**  
**DEPARTMENT OF GEOGRAPHY**

**FIRST SEMESTER 2011/2012 SESSION UNDERGRADUATE EXAMINATION**

**COURSE CODE:** GRY 417P

**COURSE TITLE:** Advanced Quantitative Techniques

**INSTRUCTIONS:** You **MUST** answer question **6** and any other **3** questions ( Four questions in all). Credit will be given for the use of appropriate illustrations and specific examples

**Time allowed: 2hrs 30mins.**

1. (a) Distinguish between the following terms:
  - (i) Descriptive and Inferential Statistics
  - (ii) Parametric and non-parametric Statistics(b) Hypothesis testing is a rigorous activity. Discuss the steps involved in hypothesis Testing
  - (c) Illustrate with examples, the difference between directional (one-tailed) or non-directional (two-tailed) hypothesis
  - (d) Distinguish between Type I and Type II errors
  - (e) Under what condition may the Null hypothesis be rejected. (9mks)
  
2. (a) State the steps required in launching a Microsoft Excel Package
- (b) State the steps required in creating charts in Excel.
- (c) Explain briefly the following as used in Excel worksheet
  - (i) Rows (ii) Columns (iii) Cells
- (d) Write out the formula required to sum the contents of Cell A1 to Cell A 50 (9mks)
  
3. Three samples of nine year old boys are selected from a grade school for the purpose of Testing physical training methods. Sample I was a control group and receive no special training. Sample II had 1hour of work a day. Sample III had 30 minutes daily. At the end of two weeks, physical fitness test was administered to all groups, their scores are below.

Sample I	Sample II	Sample III
10	10	7
11	9	9
9	5	6
6	6	5
8	8	3
7	7	2

- (a) Is there any difference in the mean of the samples? (9mks)

4. (a) Compute the regression equation and correlation for the set of data given below

Individual	Chronological age (X)	Chronological ages (Y)
A	10	7
B	8	9
C	7	10
D	6	4
E	4	2
F	3	1
G	2	3
H	1	2

(9mks)

5. An Inter-Urban Passenger Traffic Survey in Niger State yielded the data below.

Town	Population	Distance from Minna	Road Passenger
Kontagora	73748	352	29903
Suleja	110218	109	64340
Abuja	419578	157	23048
Zungeru	9422	56	173316
Kaduna	12681	299	104731

- (i) Examine the strength of the relationship among the variables
- (ii) Are the variables significant?
- (iii) Is the model (equation) valid and worth using? (9mks)

6. Research in Geography is incomplete without proper use of Quantitative Techniques. Using relevant examples, examine the roles of quantitative techniques in Geographical Research. (13 mks)