ZIMBABWE

MINISTRY OF PRIMARY AND SECONDARY EDUCATION

STATISTICS SYLLABUS

FORMS 5 - 6

2015 - 2022

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1.0 PREAMBLE

1.1 INTRODUCTION

The Forms 5 to 6 Statistics syllabus is designed to promote critical thinking, problem solving, and research, analytical and organizational skills. The syllabus targets interested learners who would have passed Mathematics at Form 4. The learning area seeks to equip learners with knowledge and skills for further studies and future careers. It develops in learners self-management and leadership skills to enable them to be enterprising, innovative and to make informed decisions.

1.2 RATIONALE

Statistics is significant to the development of the Zimbabwean society. The knowledge of statistics enables all learners to develop research and analytical competencies essential for sustainable development and careers such as actuarial science, education, medicine, agriculture, meteorology and engineering. The diversity in applications of statistics makes the teaching and learning of the subject an essential component of socio-economic, scientific and technological development. Further, it contributes positively to Unhu/Ubuntu/Vumunhu through its insistence on integrity and honesty in the collection, representation, analysis and intepretation of data.

The statistics syllabus enables learners to develop skills such as:

- Problem solving
- Critical thinking
- Decision making
- Self-management
- Communication
- Technological
- Enterprising

1.3 SUMMARY OF CONTENT

The syllabus is designed to cover Forms 5 - 6 Statistics which equips learners with skills and knowledge essential for enterprise, further studies and career development. The syllabus covers theory and practical activities in data collection, presentation, interpretation, analysis and statistical inferences. Learners' performance will be evaluated through summative and continuous assessment.

1.4 ASSUMPTIONS

It is assumed that learners:

- have passed mathematics at Form 4
- have prior knowledge of ICT
- have an interest in Statistics

1.5 CROSS CUTTING THEMES

In order to foster competence development for further studies, life and work, the teaching and learning of Statistics at Forms 5 - 6 should integrate the following cross cutting themes:

- Life skills
- Enterprise skills
- Financial literacy
- Digital literacy
- HIV and AIDS
- Environmental issues
- Disaster Risk management

2.0 PRESENTATION OF SYLLABUS

The Statistics Forms 5 - 6 syllabus is presented as one document. The syllabus has aims, objectives, topics, methodology and time allocation, scope and sequence, competency matrix and assessment.

3.0 AIMS

The syllabus enables learners to:

3.1 develop a positive attitude towards the role of statistics in national development
3.2 develop critical and logical thinking
3.3 apply statistical knowledge and skills in other disciplines and in life
3.4 use ICT tools to solve statistical problems
3.5 develop a higher level of understanding of statistical knowledge for self-sustainance and further studies
3.6 value heritage, history and culture through statistical inference and research
3.7 develop integrity, honesty, hard work and innovativeness
3.8 acquire enterprise and leadership skills

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4.0 SYLLABUS OBJECTIVES

By the end of the two year learning period, learners should be able to:

4.1 collect and present data in written, graphical, diagrammatical and tabular form
4.2 draw inferences from statistical data
4.3 communicate statistical results and their implications to the world
4.4 relate statistical concepts to life situations
4.5 predict trends based on statistical data for planning purposes
4.6 construct statistical arguments through appropriate use of precise statements and logical deduction
4.7 use ICT tools in statistical analysis
4.8 carry out statistical research projects
4.9 use statistical data with integrity (Unhu/Ubuntu/Vumunhu)
4.10 apply enterprise and leadership skills in life

5.0 METHODOLOGY AND TIME ALLOCATION

The teaching and learning of Statistics will be based on learner centeredness participation and inclusivity. In this regard, the following teaching and learning methods will be used:

- Demonstrations
- Experimentation
- Group work
- Question and answer
- Problem solving
- Discussion
- Research and Presentations
- Project-based learning
- Simulation and modeling
- Field work
- Games

The above suggested methods should be enhanced through the application of multisensory (inclusive) approaches to teaching/learning and principles of individualization, unification, concreteness, stimulation and self-activity.

