STATISTICAL DATA OUTPUT REQUIREMENTS

I. 2024 Philippine Educational Placement Test (PEPT) - Special Independence Day

Priority A

    a.1. Printing and Processing of Certificate of Rating (COR) per examinee using BEA approved format

    a.2. Master List of examinees by testing center, grade level, individual raw score, mean raw score, and mean percentage score.

    a.3. Electronic file of Master List by Regional Testing Center.

    a.4. School Header's data – crosstabs with frequency counts and percent, MPS by variable.

    a.5. Quartile Distribution by subtests vis a vis to Region, and Division Testing Centers.

Priority B

B.1. Frequency and percent distribution of total examinees.

       b.1.1. Number of passers by grade level per Division
       b.1.2. Number of passers by grade level per Region (17 Regions)
       b.1.3. Overall number of passers by grade level as to National rating.

B.2. Frequency, percentage distribution and MPS, of demographic characteristics by 21st century skills of total examinees.

       b.2.1. Gender
       b.2.2. Municipality type (Rural, Urban)
       b.2.3. Class Size
       b.2.4. School Type
       b.2.5. Legislative District
       b.2.6. School Type (Public vs. Private)
       b.2.7. Region
       b.2.8. Division
       b.2.9. Teacher given grades by subject.
       b.2.10. EDQ Variables
       b.2.11. School Header variables
       b.2.12. IP

       b.2.13. Type of Public School: Central, Non-Central, Vocational, TEI's, Madaris School
       b.2.14. Type of Private School: Sectarian, Non-Sectarian, etc.

B.3. Regional and Division Level Analysis

b.3.1. Do the same as the foregoing for each of the Seventeen (17) Regions Examples (Sample Table) Regional N, Mean, Raw % Score, SD, Lowest and Highest and for each of the 5 tests and Overall Test

b.3.2. Division N, Mean (Raw and Percent) Scores, SD, Lowest and Highest scores per Test, for Overall Test

b.3.3. Mean, N, SD, by Subtest and for Total test by SCHOOL, DIVISION, and REGION Cluster

Descriptive Statistics for Total and Subtests by Cluster

School Cluster	N	MPS
Cluster 1		
Cluster 2		
Cluster 3		
Cluster 4		
Cluster 5		
Cluster 6		

Cluster Scale:

Cluster	Schools with examinees of:
Cluster 1	**400 and above**
Cluster 2	**200 to 399**
Cluster 3	**100 - 199**
Cluster 4	**55 - 99**
Cluster 5	**20 - 54**
Cluster 6	**19 and below**

B.4. Three Year Trend using MPS by Subtest

b.4.1. Individual score represented by the highest and lowest Raw Score by subject area and Overall Test

b.4.2. Three Year trend using MPS by mastery level starting School Year 2016 – 2017

b.4.3. Frequency and Percentage **Distribution of Examinees** and School type based on the Criteria of **mastery level** by subtest

b.4.4. Frequency and Percentage **Distribution of Testing Center** by type based on the mastery level by subtest.

CRITERIA FOR ACHIEVEMENT LEVEL

ACHIEVEMENT LEVEL	
MPS	**Descriptive Equivalent**
96 – 100	**Mastered**
86 – 95	**Closely Approximating Mastery**
66 – 85	**Moving Towards Mastery**
35 – 65	**Average Mastery**
15 – 34	**Low Mastery**

5 – 14	**Very Low Mastery**
0 – 4	**Absolutely No Mastery**

b.4.5. Frequency and Percentage Distribution of scores based on the criteria on quartile distribution by:

      b.4.5.1. subject and overall test
      b.4.5.2. distribution of examines
      b.4.5.3. distribution of school
      b.4.5.4. distribution of division
      b.4.5.5. distribution of region

Quartile Distribution of Scores	
Quartile	**Descriptive Equivalent**
76 – 100	*Q1 Superior*
51 – 75	*Q2 Upper Average*
26 – 50	*Q3 Lower Average*
0 – 25	*Q4 Poor*

Priority C

c.1. Electronic copy of the Graphical Presentation of Percentage of Correct Response (PCR) by 21st century skills vis a vis by its subject area and mastery levels through regional and national performance.

c.2. Electronic copies of Institutional Performance profile (IPP) by Division. The IPP contains the subject area and overall test MPS and SD. (Division, Region, and National Performance should appear after the last school of the division)

Priority D:

D.1. GUIDELINES FOR GENERATING INFERENTIAL STATISTICS

Stage 1 ➜ 10 Regions:

        Regions I, III, IV-A, V and NCR – Luzon
        Regions VI, NIR and VII – Visayas
        Regions X, XII – Mindanao

Stage 2 ➜ Division Level – 4 division per region

        Cluster 1 – per region
        Cluster 2 – per region
        Cluster 3 – per region
        Cluster 4 – per region

Stage 4 ➜ 80 – 100 students per school
- Male – Female almost equal distribution

Stage 5 ➔ All variables indicated on Priority B.2.

