

**THE UNITED REPUBLIC OF TANZANIA  
MINISTRY OF EDUCATION AND VOCATIONAL TRAINING**

**GEOGRAPHY SYLLABUS FOR SECONDARY EDUCATION  
FORM I – IV**

**2005**

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## **1.0 Introduction**

This Geography syllabus is a revised version which has been prepared to replace that of 1996 which has phased out. The revision process focused on change in paradigm from that of content based to competence based curriculum. Moreover, the revision was inevitable due to the fact that the 1996 syllabus did not sufficiently take into consideration the current social, cultural, global, technological, subject biases and cross cutting issues taking place worldwide but particularly in Tanzanian society.

In addition, the revision has also taken into consideration on the requirements for the Secondary Education Development Plan (SEDP). This syllabus has been introduced for implementation from January 2005.

## **2.0 Aims and Objectives of Education in Tanzania**

The general objectives of education in Tanzania are:

- a) To guide and promote the development and improvement of the personalities of the citizens of Tanzania, their human resources and effective utilization of those resources in bringing about individual development.
- b) To promote the acquisition and appreciation of the culture, customs and traditions of the people of Tanzania.
- c) To promote the acquisition and appropriate use of literacy, social, scientific, vocational, technological, professional and other forms of knowledge, skills and attitudes for the development and improvement of the condition of man and society.
- d) To develop and promote self-confidence and an inquiring mind, an understanding and respect for human dignity and human rights and readiness to work hard for self advancement and national development.
- e) To promote and expand the scope of acquisition, improve and upgrading of mental, practical, productive and other skills needed to meet the changing needs of industry and the economy.
- f) To enable every citizen to understand and uphold the fundamentals of the National constitution as well as the enshrined human and civic rights, obligations and responsibilities.
- g) Promote love for work, self and wage employment and improved performance in the production and service sectors.
- h) To inculcate principles of the national ethic and integrity, national and international cooperation, peace through the study, understanding and adherence to the provision of the National constitution and other basic charters.
- i) To enable a rational use, management and conservation of the environment.

### **3.0 Aims and Objectives of Secondary Education**

In Tanzania, secondary education refers to post primary formal education offered to learners who successfully completed seven years of primary education and have met the requisite entry qualifications. The aim and objectives of secondary education are to:

- (a) Consolidate and broaden the scope of basic ideas, knowledge, skills and attitudes acquired and developed at the primary education level.
- (b) Enhance the development and appreciation of national unity identity and ethic, personal integrity, respects for human rights, cultural and moral values, customs, traditions and civic responsibilities and obligation.
- (c) Promote linguistic ability and effective use of communication skills in Kiswahili, English and other languages.
- (d) Prepare opportunities for the acquisition of knowledge, skills, attitudes and understanding in prescribed or selected fields of study.
- (e) Prepare students for tertiary and higher education, vocational, technical and professional training.
- (f) Inculcate a sense and ability for self-study, self-confidence and self-advancement in new frontiers of science and technology, academic and occupational knowledge and skills.
- (g) Prepare the students to join the world of work.

### **4.0 General Subject Competences**

General competences are expressions that describe what a secondary school student does as a result of teaching and learning this subject. It is therefore expected that a Geography student demonstrates the ability to:-

- (a) Understand this country and value it as his/her heritage.
- (b) Use natural resources sustainably to raise the standard of living.
- (c) Use different ways to overcome day to day social and economic constraints.
- (d) Show an understating of interactions between their country and other countries and draw lessons to solve existing problems.
- (e) Observe, record, analyse, interpret geographical phenomena and conducts research.
- (f) Utilize skills and take appropriate measures to manage the environment.
- (g) Use socio-economic skills to successfully compete in the labour market within the globalised world.

### **5.0 General Subject objectives**

The student should be able to:

- (a) Develop awareness of this country as his/her heritage.
- (b) Develop awareness of the extent of their resources that can be developed to raise the standard of living of people.
- (c) To identify major world social and economic constraints and suggest ways of overcoming them.

- (d) Develop methods of observation, measuring, recording and Interpreting the phenomena.
- (e) Identify and compare social and economic interactions between Tanzania and other countries.
- (f) Acquire skills for environmental conservation and management.
- (g) Acquire social economic skills for competing in the labour market within the globalised world.

## **6.0 The Structure of the Syllabus**

The syllabus consists of two main parts. Part one contains the introduction, objectives of education in Tanzania, objectives of secondary education, general subject competences, objectives of Geography, the structure and organization of the syllabus. Part two consists of a table bearing the following information.

### **6.1 Class Level Competences**

These are abilities that will be revealed by student after learning a topic. In this syllabus class level competences are found on the first page for each level.

### **6.2 Class Level Objectives**

Class level objectives come immediately after the competences. They state what will be achieved by the learner during the period when he or she will be studying the subject content.

### **6.3 Main Topic**

The name of the topic in this syllabus reflects the subject content intended to be taught or learnt. These topics appear on the first column of the content matrix.

### **6.4 Sub-topics**

Sub-topics are specific unit contents derived from the main topics. They appear on the second column of the content matrix.

### **6.5 Specific Objectives**

Specific objectives specify learning achievements of specific knowledge, content, skills and attitudes by a learner that are developed or acquired during the period of teaching and learning a specific topic area. These are found the third column of the content matrix.

### **6.6 Teaching/Learning Strategies**

Teaching and learning strategies are techniques and procedures of teaching and learning a specific objective from a topic in lesson. They both apply to teacher and learners. The teacher is expected to apply series of active interactions which will eventually lead to active learning students. These strategies form the fourth column in the content matrix.

### **6.7 Teaching/Learning Materials**

Teaching and learning materials are learning support materials that aid learning. A closer look at the teaching and learning strategies reveals that certain specific resources have been intertwined with the strategies to facilitate the teaching and learning of specific objectives. However the suggested teaching and learning materials are found in the fifth column of the content matrix.

### **6.8 Assessment**

Each respective specific objective has been provided with a clear statement which is intended to guide the teacher in assessing whether students have grasped and therefore achieved the intentions which are stipulated by the specific objectives. Assessment area is found in the sixth column of the content matrix.

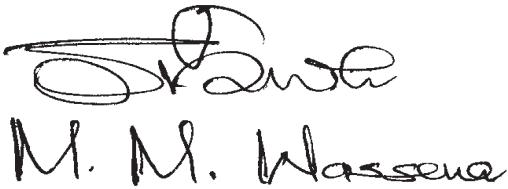
### **6.9 Number of Periods**

Number of periods is an estimated time to be used to teach a given topic/sub-topic. Each period is 40 minutes. The numbers of periods have been taken into account the time needed to adequately cover the sub-topic. Some topics need more time than others depending nature and weight of the topic. The teacher is advised to make maximum use of time allocated in classroom instruction. Lost instructional time should always be compensated for.

## DECLARATION

Ordinary level secondary education is a four year course which has been designed to prepare students for the Advanced level or other tertiary education. A student will be recognised as a form four graduate when he/she successfully completes and pass secondary education examinations conducted by National Examination Council of Tanzania.

*This document is hereby declared as the **Syllabus of Geography** for ordinary secondary education course*



M. M. Wassera

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Commissioner for Education

**Ministry of Education and Vocational Training**



## **FORM ONE**

### **CLASS LEVEL COMPETENCES**

Student should have the ability to:

1. Understanding the concept of geography and its areas of study.
2. Understanding the aspects related to solar system and the ability to plan day to day life activities.
3. Knowledge on parts and physical components of the earth.
4. Ability to observe, record, analyse and interpret the elements of weather.
5. The use of skills on weather elements to solve problems associated with weather.
6. The ability to relate climate to the environment to daily social and economic activities.
7. The ability to read, measure and interpret the information on simple maps.