Time Allocation

The learning area should be allocated 10 periods of 35 minutes each per week.

6.0 TOPICS

6.1 Representation of data
6.2 Permutations and combinations
6.3 Probability
6.4 Discrete random variables
6.5 Continuous distributions
6.6 Linear combinations of random variables
6.7 Sampling and estimation
6.8 Statistical inference
6.9 Bivariate data (Linear regression and correlation)
6.10 Time series

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7.0 SCOPE AND SEQUENCE

7.1 REPRESENTATION OF DATA

SUB TOPIC	FORM 5	FORM 6
Data collection	• Data collection methods • Data types	
Data presentation	• Histograms • Frequency polygons • Stem and leaf diagrams • Bar graphs • Box and whisker diagrams • Pie charts • Cumulative frequency curves • Pictograms • Line graphs	
Measures of central tendency and dispersion (Grouped and ungrouped data)	• Mean, mode, median • Range • Quartiles and percentiles • Variance • Standard deviation	

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7.2 PERMUTATIONS AND COMBINATIONS

SUB TOPIC	FORM 5	FORM 6
Permutations and combinations	• Arrangements • Permutations • Combinations	

7.3 PROBABLITY

SUB TOPIC	FORM 5	FORM 6
Probability	• Probability key terms • Events - Independent - Mutually exclusive - Exhaustive - Combined • Conditional probability • Tree diagrams • Outcome tables • Venn diagrams	• Permutations and combinations • Conditional probability • Bayes` theorem

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7.4 DISCRETE RANDOM VARIABLES

SUB TOPIC	FORM 5	FORM 6
Discrete random variables	• Random variables • Probability distributions • Expectation • Variance • Standard deviation	
Special discrete distributions	• Uniform distribution • Binomial distribution • Geometric distribution	• Bernoulli distribution • Poisson distribution

7.5 CONTINOUS DISTRIBUTIONS

SUB TOPIC	FORM 5	FORM 6
Probability distribution of a continuous random variable	• Differentiation and integration of polynomials and exponential functions • Probability density functions (pdf) and cumulative distribution functions (cdf) • Rectangular distribution • Expectation • Variance • Mean, mode, standard deviation and percentiles	EXPONENTIAL DISTRIBUTION • Integration by parts • Probability density function (pdf) • Mean, variance and standard deviation
Normal distribution	• Normal distribution • Standard normal tables • Continuity correction	

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7.6 LINEAR COMBINATIONS OF RANDOM VARIABLES

SUB TOPIC	FORM 5	FORM 6
Linear combinations of random variables		• Normal distribution • Poisson distribution

7.7 SAMPLING AND ESTIMATION

SUB TOPIC	FORM 5	FORM 6
Sampling and estimation	• Definition of key terms • Probability sampling techniques • Non-probability sampling techniques • Estimation of population parameters	• Central limit theorem • Confidence intervals

7.8 STATISTICAL INFERENCE

SUB TOPIC	FORM 5	FORM 6
Sampling and estimation	• Definition of key terms • Probability sampling techniques • Non-probability sampling techniques • Estimation of population parameters	• Central limit theorem • Confidence intervals

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7.9 BIVARIATE DATA

SUB-TOPICS	FORM 5	FORM 6
Linear regression and correlation		• Scatter diagrams • Regression lines • Least squares • Pearson`s Product moment correlation (r) • Coefficient of determination (r^2)

7.10 TIME SERIES

SUB-TOPICS	FORM 5	FORM 6
Linear regression and correlation		• Scatter diagrams • Regression lines • Least squares • Pearson`s Product moment correlation (r) • Coefficient of determination (r^2)