D.2. Comparison and Inferential Statistics per Subject and 21st century skills.

D.2.1. T-test of differences on means or ANOVA and Chi-Square by Percentile Grouping

d.2.1.1. Gender

Sample table (for total examinees): t-test of difference of Means of Males vs. Females by subtests (Region I)

Test	Mean Score		Std. Deviation		Diff. between means	t-ratio/ F – ratio	Probability
	Male	Female	Male	Female			
Math							
Science							
English							
Filipino							
Aralin Panlipunan							
Total Test							

CHI–SQUARE BY PERCENTILE GROUPING

Variable Labels	PERCENTILE GROUPING IN MPS								
	20 & below	21-29	30-40	41-50	51-60	61-70	71-80	81-90	91-99

d.2.1.2. Do the same as of # 3.1 for each of the 17 other Regions

d.2.1.3. Do the same for:

d.2.1.3.1. Community type (urban vs. rural) for whole population
d.2.1.3.2. Madrasah vs. Non Madrasah
d.2.1.3.3. Special Science Classes vs. Non- Special Science Classes

D.3. Correlation and Regression Analysis

D.3.1. Correlations between 21st century skills score on 5 subtests and total test with some examinee characteristics *(please see appendix 4: sample table format for 21st century skills score and examinee characteristics)*

      d.3.2.1. Gender
      d.3.2.2. Cluster Type
      d.3.2.3. School Type
      d.3.2.4. Number of Siblings
      d.3.2.5. Community Type
      d.3.2.6. Teacher-given grades in
- Math
- Science
- English
- Filipino
- Aralin Panlipunan

d.3.2.7. Madrasah
d.3.2.8. IP
d.3.2.9. SPED

d.3.3. Split-half reliability coefficient for each of the 5 subtests and Total tests GSA & TVA
d.3.4. Kuder-Richardson alpha Reliability

D.4. One-way ANALYSIS OF VARIANCE OF scores on each of the 5 subtests of NAT based on the overall 21st century skills raw data.

d.4.1. Across the 17 regions
d.4.2. Across the 5 cluster types
d.4.3. If F is significant in the one-way ANOVA and D.2 has a significant relationship, do a test or Schiff test of Duncan test on the data to identify significantly different group.

D.5. Test Validation and Development

D.5.1. Item Analysis and Item Validation Tests

d.5.1.1. Do an item analysis of each of the 5 subtests to produce the following facility:

d.5.1.1.1. Facility/difficulty indices
d.5.1.1.2. Discrimination indices
d.5.1.1.3. Frequency of choosers per option (option analysis)

D.5.2. If possible print out an item analysis matrix like the following for each of the subject tests.

Table ___: Item Analysis Index for subtests

Discrimination Index (DI)
_____

Facility Level (%)	< .00	.01 - .15	.16 – .30	.31 -.45	.46 - .60	>.61 and above	Total No. of Items
81 – 100							
61 – 80							
41 – 60							
21 – 40							
0 – 20							
Total Items							

Where: $F1 = \dfrac{\mu - l}{(U + L)} \times 100\%$ $D.I = \dfrac{\mu - l}{U}$

Where: μ – number of examinees among the highest scoring 27% of the ranked Distribution who answered the item correctly

l – number of examinees in the L group who answered the item correctly

U – number of examinees in the top 27% of the test takers

L – number of examinees in the bottom 27% of the test takers

Note: $U = L$

F1 -Facility Index
DI – Discrimination Index

D.5.2. Generate an Item Analysis Report per Grade level for the Philippine Educational Placement Test (PEPT) following the **Classical Test Theory Approach.**

D.5.3. Generate the R Markdown report per Grade level following the **Item Response Theory** approach, which deals primarily with the following:

- IRT ability measures
- IRT item difficulty
- IRT test reliability
- IRT Item Discrimination
- Parallel ICCs
- WrightMap
- IRT item analysis
- R markdown

Conditions:

- *All data/statistical outputs required by the BEA should also be in electronic file and submitted to the BEA.*
- *Computed and validated data file of scanned data (includes scores of each subtest, division and region code) should also be submitted to BEA*
- ***Any statistical data not indicated herein but emerged necessary should also be generated.***

II. 2024 NATIONAL ACHIEVEMENT TEST FOR GRADE 6 (NATG6)

Priority A

a.1. Master List of examinees by schools, individual raw score, mean raw score, mean percentage score by subject area and by 21st century skills.

a.3. Electronic file of Master List by Division. If the mode of administration is through census, the legislative district's Masterlist is also required.

a.4. School Header's data – crosstabs with frequency counts and percent, MPS by variable, by legislative district.

a.5. Quartile Distribution by School, Division and Region. If the mode of administration is through *census* the legislative district's Masterlist is also required.

a.6. Proficiency levels by school, division, and region by 21st century skills. If the mode of administration is through *census* the legislative district's Masterlist is also required.