### **CLASS LEVEL OBJECTIVES**

By the end of Form One course, student should be able to:

- (a). Interpret the concept of geography in the context of its major components.
- (b). Explain the concepts of the Solar System and its related aspects.
- (c). Illustrate and differentiate parts and physical components of the earth.
- (d). Observe, record, analyze and interpret elements of weather and take necessary measures to manage their outcomes.
- (e). Understand the relationship between the climate and the environment.
- (f). Demonstrate basic skills of map work to generate useful information.

<b>TOPIC/SUB-TOPICS</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING MATERIALS</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
<b>1.0 CONCEPT OF GEOGRAPHY</b> 1.1 Meaning of Geography phenomena	(a) Define the term geography	Teacher to guide students to define the term geography.	i) Varied natural phenomena in the environment.	Is the student able to define the term geography?	8
	(b) Explain the inter-relationship between different geographical phenomena.	i) The teacher to guide students to debate in groups on what is geographical phenomenon. ii) The teacher to guide students in groups to identify inter-relationships between geographical phenomena. iii) The teacher to guide students to verify the identified relationships in the field.	ii) Video cassettes and CDs. iii) Human activities	Is the student able to explain the inter-relationship between different geographical phenomena?	
1.2 Importance of Geography	(a) Explain the importance of studying geography	i) Students to brainstorm on the importance of studying geography. ii) Teacher to clarify on the importance of studying geography.		Is the student able to explain the importance of studying geography?	

<b>TOPIC/SUB-TOPICS</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING MATERIALS</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
	(b) Observe and record geographical phenomena	i) The teacher should guide students to go out of the class and observe any geographical phenomena ii) Students should record all geographical phenomena seen and felt.	Natural phenomena from the environment.	Is the student able to observe and record geographical phenomena?	
<b>2.0 THE SOLAR SYSTEM</b> 2.1 The concept of solar system.	The student should be able to: (a) Define the solar system.	Teacher to guide students to brainstorm on the meaning of the solar system.		Is the student able to define the solar system	56
	(b) Name the components of solar system.	i) Teacher to guide students to study the chart of the solar system ii) The teacher to guide students through questions and answers to identify components of the solar system.	Chart of the solar system	Is the student able to name the components of the solar system?	
	(c) Describe the importance of the components of solar system	Teacher to guide a discussion on the importance of each component of the solar system.	Chart of the solar system	Is the student able to describe the importance of the components of solar system?	

<b>TOPIC/SUB-TOPICS</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING MATERIALS</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
2.2 The Sun	The student should be able to: (a) State the dimension of the sun relative to other space bodies	i) The teacher to guide students to study the chart of the solar system and identify sun's position and dimensions relative to other space bodies/planets. ii) Teacher to guide students explain the dimensions of the sun.		Is the student able to state the dimension of the sun in relation to other space bodies?	
	(b) Describe the characteristics of the sun	By the use of the solar system chart, teacher to guide students to describe the characteristics of the sun.	Solar system chart.	Is the student able to describe the characteristics of the sun?	
2.3 Solar energy	The student should be able to: (a) Define the term solar energy.	The teacher to guide students through questions and answers to define solar energy.	Actual solar energy equipment	Is the student able to define solar energy?	
	(b) Suggest different uses of solar energy.	i) Teacher to guide students to brainstorm on different uses of solar energy using actual solar energy equipment.	i) Charts depicting various devices for tapping solar energy.	Is the student able to suggest different uses of solar energy?	

<b>TOPIC/SUB-TOPICS</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING MATERIALS</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
		ii) Teacher and students to clarify on the different uses of the solar energy. iii) Teacher to guide students demonstrate use of at least one technological device using solar energy.	ii) Actual solar energy equipment. iii) Technological devices i.e. watch, cooker and calculator. iv) Solar panel		
	(c) Explain how the use of solar energy promotes environmental conservation.	Teacher to guide students to discuss the relationship between uses of solar energy and environmental conservation.		Is the student able to explain how the use of solar energy promotes environmental	
	(d) Explain how solar energy may contribute to emancipation of women.	By using diagrams showing different uses of solar energy teacher to guide students discuss how solar energy contributes to emancipation of women.	Diagrams showing different uses of solar energy.	Is the student able to explain how solar energy may contribute to emancipation of women?	

TOPIC/SUB-TOPICS	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING MATERIALS	ASSESSMENT	NUMBER OF PERIODS
2.4 The Planets	<p>The student should be able to:</p> <p>a) Locate the planets in the solar system.</p>	<p>i) The teacher to guide students to list the names of planets.</p> <p>ii) By using charts or model is the teacher to guide students to locate positions of all planets in the solar system.</p>		<p>Is the student able to locate the planets in the solar system?</p>	
	<p>b) Show relative distances of planets from the earth.</p>	<p>i) By using photographs of planets, charts or models the teacher to guide students identify relative position of each planet from the earth.</p> <p>ii) Students to arrange the planets in accordance with their distance from the earth.</p>	<p>i) Chart on model to show the relative position of each planet.</p> <p>ii) Photographs of earth and planets.</p> <p>iii) Tactical charts for visually impaired students</p>	<p>Is the student able to show relative distances of planets from the earth?</p>	

<b>TOPIC/SUB-TOPICS</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING MATERIALS</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
2.5 Other bodies in the solar system	The student should be able to: a) Describe the characteristics of comets, asteroids, meteors and satellites.	i) The teacher to guide students to discuss on other bodies in the solar system i. e. comets, asteroids, meteors and satellites. ii) By using photographs the teacher to guide students to describe other bodies in the solar system: comets, asteroids and satellites.		Is the student able to describe the characteristics of comets, asteroids, meteors and satellites?	
	b) Narrate local incidents linked to meteorites.	i) Teacher should explain some local incidents linked to meteorites by sighting specific examples in Tanzania. ii) Students should describe local incidents linked to meteorites.	List of incidents that are linked with meteorites	Is the student able to narrate local incidents linked to meteorites?	
2.6 Shape of the Earth	The student should be able to describe the shape of the earth and its evidences.	i) With the aid of the globe, picture of solar system teacher to guide students to discuss the shape of the earth. ii) The student to debate on the evidences of the shape of the earth.	i) Table of relative shapes and distances of space bodies. ii) The globe iii) Picture of solar system.	Is the student able to: describe the shape of the earth? prove that the earth is round?	

TOPIC/SUB-TOPICS	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING MATERIALS	ASSESSMENT	NUMBER OF PERIODS
2.7 Earth's Movement	(a) The student should be able to describe the types of earth's movements.	i) The teacher should guide students to discuss the types of earth's movements. ii) With the aid of a globe students to practice earth movements.	Globe	Is the student able to describe the types of earth's movements?	
	(b) Describe the term rotation.	i) Teacher to guide students brainstorm on the term rotation. ii) Using the lamp, torch and globe, the teacher to guide students to describe the term rotation	i) Torch ii) Lamp and globe	Is the student able to describe the term rotation?	
	(c) Give evidence to prove that the earth rotates.	i) The teacher to guide students to read the texts on earth rotation. ii) The teacher to guide students to dramatize on earth rotation. iii) Students to draw diagrams to illustrate that the earth rotates	i) Texts on earth rotation ii) Texts in Braille for visually impaired students	Is the student able to give the evidence to prove that the earth rotates?	
	(d) Explain the significance of earth's rotation.	Using globe and torch the teacher to guide students to discuss the significance of earth's rotation.	i) Globe ii) Torch	Is the student able to explain the significance of earth's rotation.	



