University of Colombo – Sri Lanka
Faculty of Education
Bachelor of Education Part III- 2019/2020
First Semester
EMA 405-Educational Measurement & Assessment

2 Hours and 30 Minutes

Part 11

Answer only four(4) Questions.

(1) (i)   Define the 'Educational measurement' and state its 2 characteristics.

(4 Marks)

(ii)   'Formative Assessment methods' can be used to develop the skills needed for students' future lives. Comment for or against this statement.

(8 Marks)

(iii)   Educational competition can be minimized by adopting criterion-based assessment methods. Comment for or against this statement.

(8 Marks)

(2) (i)   Explain the cognitive abilities of 'Application' and 'Evaluation' of B.S.Bilom's taxonomy by using examples.

(6 Marks)

(ii)   Explain with examples the strategies that teachers can follow to develop student's affective abilities.

(6 Marks)

(iii)   A teacher should study the classification of educational objectives well for a successful teaching-learning process: Explain the reasons.

(8 Marks)

(3) (i) Briefly describe three things should be followed, when preparing matching type questions with examples.

(6 Marks)

(ii) Construct two multiple choice questions to measure the cognitive ability levels of 'Knowledge' and 'Application'.

(6 Marks)

(iii) Explain two steps to be taken with examples to minimize the weaknesses of essay type questions

(8 Marks)

(4) (i) Briefly describe the 'Reliability' of a test score. (4 Marks)

(ii) Briefly describe the concept of 'Content Validity' by using a table of specifications.

(6 Marks)

(iii) Describe two methods that can be used to measure the 'Reliability' of a test score.

(10 Marks)

(5) The following frequency table is based on English marks of grade 11 students.

CI	F
81 – 90	5
71 – 80	10
61 – 70	15
51 – 60	20
41 – 50	40
31 – 40	60
21 – 30	50
11 – 20	20

(i)   Construct a histogram to represent the above distribution

(4 Marks)

(ii)   Analyse the achievement level of the students based on the graph and the table

(8 Marks)

(iii)   Below are the scores given by two examiners for the science subject of eight students

Student	Marks of 1st examiner	Marks of 2nd examiner
A	52	48
B	65	56
C	80	79
D	32	25
E	85	89
F	91	88
G	28	30
H	56	56

Calculate the 'Rank correlation coefficient' and analyse the value.

(8 Marks)

(6)   Mathematics marks of 50 students are shown in the following table.

CI	F
75-79	6
70-74	6
65-69	14
60-64	8
55-59	6
50-54	10

(i)   Calculate the cumulative frequency and the percentage cumulative frequency of the above frequency distribution and interpret P_{32}.

(6 Marks)

(ii)   Calculate the mean of the above score distribution.

<div align="right">(6 Marks)</div>

(iii)   Below are the 'Median' and 'Standard Deviation' values calculated for the marks of three subjects in grade 10 and the individual marks obtained by Amal.

	Mean	Standard deviation	Marks of Amal
Maths	45	10	65
Science	56	2	56
English	64	2	60

(a) Interpret each achievement level and the 'Dispersion' of marks.

<div align="right">(6 Marks)</div>

(b) Calculate Amal's z-score for Mathematics and English subjects.

<div align="right">(2 Marks)</div>

$$z = \frac{(X - \bar{X})}{SD}$$

$$r = 1 - \frac{6 \Sigma D^2}{n \, (n^2 - 1)}$$

$$\bar{X} = A + \left(\frac{\Sigma f d}{n}\right) ci$$

$$\bar{X} = \frac{\Sigma f x}{n}$$