Priority B

B.1. Frequency and percent distribution of total examinees.

> b.1.1. Schools Division Offices (SDOs)
> b.1.2. Regional Offices (ROs) - 17 Regions
> b.1.3. National (overall total)

B.2. Frequency, percentage distribution and MPS, of demographic characteristics by 21st century skills of total examinees.

> b.2.1. Gender
> b.2.2. Municipality type (Rural, Urban)
> b.2.3. Class Size
> b.2.4. School Type
> b.2.5. Legislative District
> b.2.6. School Type (Public vs. Private)
> b.2.7. Region
> b.2.8. Division
> b.2.9. Teacher given grades by subject.
> b.2.10. EDQ Variables
> b.2.11. School Header variables
> b.2.12. IP
> b.2.13. Type of Public School: Central, Non-Central, Vocational, TEI's, Madaris School
> b.2.14. Type of Private School: Sectarian, Non-Sectarian, etc.

B.3. Regional and Division Level Analysis

> b.3.1. Do the same as the foregoing for each of the Seventeen (17) Regions Examples (Sample Table) Regional N, Mean, Raw % Score, SD, Lowest and Highest and for each of the 5 tests and Overall Test
> b.3.2. Division N, Mean (Raw and Percent) Scores, SD, Lowest and Highest scores per Test, for Overall Test

b.3.3.   Mean, N, SD, by Subtest and for Total test by SCHOOL, DIVISION, and REGION Cluster

Descriptive Statistics for Total and Subtests by Cluster

School Cluster	N	MPS
Cluster 1		
Cluster 2		
Cluster 3		
Cluster 4		
Cluster 5		
Cluster 6		

Schools Scale:

Cluster	Schools with examinees of:
Cluster 1	**400 and above**
Cluster 2	**200 to 399**
Cluster 3	**100 - 199**
Cluster 4	**55 - 99**
Cluster 5	**20 - 54**
Cluster 6	**19 and below**

Division Scale:

Cluster	Divisions with examinees of:
Cluster 1	**10,001 and above**
Cluster 2	**5,001 to 10,000**
Cluster 3	**5,000 and below**

Regional Scale:

Cluster	Regions with examinees of:
Cluster 1	**100,001 and above**
Cluster 2	**75,000 to 100,000**
Cluster 3	**74,999 and below**

B.4. Three Year Trend using MPS by Subtest

b.4.1. Individual score represented by the highest and lowest Raw Score by subject area and Overall Test

b.4.2. Three Year trend using MPS by 21st century skills/subtest starting School Year 2016 – 2017

b.4.3. Frequency and Percentage **Distribution of Examinees** and School type based on the Criteria on **Proficiency Level** by subtest for English, Filipino, Mathematics, Araling Panlipunan, Science, and Overall Test.

b.4.4. Frequency and Percentage **Distribution of Schools** by type based on the criteria on **Achievement Level** by subtest for English, Filipino, Mathematics, Araling Panlipunan, Science, and Overall Test.

CRITERIA FOR PROFICIENCY LEVELS

PROFICIENCY LEVEL	
MPS	**Descriptive Equivalent**
90 – 100	*Highly Proficient*
75 - 89	*Proficient*
50 - 74	*Nearly Proficient*
25 - 49	*Low Proficient*
0 - 24	*Not Proficient*

CRITERIA FOR ACHIEVEMENT LEVEL

ACHIEVEMENT LEVEL	
MPS	**Descriptive Equivalent**
96 – 100	**Mastered**
86 – 95	**Closely Approximating Mastery**
66 – 85	**Moving Towards Mastery**
35 – 65	**Average Mastery**
15 – 34	**Low Mastery**
5 – 14	**Very Low Mastery**
0 – 4	**Absolutely No Mastery**

b.4.5. Frequency Distribution of Raw Scores and its Equivalent by subtest and Overall Test (e.g. Raw → PS → SS → PR and %) regardless if the mode of administration is sampling or census.

