THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF EDUCATION
DEPARTMENT OF SECONDARY AND TERTIARY EDUCATION
POSTGRADUATE DIPLOMA IN EDUCATION PROGRAMME 2024/2025
FINAL EXAMINATION (PHASE I)
STP8403/STP8303/ESP2103 – MEASUREMENT AND EVALUATION IN
EDUCATION

DURATION – THREE (03) HOURS

Date: 03.05.2025	Time: 9.30 a.m. – 12.30 p.m.

Answer **All** Questions in Part I and any **three (03)** questions from Part II.

Non-scientific calculators could be used for basic mathematical calculations.

Part I

01. List out **four (04)** benefits that teachers can gain by utilizing educational evaluation methods in the teaching learning process.

02. Explain using examples, what are "central tendency measures"

03. Explain what is a "check list" in using an example.

04. List out **five (05)** characteristics of a normal probability curve.

05. i.   Explain in brief. what is a 'table of specifications'

     ii. Mention **two (02)** advantages of using a table of specifications when preparing a test.

06. Explain in brief, **three (03)** factors that influence psychomotor development.

07. Explain in brief, why assessment is more important compared to evaluation in the teaching learning process. in citing examples.

08. i.   Explain in brief what is a 'diagnostic test'?

     ii. Explain how to craft a diagnostic test instrument citing an example from your subject area.

(05marks x 8 = 40 marks)

1

37

Part II

09. i. Explain what is meant by 'technology based assessment'? (02 marks)

ii. State **two (02)** benefits and **two (02)** challenges in conducting technology based assessments in Sri Lankan secondary class room. (04 marks)

iii. Suggest alternative strategies to overcome the challenges in technology based assessment, mentioned in above (ii). (04 marks)

iv. Describe in brief, **three (03)** instruments used in technology – based assessments

(06 marks)

v. Citing a suitable example from any subject content you prefer, explain how to assess higher order thinking skills of students in secondary stage, using any one of the above mentioned instruments. (04 marks)

10. i. Explain in brief what is meant by an "achievement test" (02 marks)

ii. Discuss in brief the usefulness of achievement tests in classroom practices.

(02 marks)

iii. a. What is meant by an 'essay type test' (02 marks)

b. Write **three (03)** advantages and **three (03)** disadvantages of essay type tests. (06 marks)

c. Suggest suitable strategies to avoid each of those disadvantages. (03 marks)

iii. a. Write an open essay type question, and convert it into a structured essay test item. (03 marks)

b. Write **two (02)** advantages of that conversion. (02 marks)

11. A. i. Describe what is meant by "affective development" (02 marks)

ii. Explain why it is difficult to measure affective development. (04 marks)

iii. Citing two examples, justify the importance of evaluating affective development in the teaching learning process. (04 marks)

B. i. Discuss the difference between 'attitudes' and ' interests' (02 marks)

ii. Explain **four (04)** characteristics of an 'attitude' (04 marks)

iii. Name **two (02)** techniques used in the measurement of attitudes and citing an example, explain one of them. (04 marks)

2

12. a. Briefly explain the importance of graphical representation of a frequency distribution. (02 marks)

b. Following are the marks obtained by 40 students in a class at a year-end examination.

21	43	66	69	37	16	55	72
65	41	53	83	53	58	10	33
54	25	40	75	45	30	35	66
75	65	51	28	50	66	89	51
90	47	55	40	62	26	60	70

i. Prepare a frequency distribution for the above set of marks taking (44 – 55) as one of the class intervals. (02 marks)

ii. Draw the cumulative frequency curve for the frequency distribution. (03 marks)

iii. Calculate the mode and median of this distribution. (03 marks)

iv. Considering the assumed mean of the above set of marks to be in the class interval (44 – 55), calculate the arithmetic mean. (05 marks)

v. Calculate the standard deviation of the distribution of marks. (05 marks)

13. A. i. Explain the terms 'correlation' and 'correlation coefficient' (04 marks)

ii. What is meant by "perfect positive correlation" (02 marks)

B. Marks obtained by 10 student for the subjects First Language and English Language at a year end examination are given below.

| Student / Subject	A	B	C	D	E	F	G	H	I	J
First Language	67	64	57	69	73	62	65	59	68	66
English Language	63	60	52	61	63	55	50	55	56	75

3

i.   Calculate the Pearson's product moment correlation coefficient for above marks.

(12 marks)

ii. Interpret the value obtained for the correlation coefficient.   (02 marks)

14. Marks obtained by 3500 students in an examination are distributed according to the normal probability curve. The arithmetic mean and the standard deviation of the distribution are 50 and 15 respectively

i.   Find the number of students who scored between 35 and 65 marks.   (05 marks)

ii. Find the number of students who scored between 60 and 70 marls.   (05 marks)

iii. If the best 5% of the students are expected to be given A grades what is the minimum mark required to obtain an A grade?   (05 marks)

iv. If 65% of the students are to be passed the examination, calculate the cut-off mark for passing the examination.   (05 marks)

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ශ්‍රී ලංකා විවෘත විශ්වවිද්‍යාලය
இலங்கை திறந்த பல்கலைக்கழகம்
The open university of Sri Lanka