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8.0 COMPETENCY MATRIX

FORM FIVE

TOPIC 1: REPRESENTATION OF DATA

SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
Data collection	• describe different methods of collecting data • design data collection instruments • gather data using appropriate methods	• Data collection methods • Data types	• Discussing different methods of collecting data • Designing data collection instruments • Collecting data using designed instruments • Conducting field trips to collect data	• ICT tools • Environment • Relevant texts • Brail materials and equipment • Talking books and software
Data presentation	• organize data into tabular or diagrammatic form • construct statistical graphs and charts • interpret statistical graphs and charts • outline advantages and disadvantages of data presentation methods	• Histograms • Frequency polygons • Stem and leaf diagrams • Bar graphs • Box and whisker diagrams • Pie charts • Cumulative frequency curves • Pictograms • Line graphs	• Discussing data presentation methods • Categorizing data into tabular or diagrammatic form • Drawing statistical graphs and charts • Interpreting statistical graphs and charts	• ICT tools • Relevant texts • Geometrical instruments • Geoboard
Measures of central tendency and dispersion (Grouped and ungrouped data)	• define measures of central tendency and dispersion • calculate measures of central tendency and dispersion	• Mean, mode, median • Range • Quartiles and percentiles • Variance • Standard deviation	• Discussing the importance of measures of central tendency and dispersion	• ICT tools • Relevant texts • Brail materials and equipment • Talking books and software

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SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
	• interpret measures of central tendency and dispersion • apply measures of central tendency and/or dispersion in solving problems		• Explaining the advantages and disadvantages of measures of central tendency and dispersion • Computing measures of central tendency and dispersion • Solving problems involving measures of central tendency and/or dispersion	

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TOPIC 2: PERMUTATIONS AND COMBINATIONS

SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
Permutations and combinations	• use the notations n!, ${}^{n}P_{r}$ & $\binom{n}{r}$ • define permutations and combinations • solve problems involving permutations and combinations	• Arrangements • Permutations • Combinations	• Using the notations n! ${}^{n}P_{r}$ & $\binom{n}{r}$ • Explaining the meanings of permutations and combinations • Solving problems involving permutations and combinations	• ICT tools • Relevant texts • Brail materials and equipment • Talking books and software

TOPIC 3: PROBABILITY

SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
Probability	• define probability key terms • calculate probabilities of events • solve problems involving conditional probability • use tree diagrams, Venn diagrams and outcome tables to solve problems	• Probability key terms • Events - Independent - Mutually exclusive - Exhaustive - Combined • Conditional probability • Tree diagrams • Outcome tables • Venn diagrams	• Explaining the meanings of probability key terms • Discussing the importance of probability in life • Computing probabilities of a variety of events • Applying conditional probability concepts in solving problems • Solving problems using tree diagrams, Venn diagrams and outcome tables • Carrying out experiments involving probability	• ICT tools • Relevant texts • Brail materials and equipment • Talking books and software

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TOPIC 4: DISCRETE RANDOM VARIABLES

SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
Discrete random variables	• define a random variable • construct a probability distribution table • define expectation • calculate mean, variance and standard deviation	• Random variables • Probability distributions • Expectation • Variance • Standard deviation	• Discussing examples of random variables • Constructing probability distribution tables • Computing expectation, variance and standard deviation • Solving problems involving mean, variance and standard deviation	• ICT tools • Relevant texts • Brail materials and equipment • Talking books and software
Special discrete distributions	• outline characteristics of each distribution • calculate the mean, variance and standard deviation of each distribution • calculate probabilities for the distributions • solve problems involving the distributions	• Uniform distribution • Binomial distribution • Geometric distribution	• Discussing characteristics of the distributions • Computing the mean, variance and standard deviation of each distribution • Calculating probabilities using the probability density functions of the distributions • Solving problems involving the distributions	• ICT tools • Relevant texts • Brail materials and equipment • Talking books and software

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TOPIC 5: CONTINOUS DISTRIBUTIONS

SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
Probability distribution of a continuous random variable	• differentiate polynomials and exponential functions • integrate polynomials and exponential functions	• Differentiation and integration of polynomials and exponential functions	• Differentiating and integrating polynomials and exponential functions • Discussing the difference between a discrete random variable and a continuous random variable	• ICT tools • Relevant texts • Brail materials and equipment • Talking books and software
	• use the probability density functions and cumulative distribution functions to calculate probabilities	• Probability density functions (pdf) and cumulative distribution functions (cdf) • Rectangular distribution • Expectation • Variance	• Discussing the significance of probability density function and cumulative distribution function of a continuous random variable • Computing probabilities using both pdf and cdf	
	• calculate mean, mode, median, standard deviation, variance and percentiles • use integration to calculate cumulative distribution function from probability density function • use differentiation to calculate probability density function from cumulative distribution function • solve problems involving probability density function	• Mean, mode, standard deviation and percentiles	• Calculating mean, mode, median, standard deviation, variance and percentiles • Solving problems involving pdf and cdf	
Normal distribution	• explain the characteristics of a normal distribution curve • standardize a random variable • use the standard normal tables to obtain probabilities	• Normal distribution • Standard normal tables	• Discussing the characteristics of a normal distribution curve, giving life examples • Standardizing random variables • Obtaining probabilities using standard normal tables	• ICT tools • Relevant texts • Brail materials and equipment • Talking books and software

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	• approximate the binomial using the normal distribution where *n* is large enough to ensure that np > 5 and nq > 5 and apply continuity correction • use the normal distribution as a model to solve problems	• Continuity correction	• Using the normal distribution model to approximate the binomial distribution • Using the normal distribution as a model to solve problems	

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TOPIC 6: SAMPLING AND ESTIMATION

SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
Sampling and estimation	• distinguish between sample and population • distinguish between probability sampling techniques and non-probability sampling techniques • apply the sampling methods to identify representative samples • calculate sample mean, variance and standard deviation • find the unbiased estimates of population parameters • solve problems involving sampling and estimation	• Definition of key terms • Probability sampling techniques • Non-probability sampling techniques • Estimation of population parameters	• Discussing the difference between sample and a population, probability sampling and non-probability sampling techniques • Explaining situations in which probability and non-probability sampling methods are used • Choosing samples in practical situations • Computing sample mean, variance and standard deviation • Determining the unbiased estimates of population parameters • Solving problems involving sampling and estimation (including field work)	• ICT tools • Relevant texts • Environment • Brail materials and equipment • Talking books and software

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TOPIC 7: STATISTICAL INFERENCE

SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
Significance testing	• formulate hypotheses • distinguish between a type 1 and a type 2 error • compute probabilities of making type 1 and type 2 errors • apply a hypothesis test in the context of a single observation from a population which has binomial distribution using either the binomial distribution or the normal approximation to the binomial distribution • formulate hypotheses and apply a hypothesis test concerning population mean using a sample drawn from a normal distribution of known variance using the normal distribution	• Null hypothesis • Alternative hypothesis • Test statistics • Significance level • Hypothesis test (1-tail and 2-tail) • Type 1 and type 2 errors • z- tests	• Discussing hypothesis testing in research • Calculating probabilities of making type 1 and type 2 errors • Applying hypothesis tests in the context of a single observation from a population which has binomial distribution using either the binomial distribution or the normal approximation to the binomial distribution • Solving problems involving hypothesis test • Conducting research projects	• ICT tools • Relevant texts • Environment • Brail materials and equipment • Talking books and software

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TOPIC 8: TIME SERIES

SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
Time series	• define time series key terms • identify the components of time series • draw time series graphs and trend lines • identify trends • explain the purpose of smoothening • calculate moving averages • plot moving average graphs • solve problems involving time series	• Components of time series • Time series graphs • Smoothening • Moving averages • Trend lines	• Discussing the components and significance of time series • Drawing time series graphs and trend lines • Interpreting trends • Discussing the purpose of smoothening • Computing and plotting moving average graphs • Solving problems involving time series • Conducting field trips to solve problems on time series	• ICT tools • Relevant texts • Environment • Brail materials and equipment • Talking books and software