b.4.6. Regional Performance MPS by gender and overall N by 21ST CENTURY SKILLS MPS aggregated by subject area and Overall Test

b.4.7. Division Performance MPS by gender and overall N by 21ST CENTURY SKILLS MPS aggregated by subject area and Overall Test

b.4.8. Frequency and Percentage Distribution of scores based on the criteria on quartile distribution by:

    b.4.8.1. subject and overall test
    b.4.8.2. distribution of examines
    b.4.8.3. distribution of school
    b.4.8.4. distribution of division
    b.4.8.5. distribution of region

Quartile Distribution of Scores	
Quartile	**Descriptive Equivalent**
76 – 100	*Q1 Superior*
51 – 75	*Q2 Upper Average*
26 – 50	*Q3 Lower Average*
0 – 25	*Q4 Poor*

B.5. 21st century skills ranking based on Z-scores or percentile rank scores by subtest.

      b.5.1.   Regions ranking
      b.5.2.   Division with each Region
      b.5.3.   Top 10 students by subtest based on $\sum$ of Scores of each student in the 5 subjects
      b.5.4. Top 10 divisions in Mean Percentage Score (MPS) by subject area and Overall Test
      b.5.5.   Top 10 students in Percentage/Z Score obtained in Math
      b.5.6.   Top 10 students in Percentage/Z Score obtained in Science
      b.5.7.   Top 10 students in Percentage/Z Score obtained in English
      b.5.8.   Top 10 students in Percentage/Z Score obtained in Filipino
      b.5.9.   Top 10 students in Percentage/Z Score obtained in HeKaSi
      b.5.10. Top 10 students Overall Z Score
      b.5.11. Top 10 schools based on MPS obtained by enrolment size

Priority C

C.1. Information dissemination through submission of compact disk per region (17 regions) and divisions (225 divisions) which includes:

      c.1.1. IPP per school and its respective divisions (for SDO's copy)
      c.1.2. IPP per school, division, and region (for RO's copy)
      c.1.3. IPP per school, division, region, and national (BEA copy)

1. Electronic copy of the Graphical Presentation of Percentage of Correct Response (PCR) by 21st century skills vis a vis by its subject area and proficiency levels through regional and national performance.

2. Electronic copies of Institutional Performance profile (IPP) by Division. The IPP contains the subject area and overall test MPS and SD. (Division, Region, and National Performance should appear after the last school of the division)

3. Electronic copies of Institutional Performance profile (IPP) by School. The IPP contains the English, Filipino, Aralin Panlipunan, Science, Mathematics and Overall Test (MPS and SD) by 21st CS. (Division, Region, and National Performance should appear after the last school of the division)

Priority D:

D.1. GUIDELINES FOR GENERATING INFERENTIAL STATISTICS

Stage 1 ➔ 10 Regions:

          Regions I, III, IV-A, V and NCR – Luzon
          Regions VI, NIR and VII – Visayas
          Regions X, XII – Mindanao

Stage 2 ➔ Division Level – 4 division per region

Cluster 1 – per region
Cluster 2 – per region
Cluster 3 – per region
Cluster 4 – per region

Stage 3 ➔ School Level

Elementary School – Public
    2 Central Schools
    1 Non-Central School
    1 Multi-Grade

Elementary School – Private
    1 Sectarian
    1 Non-Sectarian

Stage 4 ➔ 80 – 100 students per school
- Male – Female almost equal distribution

Stage 5 ➔ All variables indicated on Priority B.2.

D.2. Comparison and Inferential Statistics per Subject and 21st century skills.

D.2.1. T-test of differences on means or ANOVA and Chi-Square by Percentile Grouping

d.2.1.1. Gender

Sample table (for total examinees): t-test of difference of Means of Males vs. Females by subtests (Region I)

Test	Mean Score		Std. Deviation		Diff. between means	t-ratio/ F – ratio	Probability
	Male	Female	Male	Female			
Math							
Science							
English							
Filipino							
Aralin Panlipunan							
Total Test							

CHI–SQUARE BY PERCENTILE GROUPING

Variable Labels	PERCENTILE GROUPING IN MPS							
	20 & below	21-29	30-40	41-50	51-60	61-70	71-80	81-90	91-99

d.2.1.2. Do the same as of # 3.1 for each of the 17 other Regions

d.2.1.3. Do the same for:

d.2.1.3.1. Community type (urban vs. rural) for whole population
d.2.1.3.2. Madrasah vs. Non Madrasah
d.2.1.3.3. Special Science Classes vs. Non- Special Science Classes

