



THE OPEN UNIVERSITY OF SRI LANKA
BACHELOR OF EDUCATION (NATURAL SCIENCES)
FINAL EXAMINATION 2008 – LEVEL 06
ESU 4205– MEASUREMENT AND EVALUATION IN EDUCATION
DURATION: THREE (03) HOURS

DATE: 26th August 2008

TIME: 1.30 p.m. – 4.30 p.m.

Answer all the questions in Part I and any three questions from Part II.

PART – I

01. Explain the difference between educational evaluation and assessment.
02. Show three advantages of using objective type test question, for the measurement of student's achievement.
03. Show why the arithmetic mean is considered as the best measure of central tendency.
04. Citing an example, explain what is construct validity of a test item.
05. Explain the importance of socio-gram in analyzing the data of a socio-metric test.
06. What is the relationship between mental age and the Intelligence Quotient (IQ) of a child? The mental age of a nine year old child was found to be 9 years and 6 months, calculate his IQ.
07. What is a diagnostic test? When do we use diagnostic tests in the teaching and learning process?
08. Explain what is norm reference evaluation?

PART - II

09. i. Explain what is meant by psychomotor development of a student.
ii. Describe briefly the two main sections, process and product, evaluated under psychomotor domain.
iii. Citing examples explain two methods used to measure each of them.
10. The frequency distribution of marks obtained by 30 students for mathematics in a term test is given below.

<u>Class interval</u>	<u>Frequency</u>
83 - 100	2
69 - 82	4
55 - 68	6
41 - 54	8
27 - 40	5
13 - 26	4
0 - 12	1

- i. Draw a frequency curve for the above distribution of marks.
ii. Show your observations based on this curve.
iii. Find a) mode.
b) mean of the above distribution of marks.
iv. Calculate the arithmetic mean of this distribution of marks considering assumed mean to be in the class interval (41-54).
v. Calculate the standard deviation of the distribution of marks.
11. i. Explain the term 'correlation coefficient'
ii. Citing an example show how would you obtain the limiting values of this coefficient.
iii. Marks obtained by 10 students in chemistry and physics at a term test are given below.

	A	B	C	D	E	F	G	H	I	J
Chemistry	35	75	80	45	60	50	60	40	25	70
Physics	55	60	65	35	52	55	70	53	45	80

- a) Calculate the rank difference correlation coefficient between the above two subjects.
- b) Using the value you obtained explain the type of correlation between the above two subjects.
12. i. Define 'Z- Score'
- ii. The marks obtained by three students, Nimal, Thilak and Aruna in Mathematics, Science and English and the means and standard deviations of each subject are given in the following table.

	Mathematics	Science	English
Nimal	55	45	70
Thilak	45	70	55
Aruna	70	55	45
\bar{X}	50	40	60
SD	10	15	12

- a. Who is the best student out of the three?
- b. Considering the results, identify the subject which is most difficult to them.
- iii. a. Convert the English marks obtained by Nimal into McCall's scale.
- b. Convert the Science marks obtained by Thilak into Hull's scale.
13. Answer any two of the following.
- i. Explain, citing an example, what is a 'Blue Print' or a 'table of specifications'
- ii. Marks obtained by 1500 student in an examination are distributed according to normal probability curve. The arithmetic mean (\bar{X}) and standard deviation (SD) of the marks are 45 and 12 respectively.
- a) Find the number of students scored more than 60 marks.
- b) If 400 students failed this examination, what was the minimum mark required for a pass.
- iii. Describe briefly, the steps involved in constructing a standardized test.