

**THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF EDUCATION
BACHELOR OF EDUCATION HONOURS IN SPECIAL NEEDS
EDUCATION DEGREE PROGRAMME - 2023/2024 - LEVEL - 05
FINAL EXAMINATION – 2024
SNU5343/ESU3143 – MEASUREMENT & EVALUATION IN SPECIAL NEEDS
EDUCATION
DURATION – THREE (03) HOURS**



Date: 01.02.2025

Time: 09.30 a.m. – 12.30 p.m.

- i. Answer All Questions in Part I and any three (03) questions from Part II.
- ii. Normal calculators (Not Scientific) could be used for basic mathematical calculations.

PART - I

01. Differentiate ‘formative’ and ‘summative’ assessments by citing one example for each.
02.
 - i. What is meant by an objective type test?
 - ii. Mention **three (03)** advantages in objective type tests in evaluating students.
03. Discuss the importance of sociometry in classroom practices.
04. List out **five (05)** characteristics of the normal probability curve.
05. Briefly explain the **six (06)** levels in Bloom’s Taxonomy on educational objectives in the cognitive domain.
06.
 - i. What is the ‘skewness’ of the distribution of marks?
 - ii. Explain using a diagram the positive skewness of distribution.
07. Explain in brief why it is difficult to measure affective development.
08.
 - i. What is the standard score or Z-Score?
 - ii. Calculate the Z-Score corresponding to a mark 57 of a distribution in which arithmetic mean and the standard deviation are 36 and 14 respectively.

(05 marks x 8 = 40 marks)

PART – II

09. Following are the marks obtained by 40 students in a class at a year end examination for the subject mathematics.

14	75	25	48	31	47	82	68
46	58	36	55	43	63	63	53
80	70	56	77	96	56	43	23
79	55	69	84	50	35	58	45
40	28	51	62	86	57	74	33

- i. Prepare a frequency distribution for the above set of marks taking (50 – 59) as one of the class intervals. (03 marks)
 - ii. Calculate the mode and the median of the distribution of marks. (05 marks)
 - iii. Taking the assumed mean to be in the class interval (50 – 59), calculate the arithmetic mean. (06 marks)
 - iv. Calculate the standard deviation of this distribution. (06 marks)
10. i. Explain the terms ‘correlation’ and ‘correlation coefficient’ (04 marks)
- ii. Explain with an example, what is meant by perfect positive correlation. (02 marks)
 - iii. Marks obtained by 10 students for the subjects ‘Mathematics’ and ‘Science’ at an year end examination are given below.

Student Subject	A	B	C	D	E	F	G	H	I	J
Mathematics	78	70	85	68	87	68	82	65	72	85
Science	86	82	92	80	90	82	86	78	75	85

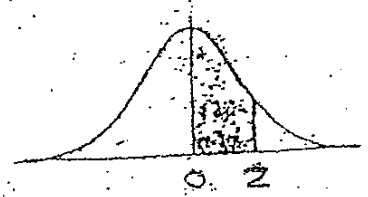
- (a) Calculate the rank difference correlation coefficient between the marks of subjects ‘mathematics’ and ‘science’. (11 marks)
- (b) Comment on the value you obtained for the correlation coefficient. (03 marks)

11. Marks obtained by 2000 students in an examination are distributed according to the normal probability curve. The arithmetic mean and the standard deviation of the distribution are 48 and 12 respectively.
- i. Find the number of students who scored between 36 – 60 marks. (05 marks)
 - ii. Find the number of students who scored between 66 – 75 marks (05 marks)
 - iii. If the best 10% of students are expected to be given A grades, what is the minimum mark required to obtain an A grade (05 marks)
 - v. If the pass marks of the examination is 40, find the number of students passing the examination. (05 marks)
12. i. Write your own definitions for the terms ‘assessment’ and ‘evaluation’. (02 marks)
- ii. Differentiate between those **two (02)** concepts. (05 marks)
 - iii. Explain why assessment is more important than evaluation in a classroom with special needs children. (06 marks)
 - iv. Explain the use of informal formative assessment giving examples from a subject of your choice. (07 marks)
13. i. Explain what is meant by an essay type test? (03 marks)
- ii. State **four (04)** advantages of an essay type test over objective type tests. (04 marks)
 - iii. Write **two (02)** essay type test items from a subject of your own choice. (04 marks)
 - iv. Convert those **two (02)** essay type test items into structured essay type test items. (06 marks)
 - v. Mention **three (03)** advantages of this conversion. (03 marks)
14. i. Explain what is meant by psychomotor development of a child. (02 marks)
- ii. Briefly explain the **two (02)** main aspects that are measured in psychomotor development. (06 marks)
 - iii. Imagine that you need to measure psychomotor skills of students by using an activity related to the subject you teach.
 - (a) Provide a brief description of the activity. (02 marks)
 - (b) Design instruments to measure the **two (02)** aspects mentioned in (ii) related to that activity. (10 marks)

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இலங்கை திறந்த பல்கலைக்கழகம்
The open university of Sri Lanka

සමීචන ප්‍රමිත වක්‍රය යටි ක්ෂේත්‍රවල - (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	0.4762	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

Some important formulas / වැදගත් සූත්‍ර කිහිපයක්
සில முக்கிய சூத்திரங்கள்

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

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

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

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

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

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