TOPIC/SUB-TOPICS	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING MATERIALS	ASSESSMENT	NUMBER OF PERIODS
	(e) Define the term revolution.	i) Using a globe and source of light the teacher to demonstrate how revolution occurs by moving the globe round the source of light. ii) After the demonstration students should define revolution.	i) Globe ii) Any source of light.	Is the student able to define revolution?	
	(f) Explain the process of revolution.	i) The teacher to guide students to dramatize on earth's revolution. ii) Students to draw diagrams to illustrate the earth's revolution.		Is the student able to explain the process of revolution?	
	(g) Describe the results of the Earth's revolution around the sun	i) The teacher to guide students to discuss the results of the earth's revolution by using diagrams. ii) Students to draw diagrams to show the results of the revolution of the earth.	Diagrams of Eclipses and seasons.	Is the student able to explain the results of revolution?	

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2.8 The importance of the parallels and meridians.	(a) Define the parallels and meridians	i) By using texts on latitudes and longitudes the teacher to assign students to define parallels and meridians. ii) By using globe and physical map the teacher to guide students to define parallels and meridians.	i) Texts on latitude and longitudes. ii) Globe iii) Physical map	Is the student able to define the parallels and meridians?	
	(b) Describe how latitudes and longitudes are determined.	i) Using a globe teacher to guide students to show how horizontal and vertical planes of a sphere are used to determine parallels and meridians. ii) Teacher to guide students in groups to show how horizontal and vertical planes are used to determine parallels and meridian.		Is the student able to describe how latitudes and longitudes are determined?	
	(c) Explain the importance of a great circle	i) By using a globe teacher to guide students identify the formation of a great circle. ii) Teacher to guide students in groups to discuss the significant features and uses of great circle.	i) Globe ii) Clay soil iii) Water iv) Colour	Is the student able to describe the significance of a great circle?	

TOPIC/SUB-TOPICS	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING MATERIALS	ASSESSMENT	NUMBER OF PERIODS
		iii) Teacher to guide students present the significance of a great circle. iv) Using clay soil, water and colours teacher to guide students to build two globes to illustrate the circles.			
	(d) Discuss the importance of parallels and meridians.	i) The teacher to show students how parallels are drawn from the zero point of the equator and meridians from the meridians of Greenwich. ii) Students to study Atlas maps and identify the tropics and meridian 90° and 180° east and west. iii) Teacher o guide students in a plenary discussion on importance of parallels and meridians.	Atlas maps	Is the student able to discuss the importance of parallels and meridians?	
	(e) Calculate local time.	The teacher to guide students to calculate local time when given two lines of longitude and time of one of the longitude.	Maps of the world with parallels and meridians.	Is the student able to calculate local time?	

TOPIC/SUB-TOPICS	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING MATERIALS	ASSESSMENT	NUMBER OF PERIODS
	(f) Define time and time zone.	i) The teacher to guide students to define time and time zone. ii) Using a world map, teacher to guide students record differences in time from different radio stations at different time zones. iii) Teacher to guide students to study the world map for time zones and differentiate between time zones and standard time.	World map for Time zones.	Is the student able to: i) define time and time zone. ii) differentiate between standard time and time zones?	
	(g) Explain the essence of time and time zones.	The teacher to guide students to read texts on time and time zones and explain the essence of time and time zones.	Texts on time and time zones	Is the student able to explain the essence of time and time zones?	
	(h) Explain variation of standard time in a single country.	i) Teacher to guide students to explain the relationship between large stretches of land and the time zone. ii) Using a world map, students and the teacher to examine the standard times and time zones of the USA and Russia as examples.	iv) World map v) Tactile map for visually impaired students	Is the student able to explain variation of standard time in a single country?	

TOPIC/SUB-TOPICS	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING MATERIALS	ASSESSMENT	NUMBER OF PERIODS
	(i) Define International Date Line.	i) The teacher to guide students to read texts to define International Date Line. ii) The teacher to guide students to describe how the International Date Line is used.	Texts on International Date Line	Is the student able to: i). define the International Date Line? ii). describe the use of IDL?	
	(j) Locate International Date Line.	i) Using a world map and globe, the teacher to guide students to locate the International Date Line. ii) Teacher to guide students draw maps showing the position of the International Date Line.	i) World map ii) Globe	Is the student able to: 1. Show International dateline on the globe or world map? 2. Draw a map and show the position of the IDL?	
<b>3.0 MAJOR FEATURES OF THE EARTH'S SURFACE</b>	The student should be able to: a) Explain the meaning of a continent.	Using a globe teacher to guide students to explain the meaning of a continent.	i) World map ii) globe	Is the student able to explain the meaning of a continent?	32
3.1 Continents	b) Describe the distribution and size of continents.	i) Teacher to guide students to show the distribution of continents using the world map.	World map	Is the student able to describe the distribution and size of continents?	

<b>TOPIC/SUB-TOPICS</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING MATERIALS</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
		ii) The teacher to guide students describe the sizes of continents.			
	c) Identify the major features of the continents.	i) Using a physical map teacher to guide students to identify the major features of the continents. ii) Teacher to guide students to draw a relief map of continents and locate the major features.	Relief map of the world	Is the student able to: 1. Identify major features of the continents in the world? 2. Locate the continents on the world map?	
3.2 Water bodies	The student should be able to: (a) Define a water body.	Teacher to use a physical map of the world to guide students define a water body.		Is the student able to define a water body?	
	(b) Identify the oceans and other water bodies.	With the aid of the world physical map, teacher to guide students identify oceans.	- Physical map of the world.	Is the student able to identify the oceans and other water bodies?	
	(c) Describe the features of the ocean floor.	i) The teacher to guide students in groups to discuss and describe features of the oceans floor. ii) The teacher to guide students to present features of the ocean floor.	i) Physical map of the world. ii) Texts on oceans. iii) Diagram showing ocean floor.	Is the student able to: Describe the features of the ocean floor?	

TOPIC/SUB-TOPICS	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING MATERIALS	ASSESSMENT	NUMBER OF PERIODS
		iii) Using texts and diagrams the teacher to guide students to draw diagrams showing features of the ocean floor.		Draw diagrams showing features of the ocean floor?	
	(d) Draw a map to show the distribution of continents and water bodies.	The teacher to guide students to draw maps of the world and show the distribution of continents and water bodies.	World relief map	Is the student able to draw a map and show the distribution of continents and water bodies?	
<b>4.0 WEATHER</b> 4.1 Concept of weather	The student should be able to: (a) Define weather.	i) The teacher to guide students to feel and observe weather. ii) In groups, the students to prepare definitions of weather. iii) During a short plenary, students to present their definitions. iv) The teacher to guide students to state the appropriate concept of weather.		Is the student able to define weather?	20

TOPIC/SUB-TOPICS	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING MATERIALS	ASSESSMENT	NUMBER OF PERIODS
	b) Describe the importance of weather.	i) The teacher to take students outside the classroom to observe the impact of weather on the environment. ii) Students to record these impacts. iii) The teacher to lead a discussion on the importance of weather. iv) The teacher to guide students to prepare a summary on the importance of weather.	i) Environment ii) Human Activities.	Is the student able to: describe the impact of weather on the environment?  describe the importance of weather?	
	c) Show the relationship between weather and human occupations.	i) Through a study tour, the teacher to guide students to record different socio economic activities as responses to weather changes. ii) The teacher to guide students to explain the need to adjust human activities to changing weather.	i) Human activities. ii) Environment. iii) Weather records.	Is the student able to show the relationship between human occupations and weather?	



