BUSINESS MATHEMATICS

Subject: BUSINESS MATHEMATICS	Hours per week: 2h
	Annual minimum: 44 H
Class: FORM THREE TST	Coefficient : 2

OBJECTIVES

At the end of this subject, students should be able to:

- ❖ Demonstrate an understanding of business mathematics as a supporting tool to management.
- ❖ Apply ratios and proportion in business operations.

Topics	Content	Competences	Duration
FRACTIONS *(18 Hours)*	Notion of fraction	• Define a fraction • Identify the various types of fractions and their examples: proper, improper and mixed fractions	02 hours
	Conversion of fractions	• Convert improper fractions to mixed fractions; mixed fractions to improper fractions • Convert fractions to decimals and decimals back to fractions	03 hours
	Operations on fractions	• Carryout the addition, subtraction, multiplication and division of fractions • Apply the operation procedure (BODMAS) on fractions	03 hours
	Comparison of fractions	• Compare fractions with equal denominators; fractions with equal numerators and fractions having different numerators and different denominators	03 hours
	Factors and multiples	• Factors and multiples of numbers • Prime numbers and prime factors • L.C.M and H.C.F	04 hours
	Approximations and estimations	• Round up and round down of whole numbers and amounts to unit, tenth, hundred and thousand. • Round up and round down of decimal numbers	03 hours
ALGEBRAIC *(08 Hours)*	Linear equations	• Formulate linear equation • Solve linear equation involving whole numbers and fractions	03 hours
	Simultaneous equations	• Define simultaneous linear equation • Formulate simultaneous linear equations	05 hours
RATIOS AND PROPORTIONS *(18 Hours)*	Ratios	• Write the ratio of two or more values • Write a series of equal ratios • Share a value with ratios	04 hours
	Proportions	• Write the terms of a proportion • State the Principles of proportions: Product of extreme terms; Product of mean terms; The fourth proportion and Proportional mean • Determine proportional numbers (Direct and Inverse proportional number)	06 hours
	Proportional sharing	• Carryout direct proportional sharing • Carry out inverse proportional sharing • Carry out compound proportional sharing • Carry out sharing with errors	08 hours

ADDITIONAL INFORMATION

- The applications of profit sharing in a partnership business should be treated under **Ratios and Proportions.**
- Linear and simultaneous equations with two variables using the elimination and substitution methods
- The exercises should be in business domains.

Subject: BUSINESS MATHEMATICS	Hours per week: 3H
	Annual minimum: 66H
Class: FORM FOUR TST	Coefficient : 2

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OBJECTIVES

At the end of this subject, students should be expected to:

- ❖ Demonstrate the understanding of business mathematics as a supporting tool to management.
- ❖ Apply percentages in business operations.
- ❖ Carry out short term financial operations.

Topics	Contents	Competences	Duration
PERCENTAGES	**Types of percentages**	• Define percentage • Calculate direct percentage, • Calculate indirect percentage	05 hours
	Mark-ups	• Determine the profit • Determine the Mark-up on cost • Determine the Margin (Mark-up on sales) • Calculate the multiplier coefficient	06 hours
Costing	**Cost calculation and result**	• Define cost and state the different types of costs • Calculate the cost of an object or activity • Determine the result an object	05 hours
SIMPLE INTEREST	**The Notion of simple interest**	• Define simple interest • State the general of simple interest • Use the general formula of the simple interest • Determine simple interest using Number and Divisor Method • calculate the average rate of a series of capitals invested • Calculate pre-discounted interest and the real rate of investment	14 hours
	Future and Present Values	• Future Value in simple interest • The present value in simple interest • Graphical representation of simple interest, Future value and present value	06 hours
COMPOUND INTEREST	**Notion of compound interest**	• Define compound interest • State the formula of compound interest • Differentiate between simple and compound interest • Calculate the compound interest using the formula • Calculate the future value	04 hours
DISCOUNTING AND EQUIVALENCE OF BILLS	**Discounting bills**	• Define trade bills • Calculate the commercial discount • Calculate the rate, duration and Nominal value • Calculate the present value • Graph the commercial discount and present value • Define and calculate rational discount • Present the discounting statement	14 hours

