

Course Outline

Department: Bilingual

Name of Subject: Mathematics

Code: K23201

Teacher's name: Mr. Jestvent A. Barlis

Level :

Primary .../.....

Secondary M3/1-5

1st Semester / 2014

Subject :

Main Subject

Optional Subject

Development Activities for Students

Others

1) Course Description

This course is concerned with the study of the following; factorization of polynomials, quadratic equations, simultaneous equation, parabola, algebraic manipulation and formulae, trigonometry, height and distance, and geometrical properties of circles. The learner demonstrates understanding of key concepts and principles of algebra, geometry, and trigonometry as applied, using appropriate technology, in critical thinking, problem solving, reasoning, communicating, making connections, representations and decisions in real life.

2) Grade-Level Indicators (The Basic Education Core Curriculum)

1. Explore the concept of and manipulate polynomials.
2. Define a quadratic equation $ax^2 + bx + c = 0$; distinguish a quadratic equation from a linear equation.
3. Simplify rational algebraic expressions (reduce to lowest terms).
4. Solve simultaneous equations of the second or higher degree
5. Apply knowledge and skills related to trigonometry in problem solving.
6. Explore the concept of trigonometric ratios and use these to solve problems on angles of elevation and depression and navigation.
7. Illustrate, name, identify, and define the terms related to the circle (radius, diameter and chord).
8. Draw the graph of a quadratic function using the vertex, axis of symmetry, and assignment of points.

3) Learning Objectives (1st Semester)

Indicators of Semester	In accordance with government curriculum
1. Explore the concept of and manipulate polynomials.	
2. Define a quadratic equation $ax^2 + bx + c = 0$; distinguish a quadratic equation from a linear equation.	
3. Simplify rational algebraic expressions (reduce to lowest terms).	
4. Solve simultaneous equations of the second or higher degree.	

4) Contents of subjects

1st Semester

Time Duration	Subject Contents
Beginning of the session – Mid-term	Unit 1. Factorization of Polynomials Unit 2. Quadratic Equations
Post – Midterm – Final	Unit 3. Algebraic Manipulation and Formulae Unit 4. Simultaneous Equation

5) Evaluation

Average marks for evaluation

Authentic Assessment: Written / Practical Exam = 60:40

Evaluation of Learning Objectives

Semester	Learning Objectives (Items)
1	1, 2, 3, and 4

6) Details of Evaluation

1st Semester/2014

Pre-test marks: 30 Marks (Authentic Assessment)

Learning Objectives (Items)	Criteria Followed for Assessment	Maximum marks
1	Practical exercise	15
	Worksheet	15

Mid-term marks: 20 Marks (Written/Practical Exam)

Learning Objectives (Items)	Criteria Followed for Assessment	Maximum marks
2	Problem Solving	10
	Worksheet	10

Post-Test marks : 30 Marks (Authentic Assessment)

Learning Objectives (Items)	Criteria Followed for Assessment	Maximum marks
3	Practical exercise	15
	Worksheet	15

Portfolio : - Marks

Learning Objectives (Items)	Criteria Followed for Assessment	Maximum marks
-	-	-

Final marks : 20 Marks (Written/Practical Exam)

Learning Objectives (Items)	Criteria Followed for Assessment	Maximum marks
4	- Test about simultaneous equations	20

Course Outline

Department: Bilingual

Name of Subject: Mathematics

Code: A23202

Teacher's name: Mr. Jestvent A. Barlis

Level :

Primary .../.....

Secondary M3/1-5

2nd Semester / 2014

Subject :

Main Subject

Optional Subject

Development Activities for Students

Others

1) Course Description

This course is concerned with the study of the following; factorization of polynomials, quadratic equations, simultaneous equation, parabola, algebraic manipulation and formulae, trigonometry, height and distance, and geometrical properties of circles. The learner demonstrates understanding of key concepts and principles of algebra, geometry, and trigonometry as applied, using appropriate technology, in critical thinking, problem solving, reasoning, communicating, making connections, representations and decisions in real life.

2) Grade-Level Indicators (The Basic Education Core Curriculum)

1. Explore the concept of and manipulate polynomials.
2. Define a quadratic equation $ax^2 + bx + c = 0$; distinguish a quadratic equation from a linear equation.
3. Simplify rational algebraic expressions (reduce to lowest terms).
4. Solve simultaneous equations of the second or higher degree
5. Apply knowledge and skills related to trigonometry in problem solving.
6. Explore the concept of trigonometric ratios and use these to solve problems on angles of elevation and depression and navigation.
7. Illustrate, name, identify, and define the terms related to the circle (radius, diameter and chord).
8. Draw the graph of a quadratic function using the vertex, axis of symmetry, and assignment of points.

2nd Semester/2014

3) Learning Objectives (2nd Semester)

Indicators of Semester	In accordance with government curriculum
5. Apply knowledge and skills related to trigonometry in problem solving.	
6. Explore the concept of trigonometric ratios and use these to solve problems on angles of elevation and depression and navigation	
7. Illustrate, name, identify, and define the terms related to the circle (radius, diameter and chord).	
8. Draw the graph of a quadratic function using the vertex, axis of symmetry, and assignment of points.	

Contents of subjects

2nd Semester

Time Duration	Subject Contents
Beginning of the session – Mid-term	Unit 5. Trigonometry Unit 6. Height and Distance
Post – Midterm – Final	Unit 7. Geometrical Properties of Circles Unit 8. Parabola

4) Evaluation

Average marks for evaluation

Authentic Assessment: Written / Practical Exam = 60:40

Evaluation of Learning Objectives

Semester	Learning Objectives (Items)
2	5, 6, 7, and 8

5) Details of Evaluation

2nd Semester/2014

Pre-test marks: 30 Marks (Authentic Assessment)

Learning Objectives (Items)	Criteria Followed for Assessment	Maximum marks
5	Practical exercise	15
	Worksheet	15

Mid-term marks: 20 Marks (Written/Practical Exam)

Learning Objectives (Items)	Criteria Followed for Assessment	Maximum marks
6	Problem Solving	10
	Worksheet	10

Post-Test marks : 30 Marks (Authentic Assessment)

Learning Objectives (Items)	Criteria Followed for Assessment	Maximum marks
7	Practical exercise	15
	Worksheet	15

Portfolio : - Marks

Learning Objectives (Items)	Criteria Followed for Assessment	Maximum marks
-	-	-

Final marks : 20 Marks (Written/Practical Exam)

Learning Objectives (Items)	Criteria Followed for Assessment	Maximum marks
8	- Test about simultaneous equations	20

Reference Books /worksheets/Other Teaching Aids Used

1. My World of Math – 3 (Published for St.Gabriel's Foundation)

Web-site/Resources for Students/Teachers to refer

1. www.learningmaths.com