<b>TOPIC/SUB-TOPICS</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING MATERIALS</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
4.2 Elements of weather	The student should be able to: (a) Name elements of weather.	The teacher to guide students to read literature on elements of weather.	i) Environment. ii) Texts on weather	Is the student able to name the elements of weather?	
	(b) Explain the importance of each element.	i) The teacher to guide students to discuss the importance of each weather element. ii) Teacher to guide student summarize the importance of each weather element.		Is the student able to explain the importance of each weather element?	
4.3 Weather station	(a) Define weather station.	i) Students to read a text on weather station. ii) Teacher to guide students formulate a definition of a weather station after reading the text.		Is the student able to define weather station?	
	(b) Explain how to establish weather station.	i) Using a list of procedures a teacher to guide students discuss strategy for establishing weather station. ii) The teacher to involve a meteorologist to present new developments regarding these instruments.	i) Weather station and its components. ii) Texts on weather	Is the student able to explain how to establish weather station?	

TOPIC/SUB-TOPICS	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING MATERIALS	ASSESSMENT	NUMBER OF PERIODS
	<p>(c) Describe characteristics of a Stevenson screen.</p>	<p>i) The teacher to guide students to visits a weather station.            ii) Students to describe the Stevenson Screen in respect of its qualities, location and mounting.            iii) Students to draw the diagram to illustrate the Stevenson Screen.            iv) Using photographs the teacher to guide students to explain different types of Screens for weather stations.</p>	<p>The Stevenson Screen and its contents</p>	<p>Is the student able to describe the location, functions and the mounting of Stevenson Screen and other screens for weather stations?</p>	
	<p>d) Describe the characteristics and functions of instruments used to measure the element of weather.</p>	<p>i) The teacher to guide students to read the text on instruments for measuring weather.            ii) The students to make a summary on the text.            iii) The teacher to involve a meteorologist to present new developments regarding these instruments.</p>	<p>Instruments for measuring weather.</p>	<p>Is the student able to describe the characteristics and functions of instruments for measuring elements of weather?</p>	

TOPIC/SUB-TOPICS	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING MATERIALS	ASSESSMENT	NUMBER OF PERIODS
	e) Measure and record elements of weather.	The teacher to guide students to: i) Demonstrate measuring and recording of elements of weather. ii) Explain the materials used for recording weather. iii) Explain important conditions for recording weather. iv) Measure and record weather statistics. v) Explain the use of these records.	i) Weather instruments. ii) Materials for recording weather statistics.	Is the student able to measure and record weather statistics correctly?	
	(f) Describe the meaning of weather forecasting and how it is done.	i) The teacher to invite a meteorologist to guide a discussion on weather forecasting and its importance. ii) The teacher to guide students to prepare a summary on weather forecasting and its importance.	Environment.	Is the student able to describe how weather forecasting is done?	

TOPIC/SUB-TOPICS	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING MATERIALS	ASSESSMENT	NUMBER OF PERIODS
		iii) The teacher to invite a local knowledgeable person to lead a discussion on how the community forecasts weather and the reasons for the practice. iv) The teacher to guide students prepare notes from the discussion on weather.			
<b>5.0 CLIMATE</b>  5.1 Concept of Climate	The student should be able to: (a) Define the concept of climate	i) The teacher to guide students to identify main variables which form climate. ii) The students to read a text on the concept of climate. iii) Through a discussion, the teacher to guide students to develop a definition of climate	i) Environment ii) Climatic map	Is the student able to define the concept of climate?	14
5.2 Weather and Climate	The student should be able to differentiate between weather and climate.	i) The students to make a chart showing differences between weather and climate. ii) The teacher to guide students use the environment to illustrate the difference between weather and climate.	i) Environment. ii) Weather chart and maps. iii) Climatic charts and maps.	Is the student able to draw difference between weather and climate?	

TOPIC/SUB-TOPICS	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING MATERIALS	ASSESSMENT	NUMBER OF PERIODS
		iii) The teacher to use climatic charts and maps to illustrate the differences between weather and climate. iv) The teacher to guide students to state different factors for weather and for climate.			
5.3 Impact of Climate	Relate climate to human activities.	i) By using an economic map teacher to guide students to describe how human activities are related to climate. ii) By the use of both climatic economics maps the teacher to guide students to explain how each type of climate determines human activities. iii) The teacher to guide a discussion on the effects of climate change.	Economic map	Is the student able to relate climatic conditions to human activities taking place in specific locations?	
<b>1.0 MAP WORK</b> <b>1.1</b> The concept of a map	The students should be able to define a map.	i) The teacher to distribute texts on concept and essentials of a map. ii) The students to read the text and draw points on the map.	1. Map 2. Text on map work.	Is the student able to define a map?	26

TOPIC/SUB-TOPICS	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING MATERIALS	ASSESSMENT	NUMBER OF PERIODS
1.2 Components of a map	<p>The student should be able to:</p> <p>a) List all the components of a map.</p>	<p>i) Using maps the teacher to guide students to identify things which make a map.</p> <p>ii) Teacher to guide students to prepare a summary of things which make a map.</p>	Simple topographical maps.	Is the student able to list components of a map?	
	<p>b) Define a scale</p> <p>c) Identify different ways used in representing scale.</p>	<p>i) Using topographical maps; the teacher to guide students to identify a scale.</p> <p>ii) By using texts on map work students to discuss the concept of a scale.</p> <p>iii) Using illustrations of the representations of the scale in topographical map the teacher to guide students to identify ways of representing scale.</p>	<p>i) Topographical maps.</p> <p>ii) Texts on map work</p>	<p>Is the student able to:</p> <p>define scale?</p> <p>Identify different ways of representing a scale of map?</p>	
	<p>d) Distinguish signs from symbols.</p>	<p>i) Using topographical maps the teacher to guide students to distinguish signs from symbols in maps.</p> <p>ii) Students to translate symbols into the natural and artificial objects they represent.</p>	Topographical maps.	Is the student able to distinguish between signs and symbols of maps?	

TOPIC/SUB-TOPICS	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING MATERIALS	ASSESSMENT	NUMBER OF PERIODS
1.3 Quantitative information on maps	<p>The student should be able to:</p> <p>a) Measure the distance on the map and convert to the actual ground by using scale.</p>	<p>i) Using measuring instruments i. e. rulers and threads; the teacher to guide students to measure map distances.</p> <p>ii) The teacher to guide students to Converting map distances on actual ground distances by using scale.</p>	<p>i) Topographical maps.</p> <p>ii) Rulers</p> <p>iii) Thread/tape measures</p>	<p>Is the student able to:</p> <p>Measure map distances?</p> <p>Convert map distances into actual ground distances?</p>	
	<p>b) Calculate areas of regular and irregular figures.</p>	<p>i) The teacher to guide students to calculate areas of regular and irregular shapes on maps by using different methods.</p> <p>ii) The teacher to guide students to calculate areas of various shapes by using different methods.</p>	<p>The drawing of regular figures in teaching and learning material.</p>	<p>Is the student able to:</p> <p>Calculate areas of regular and irregular shapes by using different methods?</p>	
	<p>c) Identify location of positions.</p>	<p>i) Using a topographical map the teacher to guide students to define:</p> <p>(a) Position</p> <p>(b) Orientation</p> <p>(c) Alignment</p> <p>(d) The Grid reference system.</p>	<p>i) Topographical map.</p> <p>ii) Mathematical set</p> <p>iii) Environment</p>	<p>Is the student able to identify and locate positions on the map and in the environment?</p>	

TOPIC/SUB-TOPICS	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING MATERIALS	ASSESSMENT	NUMBER OF PERIODS
		ii) The teacher to demonstrate how to locate positions by using bearing, orientation and alignment. iii) the teacher to guide students to demonstrate to how to use different instruments and natural phenomena in locating position. iv) Students to locate various positions on the world map			
	d) Find direction and bearing of objects on maps and in the environment	i) Using a magnetic compass the teacher to guide students to describe its parts. ii) The teacher to guide students to set the compass and determine bearing. iii) The teacher to guide students to study points of the compass in the textbook and describe direction and bearing of different features in the school locality from a fixed point.	i) Magnetic compass ii) Physical environment iii) Chart on magnetic compass.	Is the student able to find directions and bearing of objects on maps and in the environment?	