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FORM SIX

TOPIC 1: PROBABILITY

SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
Probability	• calculate probabilities in contexts involving permutations and combinations • calculate conditional probabilities in contexts involving permutations and combinations • state Bayes` theorem • use Bayes` theorem to solve probability problems	• Permutations and combinations • Conditional probability • Bayes` theorem	• Calculating probabilities in contexts involving permutations and combinations • Computing conditional probabilities in contexts involving permutations and combinations • Exploring the justification of Bayes` theorem • Solving probability problems using Bayes` theorem	• ICT tools • Relevant texts

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TOPIC 2: DISCRETE RANDOM VARIABLES

SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
Special discrete distributions	• outline characteristics of each distribution • calculate the mean, variance and standard deviation of each distribution • use the probability density functions to calculate probabilities • solve problems involving the distributions	• Bernoulli distribution • Poisson distribution	• Discussing characteristics of the distributions including their applications in life • Computing the mean, variance and standard deviation of each distribution • Calculating probabilities using the probability density functions of the distributions • Solving problems involving the distributions	• ICT tools • Relevant texts • Environment

TOPIC 3: CONTINOUS DISTRIBUTIONS

SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
Exponential distribution	• integrate by parts • use the pdf to calculate probabilities • calculate mean, variance and standard deviation • solve problems involving exponential distribution	• Integration by parts • Probability density function (pdf) • Mean, variance and standard deviation	• Performing integration by parts • Calculating probabilities using the pdf • Calculating mean, variance and standard deviation • Solving problems involving exponential distribution and its applications in life	• ICT tools • Relevant texts • Environment • Brail materials and equipment • Talking books and software

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TOPIC 4: LINEAR COMBINATIONS OF RANDOM VARIABLES

SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
Linear combinations of random variables	• use the following facts to solve problems: - $E(aX \pm b) = aE(X) \pm b$ and $Var(aX \pm b) = a^2Var(X)$ - $E(aX \pm bY) = aE(X) \pm bE(Y)$ - $Var(aX \pm bY) = a^2Var(X) + b^2Var(Y)$ for independent X and Y • use the results that: - If X has a normal distribution, then so does aX + b - If X and Y have independent normal distributions, then aX + bY has a normal distribution - If X and Y have independent Poisson distributions, then X + Y has a Poisson distribution	• Normal distribution • Poisson distribution	• Discussing examples of linear combinations • Calculating probabilities, mean and variance of a sum of two or more independent variables for Poisson or normal distribution • Solving problems involving linear combinations and their applications in life	• ICT tools • Relevant texts • Brail materials and equipment • Talking books and software

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TOPIC 5: SAMPLING AND ESTIMATION

SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
Sampling and estimation	• state the Central Limit Theorem • recognize that the sample mean can be regarded as a random variable • use the Central Limit Theorem • identify the implications of the Central Limit Theorem on small and large samples • determine a confidence interval for a population mean in cases where the population is normally distributed with known variance or where a large sample with unknown variance is used • determine a confidence interval for a population mean in cases where the population is normally distributed with unknown variance where a small sample is used • determine from a large sample an approximate confidence interval for a population proportion	• Central limit theorem • Confidence intervals	• Deriving the Central Limit Theorem • Explaining how the sample mean can be regarded as a random variable • Using the Central Limit Theorem • Discussing the implications of the Central Limit Theorem • Calculating confidence intervals for population mean in cases where the population is normally distributed with known variance or where a large sample with unknown variance is used • Computing confidence intervals for population mean in cases where the population is normally distributed with unknown variance where a small sample is used • Determining from a large sample an approximate confidence interval for a population proportion	• ICT tools • Relevant texts • Environment • Brail materials and equipment • Talking books and software

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TOPIC 6: STATISTICAL INFERENCE

SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
Hypothesis tests	• describe the characteristics of a t and chi-squared distribution • formulate hypotheses • apply a hypothesis test concerning population mean using a small sample drawn from a normal distribution of unknown variance using a t – test • use a chi-squared test to test for independence in a contingency table • use a chi-squared test to carry out the goodness of fit analysis • solve problems using an appropriate test	• t – tests • chi-squared tests	• Discussing the characteristics of a t and chi-squared distribution • Formulating hypotheses • Applying hypothesis tests concerning population mean using a small sample drawn from a normal distribution of unknown variance using a t – test • using chi-squared tests to test for independence in a contingency table • applying chi-squared tests to carry out the goodness of fit analysis • solving problems using appropriate tests	• ICT tools • Relevant texts • Environment • Brail materials and equipment • Talking books and software

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TOPIC 7: BIVARIATE DATA (LINEAR REGRESSION AND CORRELATION)

SUB TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (Attitudes, Skills and Knowledge)	SUGGESTED NOTES AND ACTIVITIES	SUGGESTED RESOURCES
Linear regression and correlation	• plot scatter diagrams • draw lines of best fit • find the equations of regression lines • calculate Pearson`s product moment correlation coefficient (r) • compute the coefficient of determination (r^2) • solve problems involving regression and correlation	• Scatter diagrams • Regression lines • Least squares • Pearson`s Product moment correlation (r) • Coefficient of determination (r^2)	• Plotting scatter diagrams • Drawing lines of best fit • Computing Pearson`s product moment correlation coefficient (r) • Interpreting the value of Pearson`s product moment correlation coefficient • Discussing the significance of coefficient of determination • Calculating the equations of regression lines • Solving problems involving regression and correlation • Conducting experiments involving linear relationships	• ICT tools • Relevant texts • Environment • Brail materials and equipment • Talking books and software

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9.0 ASSESSMENT

9.1 Assessment Objectives

Learners will be assessed on their ability to:

9.1.1 carry out calculations accurately showing all the necessary steps
9.1.2 collect and present data in written, graphical, diagrammatical and tabular form accurately
9.1.3 draw appropriate inferences from statistical data
9.1.4 communicate statistical results and their implications correctly
9.1.5 relate statistical concepts to life situations appropriately
9.1.6 use data correctly to predict trends for planning and decision making purposes
9.1.7 construct statistical arguments through appropriate use of precise statements and logical deduction
9.1.8 carry out statistical research projects

9.2 Scheme of Assessment

The assessment in Statistics will be based on 30% continuous assessment and 70% summative assessment. Arrangements, accommodation and modifications must be visible in both continuous and summative assessment to enable learners with special needs to access assessment and receive accurate performance measurement of their abilities.

a) Continuous Assessment

a) Continuous Assessment

Level	Assessment task	Frequency	Weighting
Form 5	Practical assignment Theory test	2 2	5% 5%
Form 6	Practical assignment Theory test Project	2 2 1	5% 5% 10%
TOTAL			**30%**

***NB Each assessment task is marked out of 100. The project will start at Form 5.**

b) Summative Assessment

Paper	Paper type	Marks	Duration	Weighting
1	Structured – short answer items	120	3 hours	35%
2	Structured – short answer items and long questions	120	3 hours	35%
TOTAL				**70%**

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Description of papers

The examination will consist of 2 papers: Paper 1 and Paper 2

Statistics Paper 1
Duration: Three hours

The paper consists of about 12 structured questions marked out of 120. The paper is compulsory and will be set on all syllabus topics.

Statistics Paper 2
Duration: Three hours

The paper consists of two sections, Section A and Section B.