D.3. Correlation and Regression Analysis

D.3.1. Inter-correlation Analysis by subject test scores and 21st century skills

D.3.2. Correlations between 21st century skills score on 5 subtests and total test with some examinee characteristics
   d.3.2.1. Gender
   d.3.2.2. Cluster Type
   d.3.2.3. School Type
   d.3.2.4. Number of Siblings
   d.3.2.5. Community Type
   d.3.2.6. Teacher-given grades in
   ➢ Math
   ➢ Science
   ➢ English
   ➢ Filipino
   ➢ Aralin Panlipunan

d.3.2.7. Madrasah
d.3.2.8. IP
d.3.2.9. SPED

d.3.3. Split-half reliability coefficient for each of the 5 subtests and Total tests GSA & TVA
d.3.4. Kuder-Richardson alpha Reliability

D.4. One-way ANALYSIS OF VARIANCE OF scores on each of the 5 subtests of NAT based on the overall 21st century skills raw data.

d.4.1. Across the 17 regions
d.4.2. Across the 3 cluster types
d.4.3. If F is significant in the one-way ANOVA and D.2 has a significant relationship, do a test or Schiff test of Duncan test on the data to identify significantly different group.

D.5. Test Validation and Development

➢ Classical Test Theory (CTT)

D.5.1. Item Analysis and Item Validation Tests

d.5.1.1. Do an item analysis of each of the 5 subtests to produce the following facility:

d.5.1.1.1. Facility/difficulty indices
d.5.1.1.2. Discrimination indices
d.5.1.1.3. Frequency of choosers per option (option analysis)

D.5.2. If possible, print out an item analysis matrix like the following for each of the subject areas.

Table ___: Item Analysis Index for subtests

Discrimination Index (DI)
_____

Facility Level (%)	$\leq$ .00	.01 - .15	.16 – .30	.31 -.45	.46 - .60	$\geq$.61 and above	Total No. of Items
81 – 100							
61 – 80							
41 – 60							
21 – 40							
0 – 20							
Total Items							

Where: $F1 = \dfrac{\mu - l}{(U + L)} \times 100\%$ $\qquad D.I = \dfrac{\mu - l}{U}$

Where: μ – number of examinees among the highest scoring 27% of the ranked Distribution who answered the item correctly

l – number of examinees in the L group who answered the item correctly

U – number of examinees in the top 27% of the test takers

L – number of examinees in the bottom 27% of the test takers

Note: $U = L$

F1 -Facility Index

DI – Discrimination Index

D.5.2. Generate an Item Analysis Report for the National Achievement Test for Grade 6 (NATG6) following the **Classical Test Theory Approach (CTT).**

D.5.3. Generate the R Markdown report following the **Item Response Theory (IRT)** approach, which deals primarily with the following:

- IRT ability measures

- IRT item difficulty
- IRT test reliability
- IRT Item Discrimination
- Parallel ICCs
- WrightMap
- IRT item analysis
- R markdown

Conditions:

- *All data/statistical outputs required by the BEA should also be in electronic file and submitted to the BEA.*
- *Computed and validated data file of scanned data (includes scores of each subtest, division and region code) should also be submitted to BEA*
- *The code book should be submitted to BEA as well. This book should encompass the full terms of the codes used, along with definitions of terms/variables/data generated. Additionally, it should provide an explanation of how these elements were computed. (SAMPLE:* **Code:** *MPS;* **Complete Term:** *Mean Percentage Score;* **Definition:** *This term pertains to the average mean of the percentage scores achieved by a group of individuals or participants in the NAT. It is calculated by summing up the individual percentage scores and then dividing by the total number of individuals.)*
- ***Any statistical data not indicated herein but emerged necessary should also be generated.***

III. 2024 EARLY LANGUAGE, LITERACY, AND NUMERACY ASSESSMENT (ELLNA)

Stage 2 ➜ Division Level – 4 division per region

> Cluster 1 – per region
> Cluster 2 – per region
> Cluster 3 – per region
> Cluster 4 – per region

Stage 3 ➜ School Level

Public ES	Private ES
1 Central/Pilot Elementary School	1 Sectarian
1 Non-Central Elementary School	1 Non Sectarian
1 Primary School	
1 Multi-Grade School	
1 State College/University ES	

Stage 4 ➜ 80 – 100 students per school
- Male – Female almost equal distribution

Stage 5 ➜ All variables indicated on Priority B.2.

D.2. Comparison and Inferential Statistics per Subject.