<b>TOPIC/SUB-TOPICS</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING MATERIALS</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
<b>1.4</b> Uses of maps	The student should be able to describe different uses of maps.	i) The teacher to distribute different maps to different groups of students. ii) Teacher to guide students to study the maps and identify their uses. iii) The teacher to collect view from the groups and guide them to present and make summary of proper uses of maps.	Maps on different purposes.	Is the student able to describe the different uses of maps?	



## FORM TWO

### CLASS LEVEL COMPETENCES

The student demonstrates:

1. The knowledge of types, characteristics, importance, problems and ability to apply farming skills to meet certain human needs.
2. An understanding of the importance of natural resources and the ability to use and conserve natural resources to improve the standard of life.
3. The knowledge on types, factors for location and importance of manufacturing industries and ability to use conservation skills to protect the environment from industrial hazards.
4. The knowledge on types, location and existing problems of power and energy resources.
5. The ability to manage and use power and energy resources sustainable.
6. The knowledge on importance and different types of transport in East Africa.

### CLASS LEVEL OBJECTIVES

By the end of Form Two course, the student should be able to show an understanding of:

- (a). Types, characteristics, importance and problems of crop farming and animal keeping.
- (b). The importance of water, forestry, wild life, mineral resources, problems linked to them and their necessary management practices.
- (c). The types, factors for location, importance and management of hazards of manufacturing industries.
- (d). The types, location, sustainable use, accruing problems, the management of power and energy resources.
- (e). The types, importance and problems of transport in East Africa.

<b>TOPIC/SUB-TOPIC</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING RESOURCES</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
<b>1.0 HUMAN ACTIVITIES</b> 1.2 Concept of human activities	a) The student should be able to give the meaning of human activities.	i) The teacher to guide students in brainstorming the meaning of human activities. ii) Using statistical maps, photographs depicting various activities and audiovisual facilities, teacher to guide students identify types of human activities.	i) Statistical maps ii) Photographs of various human activities iii) Audio visual facilities.	Is the student able to give the meaning of human activities?	3
	b) Identify major types of human activities.	i) By using photographs the teacher to guide students in groups to identify different human activities. ii) The teacher to guide each group to present and make a summary.	i) Photographs ii) Real environment	Is the student able to identify major types of human activities?	
<b>2.0 AGRICULTURE</b> 2.1 Small Scale Agriculture	The student should be able to: a) Describe the characteristics of small scale agriculture at subsistence level.	i) Using agricultural maps and photographs on small scale farming in Tanzania, teacher to guide students to describe the characteristics of small scale agriculture. ii) Students to name crops grown under small scale agriculture.	i) Agricultural Map of Tanzania ii) Photographs on small scale Agriculture.	Is the student able to describe the characteristics of small scale agriculture at subsistence level?	13
	b) Explain the effects of rapid population growth on small scale agriculture.	i) Teacher to guide students to discuss effects of population pressure on small scale agriculture. ii) Teacher to organize visits to study how rapid population growth affects small scale agriculture.		Is the student able to explain the effects of rapid population growth on small scale agriculture?	

<b>TOPIC/SUB-TOPIC</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING RESOURCES</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
	c) Describe advantages and disadvantages of small scale agriculture.	i) The teacher to guide students to brainstorm on the advantages and disadvantages of small scale. ii) Teacher to guide students to explain the advantages and disadvantages of small scale agriculture. iii) Teacher to guide students to summarize the advantages and disadvantages of small scale agriculture.		Is the student able to describe the advantages and disadvantages of small scale agriculture?	
	d) Explain ways of improving small scale agriculture.	i) Teacher to guide students to brainstorm on ways of improving small scale agriculture. ii) By using photographs or pictures and farm sites under small scale agriculture teacher to guide students, discuss various methods of improving small scale agriculture.	Photographs and pictures of farm implements. Farm sites under small scale agriculture.	Is the student able to explain ways of improving small scale agriculture?	
2.2 Large scale Agriculture	The student should be able to: a) Name types of large scale agriculture in the world.	i) Teacher to guide students to define large scale agriculture. ii) Teacher to guide students to name type of large scale agriculture in the world.	World map of agriculture.	Is the student able to name types of large scale agriculture in the world?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	b) List the major crops grown in each type of large scale agriculture.	i) Using a world map and a site visit, students to list major crops which are grown in plantation agriculture. ii) Teacher to organize a visit to a nearby large scale agriculture to learn how it is practiced.	i) World map of agriculture ii) A site where large scale agriculture is practiced.	Is the student able to list the major crops grown in each type of large scale agriculture?	
	c) Describe characteristics of large scale agriculture.	Using, photographs the teacher to guide students to describe characteristics of large scale agriculture.	Photographs of various large scale agriculture.	Is the student able to describe the characteristics of large scale agriculture?	
	d) Describe the requirements for growth, farm preparation, planting, care, harvesting, processing, storage and transport.	i) Teacher to guide students to discuss the requirements for growth of these crops. ii) Using charts, pictures, photographs teacher to guide students to explain how preparation, planting and care of crops, harvest, processing and transport are done. iii) Teacher and students to summarize the requirements for growth of crops.	i) Charts of crop growing requirements. ii) Pictures, photographs of crops and agricultural machines.	Is the student able to describe the requirements for crop production in these plantations?	

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	e) Identify and locate major producing countries for respective crops in the world.	Using a World map on agriculture teacher to guide students to identify and locate producing countries for respective crops.	World map on Agriculture	Is the student able to identify, locate and name major producing countries?	
	f) Describe contribution of produced crops to the economy of USA and Tanzania.	i) Using agricultural data teacher to guide students to discuss the contribution of commercial agriculture to producing countries. ii) Drawing examples from Local commercial agriculture, the teacher to guide students to discuss the contribution of this activity to the economy of Tanzania.		Is the student able to describe the contribution of large scale agriculture to the economy of USA and Tanzania?	
	g) Drawing examples from Tanzania and USA explain problems facing large scale agriculture.	i) Referring to relevant literature students to discuss problems facing large scale agriculture in Tanzania and USA. ii) Teacher to guide students to discuss problems facing large scale agriculture.	Literature on large scale agriculture	Is the student able to: i) explain problems facing large scale agriculture in USA and Tanzania?	

<b>TOPIC/SUB-TOPIC</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING RESOURCES</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
		iii) Using experiences from USA, the teacher to guide students to discuss on how to improve large scale agriculture in Tanzania.		ii) explain ways of improving large scale agriculture in Tanzania?	
2.3 Livestock keeping	The student should be able to: a) Describe how pastoralism, sedentary and commercial livestock keeping are practiced.	i) Teacher to guide students to explain how livestock keeping are practiced. ii) Using photographs and texts on livestock keeping the teacher to guide students to discuss in groups different types of livestock keeping. iii) Teacher to guide each group to present and summarize.	i) Photographs on livestock keeping ii) Texts on livestock keeping.	Is the student able to describe how pastoralism, sedentary and commercial livestock keeping are practiced?	
	b) explain the benefits and constraints of livestock keeping practices.	i) The students should explain benefits of methods of livestock keeping. ii) Teacher to guide students to brainstorm on constraints facing livestock keeping. iii) Drawing examples from Local Commercial farms students to discuss ways of how to tackle these problems.		Is the student able to: i) explain the advantages and disadvantages of livestock keeping?  ii) discuss ways of tackling large scale agriculture?	



TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	c) Compare livestock keeping between Australia and Tanzania.	i) Using texts on livestock keeping and a map of Australia and Tanzania the teacher to guide students to discuss livestock keeping between Australia and Tanzania. ii) Using the photographs of livestock keeping teacher to guide students to explain the economic importance of livestock keeping in each country.	i) Photographs on livestock keeping. ii) Texts on livestock keeping. iii) Map of Australia and Tanzania on livestock	Is the student able to: i) compare livestock keeping between Australia and Tanzania? ii) Explain the economic importance of livestock keeping in each country.	
	d) Describe livestock keeping as practiced in different communities in Tanzania.	i) Teacher to guide students in groups to discuss how livestock keeping is practiced in their communities in Tanzania. ii) The teacher to guide each group to present. iii) Teacher to guide students summarize on how livestock keeping is done in different communities of Tanzania.		Is the student able to describe how livestock keeping is practiced in communities in Tanzania?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
<b>3.0 WATER MANAGEMENT FOR ECONOMIC DEVELOPMENT</b> <b>3.1 Importance of water</b>	The student should be able to: a) explain uses and economic importance of water.	i) Using charts/pictures and photographs the teacher to guide students to discuss the importance of water. ii) Using a role play, students to demonstrate the various uses of water. iii) The teacher to guide students to visit sites showing different uses of water.	i) Charts and pictures on the uses of water. ii) Different sites on water use.	Is the student able to explain the uses and economic importance of water?	30
	b) Describe the relationship between family size, water supply and quality of life.	i) The teacher to guide students to explain the relationship between family size, water supply, water use and the quality of life. ii) The teacher to guide students to carry out a research in the community on water quality and supply and their consequences. iii) The teacher to guide students to make a summary of the research and draw lessons.	Environment and water sites	Is the student able to relate quality of life to water supply?	
	c) Explain the relationship between vegetation and water supply.	i) The teacher to guide students to visit sites or use photographs of catchment areas to observe the relationship between vegetation and water availability. ii) The teacher to guide students to discuss in groups the relationship between vegetation and variation of water.	Sites of catchment areas or photographs of catchment area.	Is the student able to explain the relationship between water availability and vegetation growth?	

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		iii) The teacher to guide students to draw conclusions on the response of vegetation when water availability varies.			
	d) Explain how distance to water source from household affects the girl child.	i) The teacher to guide students to explain where they get water. ii) Students to explain why long distances to water source is a disadvantage to the girl child.		Is the student able to show that distance to water source affects the girl child?	
3.2 River Basin Development	The student should be able to: a) State the benefits of developing river basins.	i) The teacher to assign and lead students to read texts on river development and describe the conditions for river basin development. ii) The teacher to guide students to discuss in groups the benefits of river basin development. iii) The teacher to guide each group to present and make a summary.	Texts on river development	Is the student able to state the benefits of developing river basin?	
	b) Explain the organization, benefit, problems faces and prospects of Rufiji Basin Development Authority	i) With the help of maps, the teacher to guide students to locate the Rufiji and Tennessee River Basin Projects. ii) The teacher to guide students to discuss in groups the organizations, benefits, problems and prospects of river projects.	Maps of the location of Rufiji River Basin Project and the Tennessee Valley Authority.	Is the student able to explain problems and prospects of Rufiji and Tennessee River Basin Projects?	

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	(RUBADA) and Tennessee River Valley Authority.	<ul style="list-style-type: none"> <li>iii) The teacher to guide each group to present.</li> <li>iv) The teacher to guide students in a plenary discussion and make summary.</li> </ul>			
3.3 Land Reclamation	The student should be able to: a) Explain the major aims for land reclamation.	<ul style="list-style-type: none"> <li>i) The teacher to guide students to prepare a definition of land reclamation.</li> <li>ii) Using examples from the USA the teacher to guide students to describe the major aims of land reclamation (refer to Tennessee area).</li> </ul>	Photographs of reclaimed areas.	Is the student able to explain the aims of land reclamation?	
	b) Describe the techniques used in land reclamation.	<ul style="list-style-type: none"> <li>i) The teacher to guide students in groups to read texts on land reclamation and identify different techniques used in land reclamation.</li> <li>ii) Teacher to guide students to present for clarity.</li> </ul>	<ul style="list-style-type: none"> <li>i) Photographs on Land Reclamation in Tanzania, USA and the Netherlands.</li> <li>ii) Texts on land reclamation.</li> <li>iii) Texts in Braille for visual impaired students.</li> </ul>	Is the student able to describe land reclamation techniques?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	c) Explain land reclamation process in Tanzania	i) Using a map of Tanzania the teacher to guide students to discuss and identify land conditions which require reclamation in Tanzania. ii) The teacher to invite the knowledgeable agricultural officer to discuss on how land reclamation is done in Tanzania. iii) Teacher to guide students to write a summary of the discussion.	Map of Tanzania showing potential areas for Land Reclamation.	Is the student able to explain the process of land reclamation in Tanzania?	
3.4 Sustainable use of water resources.	The student should be able to: a) explain the types of underground water and how it can be tapped for use at local and national level in Tanzania.	i) Using texts on underground water the teacher to guide students to read and identify types of underground water. ii) Using a map of Tanzania, the teacher to guide students to describe areas which are more viable for tapping of underground water. iii) Teacher to invite a resource person to explain ways of tapping underground water. iv) Teacher to guide students to write a summary on types and ways of tapping underground water.	i) Map of Tanzania Drainage ii) Texts on underground water.	Is the student able to explain: i). Types of underground water? ii). How underground water can be tapped?	

