NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF INDUSTRIAL TECHNOLOGY

DEPARTMENT OF TECHNICAL TEACHER EDUCATION

Programme: POSTGRADUATE CERTIFICATE IN EDUCATION

MAIN EXAMINATION

Course: *The Practice of Student Assessment*		*TDE3204*
Part: *I*		*MAY 2014*
Time: *3 hours*	**Lecturer: Dr N Phuthi**	*100 marks*

<u>**DIRECTIONS AND INFORMATION FOR CANDIDATES**</u>

1. Answer **Question 1** and any **THREE** others.
2. All questions carry equal marks.
3. Questions may be written in any order but each question/sub-question must be clearly numbered.
4. Begin each question on a fresh page and parts of the same question must be presented together.
5. Show all working on the answer book, no part of the question paper should be handed in.
6. This paper consists of 5 printed pages.

QUESTION 1

   (a) It is important for an assessor to be concerned with a test's reliability. Describe test reliability and state any TWO reasons for its importance. [6]

   (b) Using the data in Appendix 1, calculate Cronbach's alpha for the 20-item test. [10]

   (c) Define any three of the following qualities of a test or test item:

- Internal consistency
- Item homogeneity
- Validity
- Objectivity [3,3,3]

Formula for Cronbach's alpha (α) is:

$$\alpha = \frac{K}{K-1}\left(1 - \frac{\sum_{i=1}^{K} P_i Q_i}{\sigma_X^2}\right),$$

where K = total number of test items

P = item difficulty (proportion of correct responses)

Q = 1 – P (proportion of incorrect responses)

σ_X^2 = variance of the observed total test scores, and is given by

$$\sigma_X^2 = \frac{\sum_{i=1}^{n}(X_i - X)^2}{n}.$$

QUESTION 2

   Write an essay evaluating the assessment of a <u>named</u> practical subject that you teach or have taught recently. In your discussion, include details of the following:

1

- Key subject content
- Key competencies assessed
- Assessment types and procedures
- Weightings of assessment components   [25]

QUESTION 3

The Law School Admission Test (LSAT) is a standardised test required for admission into law schools and universities in the USA. Table T1 shows some information about the test.

Table T1: Information on the LSAT

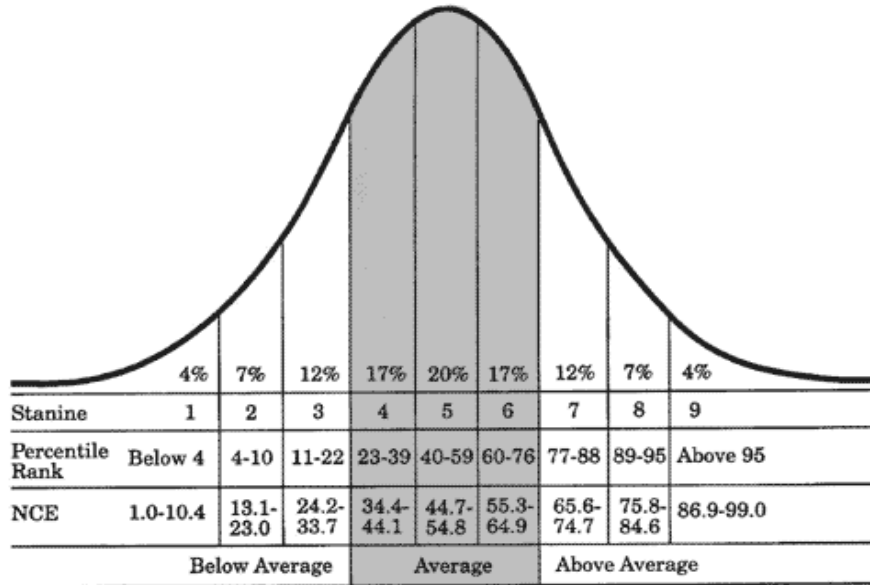| Skills tested	Question Type	No. of Questions	Duration
Logical reasoning	Multiple Choice Questions (MCQs)	24-26	35 min
Reading comprehension	Multiple Choice Questions (MCQs)	26-28	35 min
Logic games	Multiple Choice Questions (MCQs)	23-24	35 min
"Experimental"	Multiple Choice Questions (MCQs)	23-28	35 min
Writing	Essay	1	30 min

(a) Define 'standardised test' and describe any TWO purposes of such a test. [8]
(b) Select any FOUR skills tested in the LSAT and evaluate the use of the question type and the time allocation in such a test.   [8]
(c) The scoring scale for the LSAT ranges from 120 to 180; 120 being the lowest possible score, and 180 the highest. Distinguish between scores and grades using this information.

[9]

QUESTION 4

(a) Fig. Q4 is a chart showing how the normal curve is used in scoring and grading student performance in tests. Using the chart, explain the Stanine grading system and its interpretation. Give examples of its use in Zimbabwe.   [20]

Fig. Q4: The normal Distribution Curve and Grading systems

Normal Distribution

4%	7%	12%	17%	20%	17%	12%	7%	4%

Stanine	1	2	3	4	5	6	7	8	9
Percentile Rank	Below 4	4-10	11-22	23-39	40-59	60-76	77-88	89-95	Above 95
NCE	1.0-10.4	13.1-23.0	24.2-33.7	34.4-44.1	44.7-54.8	55.3-64.9	65.6-74.7	75.8-84.6	86.9-99.0

Below Average	Average	Above Average

A Normal Distribution of Stanines, Percentile Ranks,
Normal Curve Equivalents, and Performance Classifications

(b) Discuss any TWO factors that affect student performance in a test.   [5]

QUESTION 5

    (a) The majority of public examinations use 'norm-referenced' tests. Explain the reasons for this and briefly describe the process of 'norm-referencing'. [8]

    (b) Give THREE examples of where and how 'criterion-referenced' tests are used. [6]

    (c) Twenty students wrote an examination and obtained the following marks:

Student	001	002	003	004	005	006	007	008	009	010	011	012	013	014
Mark	55	62	78	51	88	67	51	55	49	59	50	63	56	45

Student	015	016	017	018	019	020
Mark	53	71	60	48	79	52

If these students were subjected to norm-referencing based on their attained marks, copy and complete the table below:

Grade	A	B	C	D	E	F	U
Percentile	91 - 100	81 - 90	71 - 80	61 - 70	46 - 60	31- 45	0 -30
List of Students in the percentile							

QUESTION 6

    (a) Define 'item analysis'. Explain its use and describe any THREE of its purposes in the assessment of high school and college students. [8]

    (b) What is the 'discriminating power of a test' and why is it useful in test quality? [3]

    (c) The table in Appendix 1 shows the results obtained from a class in an objective mathematics test. From the data, calculate:

        (i)   The facility index (or value) for questions (or items) Q2, Q5 and Q9.

        (ii)   The discrimination index for Q2, Q5 and Q9. [5,5]

    (d) Using the results of your calculation above, comment on the quality of the three questions. [4]

END OF EXAMINATION PAPER