D.2.1. T-test of differences on means or ANOVA and Chi-Square by Percentile Grouping

d.2.1.1. Gender

Sample table (for total examinees): t-test of difference of Means of Males vs. Females by subtests (Region I)

Test	Mean Score		Std. Deviation		Diff. between means	t-ratio/ F – ratio	Probability
	Male	Female	Male	Female			
Math							
Science							
English							
Filipino							
Aral. Pan							
Total Test							

CHI–SQUARE BY PERCENTILE GROUPING

Variable Labels	PERCENTILE GROUPING IN MPS								
	20 & below	21-29	30-40	41-50	51-60	61-70	71-80	81-90	91-99

d.2.1.2. Do the same as of # 3.1 for each of the 17 other Regions

d.2.1.3. Do the same for:

    d.2.1.3.1. Community type (urban vs. rural) for whole population
    d.2.1.3.2. Madrasah vs. Non-Madrasah
    d.2.1.3.3. Special Science Classes vs. Non-Special Science Classes

D.3. Correlation and Regression Analysis

    D.3.1. Inter-correlation Analysis by subject test scores.
    D.3.2. Correlations between the 5 subtests and total test with some examinee characteristics.

        d.3.2.1. Gender
        d.3.2.2. Cluster Type
        d.3.2.3. School Type
        d.3.2.4. Number of Siblings
        d.3.2.5. Community Type
        d.3.2.6. Teacher-given grades in
            ➢ Math
            ➢ Science
            ➢ English
            ➢ Filipino
            ➢ Aralin Panlipunan

        d.3.2.7. Madrasah
        d.3.2.8. IP
        d.3.2.9. SPED

    d.3.3. Split-half reliability coefficient for each of the 5 subtests and Total tests GSA & TVA
    d.3.4. Kuder-Richardson alpha Reliability

D.4. One-way ANALYSIS OF VARIANCE OF scores on each of the 5 subtests of ELLNA

d.4.1. Across the 17 regions
d.4.2. Across the 5 cluster types
d.4.3. If F is significant in the one-way ANOVA and D.2 has a significant relationship, do a test or Schiff test of Duncan test on the data to identify significantly different group.

D.5. Test Validation and Development

➢ **Classical Test Theory (CTT)**

D.5.1. Item Analysis and Item Validation Tests

d.5.1.1. Do an item analysis of each of the 5 subtests to produce the following facility:

d.5.1.1.1. Facility/difficulty indices
d.5.1.1.2. Discrimination indices
d.5.1.1.3. Frequency of choosers per option (option analysis)

D.5.2. If possible print out an item analysis matrix like the following for each of the subject tests.

Table ___: Item Analysis Index for subtests

Discrimination Index (DI)
_____

Facility Level (%)	≤ .00	.01 - .15	.16 – .30	.31 -.45	.46 - .60	≥.61 and above	Total No. of Items
81 – 100							
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Total Items							

Where: $F1 = \dfrac{\mu - l}{(U + L)} \times 100\%$ $D.I = \dfrac{\mu - l}{U}$

Where: μ – number of examinees among the highest scoring 27% of the ranked Distribution who answered the item correctly
l – number of examinees in the L group who answered the item correctly
U – number of examinees in the top 27% of the test takers
L – number of examinees in the bottom 27% of the test takers

Note: $U = L$

F1 -Facility Index

DI – Discrimination Index

D.5.2. Generate an Item Analysis Report for the Early Language, Literacy, and Numeracy Assessment following the **Classical Test Theory Approach (CTT).**

D.5.3. Generate the R Markdown report following the **Item Response Theory (IRT)** approach, which deals primarily with the following:

- IRT ability measures
- IRT item difficulty
- IRT test reliability
- IRT Item Discrimination
- Parallel ICCs
- WrightMap
- IRT item analysis
- R markdown

Conditions:

- *All data/statistical outputs required by the BEA should also be in an electronic file and submitted to the BEA.*
- *Computed and validated data files of scanned data (including scores of each subtest, division, and region code) should also be submitted to BEA*
- *The code book should be submitted to BEA as well. This book should encompass the full terms of the codes used, along with definitions of terms/variables/data generated. Additionally, it should provide an explanation of how these elements were computed. (SAMPLE: **Code:** MPS; **Complete Term:** Mean Percentage Score; **Definition:** This term pertains to the average mean of the percentage scores achieved by a group of individuals or participants in the NAT. It is calculated by summing up the individual percentage scores and then dividing by the total number of individuals.)*
- ***Any statistical data not indicated herein but emerged as necessary should also be generated.***

IV. 2024 Qualifying Examinations Islamic Studies and Arabic Language (QEALIS)

Priority A

1. Printing of Certificate of Rating (COR) per examinee using BEA approved format.
2. Master list of examinees by Division which should contain all the information appearing in the COR
3. Electronic file of **Master List** by Division
4. Overall Percentile Rank and MPS arranged from highest to lowest