<b>TOPIC/SUB-TOPIC</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING RESOURCES</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
	b) Differentiate different resources that are obtained from water.	i) The teacher to guide students to read geography texts and maps on different water resources and identify them. ii) Using water resource map the teacher to guide students to differentiate resources found in water.	i) Water resources map ii) Texts on water resources.	Is the student able to differentiate resources found in water?	
	c) Describe methods used for extracting resources from water.	i) The teacher to guide students in groups to discuss methods of extracting resources found in the water. ii) The teacher to organize study visit to water project sites for students to observe the ways water resources are extracted. iii) The teacher to guide students to discuss what they have observed and make a summary.	Water project site	Is the student able to describe methods used for extracting water resources?	
	d) Explain the problems caused by extraction of water resources.	i) Through study visit and analysis of photographs, the teacher to guide students to discuss and identify problems caused by water resources extraction. ii) Drawing examples from Tanzania, the teacher to guide a discussion on problems arising from extracting water resources.	i) Photographs on extraction of water resources. ii) Project Site	Is the student able to: i). Explain the problems caused by extraction of water resources? ii). Describe	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
		<ul style="list-style-type: none"> <li>iii) Students to discuss in groups and explain ways of controlling problems which are caused by extraction of water resources.</li> <li>iv) The teacher to guide each group to present and describe ways of controlling problems caused by extraction of water resources.</li> </ul>		ways to control problems caused by extracting water resources?	
3.5 Water pollution	<p>The student should be able to:</p> <ul style="list-style-type: none"> <li>a) Define pollution</li> <li>b) Differentiate the main sources of water pollution</li> </ul>	<ul style="list-style-type: none"> <li>i) The teacher to guide students in the discussion on the concept of water pollution.</li> <li>ii) By using photographs the teacher to guide students to discuss the main sources of water pollution ie domestic water, industrial waste, effluents and massive construction.</li> <li>iii) Through study visit or photograph analysis teacher to guide students t identity main sources of water pollution.</li> </ul>	<ul style="list-style-type: none"> <li>i) Photographs on water pollution</li> <li>ii) Actual site</li> </ul>	<p>Is the student able to:</p> <ul style="list-style-type: none"> <li>i) Define pollution?</li> <li>ii) Differentiate the main sources of water pollution?</li> </ul>	
	<ul style="list-style-type: none"> <li>c) Describe various ways of conserving water resources.</li> </ul>	<ul style="list-style-type: none"> <li>i) Through study of various photographs, the teacher to guide students to define water conservation.</li> <li>ii) Using a film on conservation teacher to guide students to discuss and explain ways of conserving water resources.</li> </ul>	<ul style="list-style-type: none"> <li>i) Film on conservation of water.</li> <li>ii) Actual site of water conservation project.</li> </ul>	<p>Is the student able to describe the various ways of conserving water resources?</p>	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
		iii) The teacher guide students in a study tour to a water conservation project for further study. iv) Through discussion teacher to guide students to summarize the acquired knowledge on ways of conserving water resources.			
<b>4.0 SUSTAINABLE USE OF FOREST RESOURCES</b> 4.1 Types of forestry resources	The student should be able to: a) Identify types of forests	i) Using photographs of different types of forests the teacher to guide students to discuss in groups on the different types of forests. ii) The teacher to guide each group to present and summarize information on different types of forests.	Pictures and photographs depicting different types of forests.	Is the student able to identify different types of forests?	10
	b) Locate the distribution of forests by type.	i) Using a vegetation map of the world and of Tanzania the teacher to guide students to locate the major forested areas of the world on a map. ii) The teacher to guide students to locate forested areas on a map of Tanzania. iii) Teacher to guide students to show the relationship between the major forested areas of the world and those of Tanzania.	Vegetation map of the world. Vegetation map of Tanzania.	Is the student able to locate the distribution of major forested areas of the world?	



<b>TOPIC/SUB-TOPIC</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING RESOURCES</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
	c) Explain factors for distribution of forests.	i) By using photographs and maps the teacher to guide students to discuss in groups on factors for distribution of forests. ii) The teacher to guide students to explain the major conditions which determine the distribution of forests.	Photographs of forests Maps	Is the student able to explain the major factors for distribution of forests?	
		iii) Teacher to guide students to present and make a summary of factors which influence the distribution of forests.			
4.2 Importance of forestry resources.	The student should be able to: a) Describe the importance and values of forests in social and economic life.	i) By use of pictures showing types of forests the teacher to guide students discuss in groups the importance of forests. ii) Teacher to guide students to explain the importance and value of forests. iii) The teacher to arrange for a study visit to a nearby forest reserve or a controlled area for more exposure of students.	i) Forest reserve ii) Pictures showing types of forests.	Is the student able to describe the importance and values of forests in social and economic life?	

<b>TOPIC/SUB-TOPIC</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING RESOURCES</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
	b) Explain the importance of forests in ecological and environmental balance.	i) With the use of photographs the teacher to guide students to discuss in groups the importance of forests in maintaining balance and relationship in the environment. ii) The teacher to invite a guest speaker from the Department of Forestry to discuss on the role of forest in maintaining environmental balance. iii) The teacher to guide students to describe the importance of forests in environmental balance.	Photographs of forests	Is the student able to explain the importance of forests in maintaining balance and relationship in the environment?	
4.3 Important areas of forest products, their transport and use in the world	The student should be able: a) Identify important countries in timber production.	i) With the aid of a map, the teacher to guide students to identify on countries which are important in timber and other forest products. ii) By using texts on forest products the teacher to guide students in groups to discuss on products of forests and make presentation.	i) Wall map and Atlas maps showing forest resources and timber processing. ii) Texts on forests.	Is the student able to: 1. Identify countries important for production of timber? 2. Describe other forest products?	

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	b) Explain the means of transport and problems of timber transportation in the world.	i) By using texts on forestry and photographs the teacher to guide students to discuss in groups different types of timber transportation in the world. ii) The teacher to guide the students to present their findings. iii) Teacher to guide students to identify problems facing the transportation of timber in the world and make summary.	i) Texts on forests ii) Photograph showing transportation of logs. iii) Tactical maps for visual impaired students	Is the student able to: i) Explain how timber is transported in the world? ii) Identify problems facing transportation of timber in the world?	
4.4 Problems associated with forestry resources harvesting.	The student should be able to: a) Describe the problems facing forestry resources harvesting.	i) With concrete examples the teacher to guide students to discuss on various problems associated with harvesting of forest resources.	i) Maps ii) Photographs iii) Video show	Is the student able to describe problems facing the harvesting of forestry resources?	
		ii) By using maps, photographs and video shows the teacher to guide students to discuss in groups problems which face forestry resources harvesting in Tanzania. iii) The teacher to guide each group to present and summarize.			

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	b) Describe ways to address problems facing forests in the world.	i) The teacher to guide students to brainstorm on different ways of addressing problems facing forests. ii) Bys using maps, photographs and video show the teacher to guide students to discuss ways of addressing problems facing forestry of the world. iii) The teacher to guide students to explain how Tanzania is addressing problems facing its forestry.	List of problems facing forests in the world.	Is the student able to discuss ways of addressing problems facing forests, in the world?	
<b>1.0 SUSTAINABLE MINING</b> <b>1.1</b> Types of mining industry	The student should be able to: Name different types of mining industries.	i) Using photographs showing mining centres the teacher to guide students to discuss types of mining industries. ii) Teacher to guide students to prepare a summary of the discussion on the types of mining industries.	Photographs showing different mining centers.	Is the student able to name different mining industries?	22
<b>1.2</b> Types and distribution of mining regions in the world.	The student should be able to: a) Explain major types of minerals found in the world.	i) Through reading texts on minerals the teacher to guide students to discuss on major minerals found in the world. ii) Teacher to guide students to identify the types of the minerals found in the world.	Maps of world minerals Texts on minerals Samples of minerals	Is the student able to explain major types of minerals found in the world?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
		iii) By the use of world minerals maps and samples of different minerals the teacher to guide students to identify minerals found in the world.			
	b) Locate mining regions in the world map and the type of minerals extracted.	i) By using world maps the teacher to guide students to locate the world mining regions. ii) The teacher to guide students to discuss important minerals found in each mining region.	World map on mineral distribution	Is the student able to: i) Locate mining regions in the world map? ii) Name important minerals in each mining region?	
<b>1.3</b> Methods of mining	The student should be able to: a) Categorize various ways of mining.	i) Teacher to guide students in groups to brainstorm on different ways of mining. ii) Teacher to guide students to discuss various ways of mining. iii) Teacher to guide students to categorize various ways of mining and make a summary.		Is the student able to categorize different major methods of mining?	
	b) Explain ways of processing different types of minerals.	i) The teacher to organize field visit to a mining area or using a video on mining or pictures of mining centre and guide students to observe different ways of processing different types of minerals.	i) An actual mining area ii) Video on mining iii) Pictures of Mining centre	Is the student able to explain ways of processing different types of minerals?	