සම්මත ප්‍රමිත වක්‍රය යට ක්ෂේත්‍රඵල - (0 සිට Z දක්වා)
நியம வளையி இன் பரப்பளவுகள் - 0 முதல் Z வரை
Areas Under the Standard Normal Curve – from 0 to z
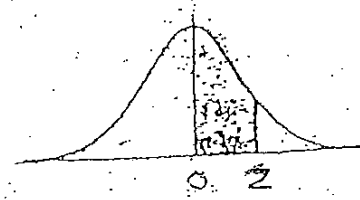
Z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.0000	0.0040	0.0080	0.0120	0.0160	0.0199	0.0239	0.0279	0.0319	0.0359
0.1	0.0398	0.0438	0.0478	0.0517	0.0557	0.0596	0.0636	0.0675	0.0714	0.0753
0.2	0.0793	0.0832	0.0871	0.0910	0.0948	0.0987	0.1026	0.1064	0.1103	0.1141
0.3	0.1179	0.1217	0.1255	0.1293	0.1331	0.1368	0.1406	0.1443	0.1480	0.1517
0.4	0.1554	0.1591	0.1628	0.1664	0.1700	0.1736	0.1772	0.1808	0.1844	0.1879
0.5	0.1915	0.1950	0.1985	0.2019	0.2054	0.2088	0.2123	0.2157	0.2190	0.2224
0.6	0.2257	0.2291	0.2324	0.2357	0.2389	0.2422	0.2454	0.2486	0.2517	0.2549
0.7	0.2580	0.2611	0.2642	0.2673	0.2704	0.2734	0.2764	0.2794	0.2823	0.2852
0.8	0.2881	0.2910	0.2939	0.2967	0.2995	0.3023	0.3051	0.3078	0.3106	0.3133
0.9	0.3159	0.3186	0.3212	0.3238	0.3264	0.3289	0.3315	0.3340	0.3365	0.3389
1.0	0.3413	0.3438	0.3461	0.3485	0.3508	0.3531	0.3554	0.3577	0.3599	0.3621
1.1	0.3643	0.3665	0.3686	0.3708	0.3729	0.3749	0.3770	0.3790	0.3810	0.3830
1.2	0.3849	0.3869	0.3888	0.3907	0.3925	0.3944	0.3962	0.3980	0.3997	0.4015
1.3	0.4032	0.4049	0.4066	0.4082	0.4099	0.4115	0.4131	0.4147	0.4162	0.4177
1.4	0.4192	0.4207	0.4222	0.4236	0.4251	0.4265	0.4279	0.4292	0.4306	0.4319
1.5	0.4332	0.4345	0.4357	0.4370	0.4382	0.4394	0.4406	0.4418	0.4429	0.4441
1.6	0.4452	0.4463	0.4474	0.4484	0.4495	0.4505	0.4515	0.4525	0.4535	0.4545
1.7	0.4554	0.4564	0.4573	0.4582	0.4591	0.4599	0.4608	0.4616	0.4625	0.4633
1.8	0.4641	0.4649	0.4656	0.4664	0.4671	0.4678	0.4686	0.4693	0.4699	0.4706
1.9	0.4713	0.4719	0.4726	0.4732	0.4738	0.4744	0.4750	0.4756	0.4761	0.4767
2.0	0.4772	0.4778	0.4783	0.4788	0.4793	0.4798	0.4803	0.4808	0.4812	0.4817
2.1	0.4821	0.4826	0.4830	0.4834	0.4838	0.4842	0.4846	0.4850	0.4854	0.4857
2.2	0.4861	0.4864	0.4868	0.4871	0.4875	0.4878	0.4881	0.4884	0.4887	0.4890
2.3	0.4893	0.4896	0.4898	0.4901	0.4904	0.4906	0.4909	0.4911	0.4913	0.4916
2.4	0.4918	0.4920	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
2.5	0.4938	0.4940	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
2.6	0.4953	0.4955	0.4956	0.4957	0.4959	0.4960	0.4961	0.4962	0.4963	0.4964
2.7	0.4965	0.4966	0.4967	0.4968	0.4969	0.4970	0.4971	0.4972	0.4973	0.4974
2.8	0.4974	0.4975	0.4976	0.4977	0.4977	0.4978	0.4979	0.4979	0.4980	0.4981
2.9	0.4981	0.4982	0.4982	0.4983	0.4984	0.4984	0.4985	0.4985	0.4986	0.4986
3.0	0.4987	0.4987	0.4987	0.4988	0.4988	0.4989	0.4989	0.4989	0.4990	0.4990
3.1	0.4990	0.4991	0.4991	0.4991	0.4992	0.4992	0.4992	0.4992	0.4993	0.4993
3.2	0.4993	0.4993	0.4994	0.4994	0.4994	0.4994	0.4994	0.4995	0.4995	0.4995
3.3	0.4995	0.4995	0.4995	0.4996	0.4996	0.4996	0.4996	0.4996	0.4996	0.4997
3.4	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4998
3.5	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998
3.6	0.4998	0.4998	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.7	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.8	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.9	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000

42

Some important formulas / වැදගත් සූත්‍ර කිහිපයක්
சில முக்கிய சூத்திரங்கள்

$$\rho = \left[1 - \frac{6 \sum D^2}{N(N^2-1)} \right]$$

$$A.M_{(\overline{x})} = \left(A + \frac{i \sum fd}{N} \right)$$

$$SD_{(\sigma)} = i \sqrt{\frac{\sum fd^2}{N} - \left(\frac{\sum fd}{N} \right)^2}$$

$$\gamma_{xy} = \frac{\sum XY}{\sqrt{(\sum X^2)(\sum Y^2)}}$$

$$\gamma_{xy} = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sqrt{\sum (x - \bar{x})^2 \times \sum (y - \bar{y})^2}}$$

$$\gamma_{xy} = \frac{n \sum xy - (\sum x)(\sum y)}{\sqrt{[n \sum x^2 - (\sum x)^2][n \sum y^2 - (\sum y)^2]}}$$