**PRESIDENT’S OFFICE, REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**

**SONGEA DISTRICT COUNCIL**

**SCHEME OF WORK**

**Name of teacher: JACKSON ROBERT ISANGI**

**Name of School: MUHUKURU SECONDARY SCHOOL.**

**Year: 2025 Term: 1 & 2**

**Class/Stream: FORM THREE Subject: BASIC MATHEMATICS**

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| **MAIN COMPETENCE** | **SPECIFIC COMPETENCE** | **TEACHING ACTIVITIES** | **MONTH** | **WEEK** | **PERIODS** | **REFERENCE** | **T/L TOOLS** | **ASSESSMENT TOOLS** | **REMARKS** |
| **1.0 RELATIONS** | **Relations** | Preparing students to:-  Brainstorm on various relations involving two groups in real life.  Prepare guide lines for a role play  Demonstrate to students how to draw arrows to relate members of sets in relation | **JANUARY** | 2ND | 6 | Tanzania Insitute of Education,(2005),Basic Mathematics Book III,Educational Publisher LTD,Dares Salaam  Tanzania Insitute of Education,(2005),Basic Mathematics Book III,Educational Publisher LTD,Dares Salaam | -Colored chalks  -Real objects  -Manila papers  -Graph papers  Mathematical instruments  -Rubber bands  -Marker pens | Quiz  Assignments  Tests |  |
| **Graph of a Relation** | Preparing students to:-   * Plot a graph of a relation in the coordinate system. | 3RD | 6 |
| **Domain and Range of a relation** | * Show the domain and range of a Relation by using pictorial representation | 4TH | 6 |
| **Inverse of a relation** | Preparing students in groups and individually to:-   * Discussion on the inverse of a relation and use of the inverse notation. * Show the inverse of a relation by using pictures. * Find the inverse a relation * Show how to draw the graph of the inverse of a relation | **FEBRUARY** | 1ST  TO    2ND | 12 |
| **2.0 FUNCTIONS** | **Representation of a function** | Preparing students in groups and individually to:-   * Discuss the concept of a function * Demonstrate to students how to represent functions pictorially * Discuss conditions for a relation to be a function. | 3RD | 6 | -Rubber bands  -Manila papers  -Marker pens  -Colored chalks  -Graphs  -Illustrations of functions  -Mathematical instruments  -Squared paper. |  |
| **Domain and range** | Preparing students on:-   * Discussion of Identifying domain and range of a function | 4TH | 6 |
| **Graph of functions** | To prepare students to draw the graphs of step functions and polynomial functions up to the third degree.  - discuss the behavior of graphs of functions. | **MARCH** | 1ST | 6 |
| **Inverse of a function** | Preparing students in groups and individually to:-   * Explain the inverse of function and the use of the Inverse function notation. * Show the inverse of a function pictorially * Demonstrate to students how to draw the graph of the Inverse of a function | 2ND | 12 |
| 3RD |
| **MID-TERM ASSESSMENT (4TH WEEK OF MARCH)**  **MID-TERM BREAK (31/03/2023 - 11/04/2023)** | | | | | | | | | |
| **STATISTICS** | **Mean** | * Obtain statistical data such as HIV/AIDS road Safety education, child, labour and gender. * Calculate the mean from frequency distribution for ungrouped and grouped data. | **APRIL** | 2ND | 6 | Tanzania Insitute of Education,(2005),Basic Mathematics Book III,Educational Publisher LTD,Dares Salaam | -Graph papers  -Chart with data of HIV/AIDS road safety education child labour  -Graph board  -Squared paper  -Geometrical instruments | Quiz  Assignments  Tests |  |
| **Median** | * Use the data to explain the concept of median * Calculate the media from ungrouped data. * Estimate the median from frequency distribution tables and cumulative curve. | 3RD | 6 | Quiz  Assignments  Tests |
| **Mode** | Preparing students in groups and individually to:-   * Use statistic data obtained to explain the concepts of mode. * Calculate the mode from a set of data. * Identify the modal class. * Estimate the mode   from histogram | 4TH | 12 | Tanzania Insitute of Education,(2005),Basic Mathematics Book III,Educational Publisher LTD,Dares Salaam | -manila paper | Quiz |  |
|  |  | -statistical graph  -marker pen  Colored chalk  -graph paper | Assignments  Tests |  |
| **MAY** | 1ST |
| **RATES & VARIATIONS** | **Rates** | Preparing students in groups and individually to:-  -Discuss the different of rates in order to relate quantities  -Discuss some kinds of rates in order to relate quantities.  -Obtain currency conversion rates from newspaper, magazines, radio, TV, banks, post office.  -Convert Tanzanians shillings into other currencies and vice versa  -Collect different currencies. | 2ND | 6 | -Object of different kinds  -Different currencies.  -Objects of the same kind.  -News paper  -Magazines.  -Television.  -Radio. | Quiz  Assignments  Tests |  |
| **Variations** | Preparing students in groups and individually to:-   * Express direct proportion in symbolic form. * Form and solving equations from direct variation. * Discuss thing which vary inversely * Write inverse proportion in symbolic form * Form and solve equations from inverse variation * Discuss joint variation * Discuss joint variation as a quantity which varies jointly with two or more variables. | 3RD | 12 |  | Quiz  Assignments  Tests |  |