Priority B

1. Frequency and percent distribution of total examinees, Examiners by Division, Region and National
2. Mean, Median, Standard Deviation, Lowest and Highest Score per test by gender, Division, Examinee's Descriptive Questionnaire (EDQ) variables and by Subject Area
3. Frequency and Percentage Distribution by:

   3.1 Achievement Level Criteria

MPS (%)	Descriptive Equivalent
96 – 100	Mastered
86 – 95	Closely Approximating Mastery
66 – 85	Moving Towards Mastery
35 – 65	Average Mastery
15 – 34	Low Mastery
5 – 14	Very Low Mastery
0 - 4	Absolutely No Mastery

   3.2 Quartile Distribution of Scores

Quartile	Descriptive Equivalent
76 – 100	Q1 Superior
51 – 75	Q3 Upper Average
26 – 50	Q3 Lower Average
0 - 25	Q4 Poor

4. Inferential Statistics: One-way ANOVA
5. Correlational Statistics – Inter Correlations
   Correlate Islamic Studies and Arabic Language Scores with gender and Exaqminee's Descriptive Questionnaire (EDQ) variables
6. Item Analysis and Validation Tests
   1. Facility Level
   2. Difficulty Scores
   3. Frequency of choosers per option (option analysis)

Facility Level (%)	≤ .00	.01 - .15	.16 - .30	.31 - .45	.46 - .60	≥ .61 and above	Total (F1) N
81 – 100							
61 – 80							
41 – 60							
21 – 40							
0 – 20							
Total Items							

Where: $F1 = \dfrac{\mu - l}{(U + L)} \times 100\%$ 　　　　 $D.I = \dfrac{\mu - l}{U}$

Where: μ - *number of examinees among the highest scoring 27% of the ranked Distribution who*

  answered the item correctly
  l - *number of examinees in the L group who answered the item correctly*
  U - *number of examinees in the top 27% of the test takers*
  L - *number of examinees in the bottom 27% of the test takers*

Conditions:

- All data/statistical outputs required by BEA should be in electronic file and submitted to BEA.
- Computed and validated data file of scanned data (includes scores of each subtest. Division, and Region code), should also be submitted to BEA.
- Any statistical data not indicated herein but emerged necessary should also be generated.

V. 2024 Accreditation and Equivalency Test (A&E)

Priority A

a.1. Printing and Processing of Certificate of Rating (COR) per examinee using BEA approved format

a.2. Master List of examinees by grade level *(elementary level/junior high school level)*, testing centers, division, region, individual raw score, mean raw score, mean percentage score, and overall MPS by 21st century skills.

a.3. Electronic file of Master List by Division Testing Centers, and by Region.

a.4. School Header's data – crosstabs with frequency counts and percent, MPS by variable, by legislative district

a.5. Quartile Distribution by Testing Centers, Division and Region.

a.6. Percentage of Proficiency levels by division testing centers, and region by 21st century skills learning strands.

Priority B

B.1. Frequency and percent distribution of total examinees.

    1.1   Division Testing Center (Sampled Division's)
    1.2   Regional (13 Participating Regions)
    1.3   National (overall total)

B.2. Frequency, percentage distribution, MPS, and SD of demographic characteristics by 21st century skills learning strands of total examinees.
(please see appendix 2 for sample table format)

    b.2.1. Number of passers by Gender (Division, Regional, and National)
    b.2.2. Type of Community (Rural, Urban)
    b.2.3. Civil Status
    b.2.4. Number of passers by ALS Delivery Mode
    b.2.5. Number of passers by Program Provider
    b.2.6. Meeting with facilitator
    b.2.7. School Type
    b.2.8. EDQ Variables

B.3. Frequency and percent distribution of Grade level passers categorized into:

    3.1. Division Testing Centers
    3.2. Region (17 regions)
    3.3. National

B.4. Descriptive Statistics for testing centers and regional, and national performance by 21st century skills learning strands categorized by grade level *(elementary and junior high school level).*

b.4.1. Division Testing Center N, Mean (raw and percent) scores, SD, lowest and highest score by 21st century skills learning strand and overall score test.

b.4.2. Regional N, Mean (raw and percent) scores, SD, lowest and highest score by 21st century skills learning strand and overall score test.

b.4.3. National N, Mean (raw and percent) scores, SD, lowest and highest score by 21st century skills learning strand and overall score test.