		• Define and calculate real rate and cash price rate of discount	
	Equivalence of bills	• Calculate the NV of a bill equivalent another bill. • Replace a bill by another • Calculate the NV of a bill equivalent to many bills or payments • Calculate the common due date and average due date	06 hours
FOREIGN EXCHANGE TRANSACTIONS	**The notion of foreign exchange and exchange rate**	• Define foreign exchange • Define parity and illustration • List the main currencies and their area	01 hour
	Calculations involved in the exchange of currencies	• Convert from one currency to another • Calculate the parity between two currencies	03 hours

ADDITIONAL INFORMATION

- ❖ The applications of Percentages should include: calculation of commissions, bonuses as well as the calculations and presentation of Invoices (Transport, carriage, Net value/gross amount of an invoice)
- ❖ The aspect of Bankable and non-bankable (displaced) bills should be introduced under the discounting of bills.
- ❖ The application exercises should be in business domains.

Subject: BUSINESS MATHEMATICS	Hours per week: 3H
	Annual minimum: 66H
Class: FORM FIVE TST	Coefficient : 2

OBJECTIVES

At the end of this subject, students should be expected to:

- ❖ Demonstrate an understanding of business mathematics as a supporting tool to management.
- ❖ Apply statistics in business decision making.
- ❖ carryout short term financial operations

Topics	Contents	Competences	Dur
BANK CURRENT ACCOUNT OF INTEREST	**The notion of interest current account**	• Define bank current account of interest current • Explain terminologies used in interest current account	01 hour
	Presentation of Bank Current account of interest	• Establish different account layout used in interest current account • Present the bank current account of interest using the direct method • Present the bank current of interest using the indirect method • Present the current account of interest using the Hamburg method	08 hours
STATISTICS	**Collection and organization of data**	• Define and state the types of data • State the method of data collection • State the Sources of data • Present a frequency distribution table • Represent data on a Pie charts • Represent data on a Bar charts • Represent data on a Histograms • Present a cumulative frequency curves	08 hours
	Measures of central tendencies	• Calculate the Arithmetic mean • Calculate the median • Calculate the mode	11 hours
	Measures of dispersion	• Calculate the range • Calculate the quartiles and the inter quartile range • Calculate the mean deviation • Calculate the variance and the standard deviation	05 hours
PROBABILITY	**Definition of probability**	• Define probability • Explain terminologies used in probability • State and apply the probability rules • Calculate the probability of events	06 hours
	Probability tree diagram	• Define the tree diagram • Present tree diagram of events with replacement • Present tree diagram of events without replacement	04 hours

SPEED AND DISTANCE	**Definition and calculation of speed and distance**	• Define speed and distance • Calculate speed of an object when distance and time are known • Calculate distance of an object when speed and time are known	03 hours
	Calculation of time	• Determine the time for two object to meet • Determine the time for a fast object to overtake a slow object	04 hours
	Graphical illustration	• Represent speed and distance on a graph	03 hours
MENSURATION	**The rectangle and square**	• Calculate the area and perimeter	10 hours
	The right triangle	• Calculate the area and dimension:	
	The circle	• Calculate the area and circumference, radius and diameter	
	The cylinder	• Calculate the surface area and the volume	
INDEX NUMBERS	**Simple index numbers**	• Define price index and state its uses of indices • Calculate the Simple indices • Calculate simple average indices	02 hours
	Weighted aggregate indexes	• Calculate the index numbers with products having different weights	02 hours

ADDITIONAL INFORMATION

- ❖ Only one variable STATISTICs should be treated
- ❖ For Index Numbers, LASPEYRE AND PAASCHE INDEXES should NOT be treated.
- ❖ Exercises should be in business domains.