Section A: Approximately five (5) compulsory questions, marked out of 40

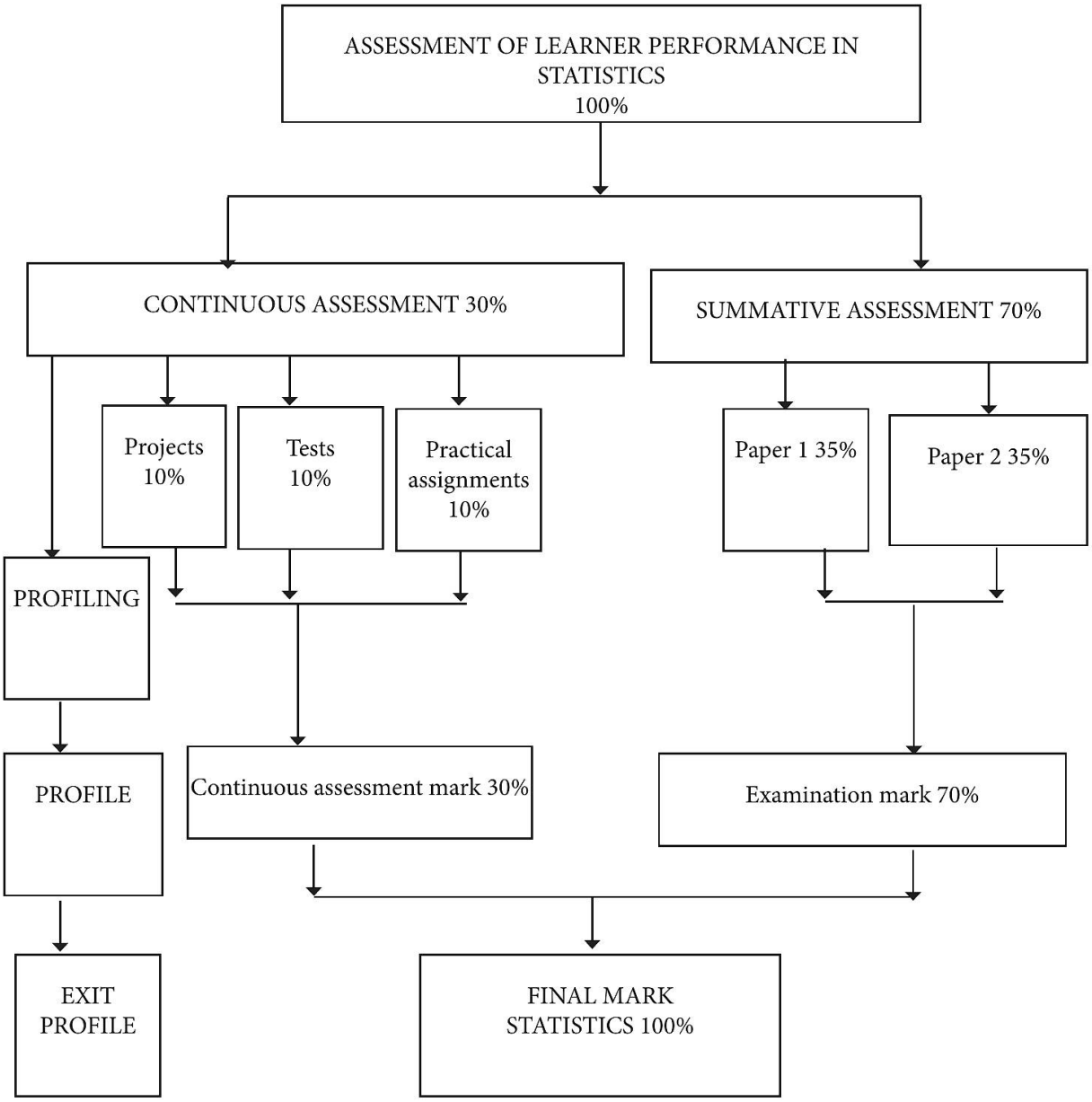
Section B: Candidate choose five (5) out of seven (7) long questions, marked out of 80
Each question carries sixteen (16) marks

The paper will be set to cover all topics of the syllabus

9.3 Specification Grid

Domain	**Paper 1**	**Paper 2**
Knowledge and comprehension	60%	40%
Application and Analysis	20%	30%
Problem solving	20%	30%
TOTAL	**100%**	**100%**

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