| **TERMINAL ASSESSMENT (4TH WEEK OF MAY)**  **FIRST TERM BREAK (31/05/2023 - 03/07/2023)**  **UMISSETA SPORTS COMPETITIONS (15/06/2023 – 26/06/2023)** | | | | | | | | | |
| **SEQUENCES AND SERIES** | **Sequences** | Preparing students in groups and individually to:-   * Discuss the concept of a sequence. * Find the nth term of a sequence. * Discuss the meaning of A. Paid G.P * Derive the formula for the general term of AP and G.P | **JULY** | 1ST  TO  2ND | 12 | Tanzania Insitute of Education,(2005),Basic Mathematics Book III,Educational Publisher LTD, Dares Salaam | -Number cards  -Number patterns in order of ascending and descending  -Mathematical tables  -Calculators  -Colored chalks | Quiz  Assignments  Tests |  |
| **Series** | Leading students in groups and individually to:-  Discuss the concept of a series.  -derive the formula of sum of A.P  -Discuss how to find the arithmetic mean.  -derive the formula for the arithmetic mean  -derive the formula for the sum of a GP  -solve problems using the formula of the sum of GP  -Derive the formula for geometric mean. | 3RD  TO  4TH | 9 | Tanzania Insitute of Education,(2005),Basic Mathematics Book III,Educational Publisher LTD,Dares Salaam | -Scientific pocket  calculators  -Mathematical tables.  -Colored chalks | Quiz  Assignments  Tests |  |
| **Compound interest** | -To prepare the students to discuss the meaning of compound interest.  -To lead the student to derive the compound interest formula using the knowledge obtained from the G.P series. | **AUGUST** | 1ST | 3 | Mathematical tables.  Scientific pocket calculators. | Quiz  Assignments  Tests |
| **CIRCLES** | **Definition of terms** | Preparing students in groups and individually to:-   * Brainstorm on the meaning o circle, chord, radius, diameter, Circumference, areas, centre, sector, segment of a circle | 2ND | 6 | Compass  Ruler  Colored chalks | Quiz  Assignments  Tests |  |
| **Central Angle** | The teacher to prepare students to discuss the relationship between centre angle and arc length ,  The teacher to prepare students to derive the formula for the length of an arc and area of a sector  The teacher to prepare students to find central angle in degrees and radians | 3RD | 6 |  |
| **MID-TERM ASSESSMENT (4TH WEEK OF AUGUST)**  **MID-TERM BREAK (01/09/2023 - 18/09/2023)** | | | | | | | | | |
|  | **Angle Properties** | The teacher to prepare students to prove the theorem related to inscribed angles.  The teacher to prepare students to apply the circle theorems in solving related problems | **SEPTEMBER** | 3RD | 6 | Tanzania Insitute of Education,(2005),Basic Mathematics Book III,Educational Publisher LTD,Dares Salaam |  | Quiz  Assignments  Tests |  |
| **Chord properties of a circles** | Preparing students in groups and individually to:-   * Discuss the chord properties of a circle | 4TH | 6 | Globe  Oranges  Atlas  Colored chalks  Graph papers |  |
| **Tangent Properties** | * Illustrate a tangent of a circle and prove theorems related to tangent properties * Solve problems related to tangent properties | 12 |  |  |
| **OCTOBER** | 1ST |
| **THE EARTH AS SPHERE** | **Features and location of places** | * Discuss the meaning of The Equator, Great Circle, small circle, Meridian, Latitude, Longitude and locate the place on the Earth’s surface | 2ND | 6 |  |
| **Distances along Great Circles** | Preparing students in groups and individually to:-   * Calculate the distances along great circle, The teacher to lead students solve navigation related to problems | 3RD | 6 |
| **Distances along small circles** | * Find the general Formula for radius of small circles, find distances along small circles | 4TH | 6 | (i)Ruler  (ii)Different ledger book  (iii)Different types of ledgers | Quiz  Assignments  Tests |  |
| **ACCOUNTS** | **Double entry** | 1. Preparing students to discuss the principles of double entry system using real life examples 2. To demonstrate accounts showing the debit side and credit side. 3. To display different types of ledgers and explain the meaning of ledger. 4. To explain different types of ledgers such as cash accounts, capital, purchases, sales, expenses and stock. | 9 |
| **Trial Balances** | Preparing students in groups and individually to:-   * Discuss the meaning of Trial balance * Construct Trial Balance, post Debit and Credit balances and check the balances | **NOVEMBER** | 1ST  TO  2ND | 9 |  | Quiz  Assignments  Tests |
| **Trading, Profit and Loss Account** | * Demonstrate how to ascertain gross profit/loss using Trading accounts * Demonstrate to students how to ascertain net profit/loss using Trading Accounts | 3RD | 6 | Balance sheets  Ruler  Manila paper | Quiz  Assignments  Tests |
| **Balance Sheet** | * Explain the meaning of balance sheet and lead students to construct a balance sheet. * Demonstrates to students how to post entry in the balance sheet | 4TH | 6 |  | Quiz  Assignments  Tests |
| **ANNUAL ASSESSMENT (1ST WEEK OF DECEMBER)**  **END OF YEAR BREAK (07/12/2023)** | | | | | | | | | |