(Please see appendix: sample table format for Descriptive Statistics for Testing Centers, Regional, and National Performance)

B.5. Proficiency and Quartile Distribution

b.5.1. Division, Regional, and National Frequency and Percentage **Distribution of Examinees** based on the 21st century skills criteria of proficiency levels per strand and grade level *(Elementary and Junior High School Level)*

CRITERIA FOR PROFICIENCY LEVELS

PROFICIENCY LEVEL	
PL	**Descriptive Equivalent**
90 – 100	*Highly Proficient*
75 - 89	*Proficient*
50 - 74	*Nearly Proficient*
25 - 49	*Low Proficient*
0 - 24	*Not Proficient*

Quartile Distribution of Scores	
Quartile	**Descriptive Equivalent**
76 – 100	*Q1 Superior*
51 – 75	*Q2 Upper Average*
26 – 50	*Q3 Lower Average*
0 – 25	*Q4 Poor*

B.5. 21st century skills ranking based on Z-scores or percentile rank scores.

b.5.1. Regions ranking based on overall total on the learning strands

b.5.2. Top 10 students by subtest based on $\sum$ of Scores of each student in the 5 21st century skills learning strand.

b.5.3. Top 10 division testing centers in Mean Percentage Score (MPS) by Learning strand and Overall Test.

b.5.4. Top 10 students in Percentage/Z Score obtained in Strand 1

b.5.5. Top 10 students in Percentage/Z Score obtained in Strand 2

b.5.6. Top 10 students in Percentage/Z Score obtained in Strand 3

b.5.7. Top 10 students in Percentage/Z Score obtained in Strand 4

b.5.8. Top 10 students in Percentage/Z Score obtained in Strand 5

b.5.9. Top 10 students in Percentage/Z Score obtained in Strand 6

b.5.10. Top 10 students Overall Z Score

b.5.11. Top 5 regions based on MPS obtained by enrolment size

Priority C

4. Information dissemination through submission of compact disk per region (17 regions) and divisions (225 divisions) which includes:
    *   IPP per testing centers and its respective divisions which composed of the 21st century skills learning strand (for SDO's copy)
    *   IPP per testing centers, division, region, and national which composed of the 21st century skills learning strand (BEA copy)

Priority D:

D.1. GUIDELINES FOR GENERATING INFERENTIAL STATISTICS

Stage ➔ 10 Regions:

Regions I, III, IV-A, V and NCR – Luzon
Regions VI, NIR and VII – Visayas
Regions X, XII – Mindanao

D.2. Comparison and Inferential Statistics per Subject and 21st century skills.

D.2.1. T-test of differences or ANOVA on means by demographic characteristics specifically on ALS delivery mode, and Program Provider to 21st century skills learning strand by region.

D.3. Correlation and Regression Analysis

D.3.1. Inter-correlation analysis by ALS delivery mode, and program provider to 21st century skills learning strand per grade level *(elementary and junior high school level)*

D.3.2. Inter-correlation analysis by socio demographic characteristics to 21st century skills learning strand per grade level *(elementary and junior high school level)*

D.4. One-way ANALYSIS OF VARIANCE on ALS Delivery Mode and Program provider sub-variables to each of the 21st century skills learning strand per region and national level.

D.5. Test Validation and Development

D.5.1. Item Analysis and Item Validation Tests

➢ **Classical Test Theory (CTT)**

A. Do an item analysis of each of the 21st century learning strand to produce the following facility:

   1. *Facility/difficulty indices*
   2. *Discrimination indices*
   3. *Frequency of choosers per option (option analysis)*

B. If possible print out an item analysis matrix like the following for each of the subject tests.

Table ___: Item Analysis Index by Learning Strand

Discrimination Index (DI)

_____

Facility Level (%)	$\leq$ .00	.01 - .15	.16 – .30	.31 -.45	.46 - .60	$\geq$.61 and above	Total No. of Items
81 – 100							
61 – 80							
41 – 60							
21 – 40							
0 – 20							
Total Items							

Where: $F1 = \dfrac{\mu - l}{(U + L)} \times 100\%$ $D.I = \dfrac{\mu - l}{U}$

Where: μ – number of examinees among the highest scoring 27% of the ranked Distribution who answered the item correctly

l – number of examinees in the L group who answered the item correctly

U – number of examinees in the top 27% of the test takers

L – number of examinees in the bottom 27% of the test takers

Note: $U = L$

F1 -Facility Index

DI – Discrimination Index

➢ **Item Response Theory (IRT)**

Generate the following reports:

- IRT ability measures
- IRT item difficulty
- IRT test reliability
- IRT Item Discrimination
- Parallel ICCs

- WrightMap
- IRT item analysis
- R markdown

D.6. **Item Analysis Report for Accreditation and Equivalency per Learning Strands.**

Conditions:

- *All data/statistical outputs required by the BEA should also be in electronic file and submitted to the BEA.*
- *Computed and validated data file of scanned data (includes scores of each subtest, division and region code) should also be submitted to BEA*
- ***Any statistical data not indicated herein but emerged necessary should also be generated.***