DEPARTMENT OF EDUCATIONAL FOUNDATIONS AND COUNSELLING,
FACULTY OF EDUCATION,
OBAFEMI AWOLOWO UNIVERSITY,
ILE IFE, NIGERIA

M. A. EDUCATION (TESTS AND MEASUREMENT)
2012/2013 HARMATTARN SEMESTER EXAMINATION
EFC 681: TEST THEORIES

Instruction: Answer ALL Questions in the Two Sections
Duration: 3 Hours

1. List five advantages of standardised measures
2. Draw an Item Response Function and label the various parts
3. List five measurement problems common to all psychological measures
4. Identify two primary roles of test theory
5. Distinguish Reference Group from Focal Group in Test Item Bias
6. Identify one major early contributor to the growth of test theory in Germany, France, Great Britain and the United State of America.
7. What is the parameter relating to the individual in examinee in Item response Theory (IRT)? How is it denoted?
8. Identify three parameters relating to each of the test items of the test.
9. In not more than one sentence, define latent trail.
10. State in only one sentence the assumption of the one-parameter model of item response theory.
11. When is a latent variable continuous?
12. What is the process of establishing correspondence between the observation data and the person's location on the latent variable?
13. Which of the parameter models of IRT is this logistic function?
14. Write the equation for the Three Parameter Model of IRT
15. In not more than one sentence, define Local Item Dependence
16. Identify the four major assumptions of IRT
17. In the Classical Test Theory model, $X_p = T_p + E_p$ How could T_p be estimated?

18. Decompose the observed score in equation (1):

$$X_{pi} = \mu + (\mu_p - \mu) + (\mu_i - \mu) + (x_{pi} - \mu_p - \mu_i + \mu) \quad (1)$$

19. What is the name of the One Facet $p \times i$ design presented in equation (1)?

20. Itemise the approaches to determining the reliability of test scores.

Section B

1. In Classical Test Theory, observed score is equal to the sum of true and error scores (i.e., $X_i = T_i + E_i$).

Show that $T_i = \frac{X_1 + X_2 + \cdots + X_n}{N}$

2. If a test was administered twice on the same set of test takers and the results are as presented below:

X	Y
5	2
3	8
4	7
7	4
4	3
5	6
4	7
7	4
4	2
1	6

a. Determine the test re-test reliability coefficient of the test.

b Which of the two sets of scores is more homogenous?

3. Demonstrate how the convergent validity of a measure could be obtained.

4. If the obtained feature of a sample results in the following estimate, such that the Mean Square for Person = 22, and Means Square for residual is 13. To what extent can we generalize sample characteristics over the population?

Note that: $EP^2_{rel} = \frac{MS_p - MS_{pi,e}}{MS_p}$