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		ii) Teacher to guide students to discuss how processing of different types of minerals is done. iii) Teacher to guide students to describe the processing of different minerals and make summary.	i) Pictures showing the processing of minerals.		
<b>1.4</b> Contribution of mining industry to the economy of Tanzania.	The student should be able to: 1. Explain the economic importance of mining to the economy of Tanzania.	i) By using a map the teacher to guide students in groups to study data showing the production of different minerals in Tanzania and make presentations. ii) Teacher to provide real jewels or pictures of jewels and gem and guide students to study them and explain their importance to the economy of Tanzania.	i) Real jewels. ii) Pictures showing jewels and gem. iii) Map of economic activities.	Is the student able to explain the economic importance of mining to the economy of Tanzania?	
<b>1.5</b> The effects of the mining industry in the environment.	The student should be able to: a) Describe the effects of mining to the environment.	i) Teacher to organize a visit to the nearest mining area for students to observe the effects of mining activities to the environment. ii) Teacher to guide students to name different areas in Tanzania which are affected by the mining activities.	i) Charts and pictures depicting environmental degradation caused by mining. ii) Mining site.	Is the student able to describe the effects of mining to the environment?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	b) Propose ways of minimizing effects of mining to the environment.	Teacher to guide students to propose ways of minimizing effects of mining to the environment.		Is the student able to propose ways of minimizing the effects of mining to the environment?	
<b>1.6</b> Focal Studies - Oil production in the middle East. - Natural gas production in Tanzania	The student should be able to describe advantages of oil production in the Middle East and Natural gas production in Tanzania.	i) The teacher to guide students to discuss the advantages and disadvantages of Oil production in Middle East and gas production in Tanzania. ii) Teacher to guide students to discuss lessons which Tanzania can learn from these case studies.	i) Map of Tanzania showing Natural Gas Production. ii) Map of Middle East showing oil production.	Is the student able to describe the advantages and disadvantages of Oil in Middle East, Natural gas production in Tanzania itself?	
<b>6.0 TOURISM</b> 6.1 Concept of tourism 6.2 Factors for the development and growth of the tourist industry in the world.	The student should be able to define tourism.	Using question and answer written literature and pictures, the teacher to guide students to define tourism.	i) Pictures showing tourist sites. ii) Written document	Is the student able to define tourism?	17

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	The student should be able to describe factors which have contributed to the development and growth of tourism in the world.	i) By using pictures/photographs showing tourist sites, teacher to guide students in groups to describe factors which contributed to the growth and development of tourism industry in the world. ii) Students in groups to discuss and present factors contributing to the development and growth of tourism industry in the world and make a summary.	Picture/ photographs showing tourist sites.	Is the student able to describe factors which contributed to the growth and development of tourism in the world?	
6.3 Importance of Tourism in the world.	The student should be able to: a) Explain the importance of tourism in the world.	i) Teacher to guide students to read the texts discuss in groups and make presentation on the importance of tourism in the world. ii) Teacher to guide students to prepare a summary on the importance of tourism in the world.	i) Written texts on tourism ii) Texts on tourism in Braille for visual impaired students	Is the student able to explain the importance of tourism in the world?	
	b) Identify impact of tourism in the world.	i) The teacher to guide students to discuss in groups the impact of tourism in the world. ii) Students to discuss and present the impact of tourism in the world. iii) The teacher to guide students to summarize the impact of tourism citing examples from Tanzania.		Is the student able to identify impacts of tourism in the world?	



TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	c) State ways of addressing the negative impact of tourism.	i) By role play students to demonstrate the negative impact of tourism. ii) The teacher to guide students to discuss and present ways of addressing the negative impact of tourism. iii) Teacher to guide students to prepare a summary of negative impact after discussion. iv) Teacher to guide students to suggest other ways of addressing negative impact of tourism.		Is the student able to state ways of addressing the negative impact of tourism?	
6.4 Focal studies on tourism industry	The student should be able to: a) Describe factors for the development of tourism in Switzerland, Namibia and Tanzania.	i) Using maps of Switzerland, Namibia and Tanzania and photographs the teacher to guide students to discuss in groups factors which promote growth of tourism industry in these countries. ii) The teacher to guide students to discuss how tourism is conducted in the focal countries. iii) Teacher to guide students in discussing factors for development of tourism in Switzerland, Namibia and Tanzania.	i) Maps of Namibia, Switzerland and Tanzania on tourism. ii) Photographs depicting tourist activities.	Is the student able to describe factors for the development of tourism in Switzerland, Namibia and Tanzania?	

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	b) Explain the importance of tourism in Switzerland, Namibia and Tanzania.	i) Using written texts the teacher to guide students to discuss the importance of tourism in these countries. ii) Using the tourist statistics students to discuss the contribution of tourism industry to the economy of Tanzania, Switzerland and Namibia.	i) Statistics of tourism ii) Written texts on tourism.	Is the student able to explain importance of tourism in Namibia, Switzerland and Tanzania?	
	c) Identify problems facing tourism industry in Tanzania	i) The teacher to organize a visit to a tourist site/use photographs and guide students to observe and identify problems facing the industry.	Tourist site/ photographs of tourist sites	Is the student able to identify problems facing tourism industry in Tanzania?	
		ii) The teacher to guide students to discuss and make summary of the problems facing tourism industry in Tanzania.			
	d) Explain methods used to increase the income of tourism industry in Tanzania.	i) By using questions and answers to teacher to guide students to discuss in groups on how income is raised through tourism industry in Tanzania, Switzerland and Namibia. ii) Teacher to guide students in groups to identify different methods used to increase income.	i) Maps of Tanzania, Switzerland and Namibia. ii) List of questions	Is the student able to explain how income is raised through tourism industry in Tanzania?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
		iii) Teacher to guide students to compare the methods from local countries and Tanzania's experience and make summary of it.			
	e) Discuss the lessons that can be drawn to promote tourism industry in Tanzania.	i) Using promotional materials and information from the identified importance and methods of increasing the income teacher to guide students to discuss how to promote tourism industry in Tanzania.	i) Promotional materials and information from the Tanzania Tourist Board and other sources. ii) Tourist sites.	Is the student able to discuss lessons that can be learnt for promoting tourism industry in Tanzania?	
		ii) The teacher to organize a visit to one tourist area and guide students to record what takes place in the industry. iii) Teacher to guide students to summarize lessons drawn from local countries.			
<b>7.0 MANUFACTURING INDUSTRY</b> 7.1 Concept and importance of manufacturing industries.	The student should be able to: a) Define manufacturing industry.	Using texts on manufacturing industries the teacher to guide students to define manufacturing industries.	Texts on manufacturing industries.	Is the student able to define manufacturing industry?	25

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	b) Explain the importance of manufacturing industry.	i) Using various photographs and actual industrial products, the teacher to guide students to explain the importance of manufacturing industry. ii) The teacher to guide students to discuss and present how they benefit from manufacturing industry and make a summary.	i) Photographs of industrial products. ii) Actual industrial products.	Is the student able to explain the importance of manufacturing industry?	
7.2 Types of manufacturing industries.	The student should be able to: a) Describe the types of manufacturing industries in East Africa.	i) By using texts on manufacturing industries the teacher to guide students to discuss in groups on the types of manufacturing industries.	Texts on manufacturing industries.	Is the student able to describe the types of manufacturing industries with reference to East Africa?	
		ii) Teacher to guide students to explain the different types of manufacturing industries. iii) Teacher to guide students to make summary on the types of manufacturing industries.			
	b) Identify products of each type of manufacturing industry.	i) The teacher to guide students to develop a list of products from each type of manufacturing industry. ii) The teacher to guide students to collect different industrial products for discussion of types of manufacturing industries.	Different industrial products.	Is the student able to identify products from each type of manufacturing industry?	

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		iii) The teacher to guide students in groups to identify products from different types of manufacturing industry and make summary of it.			
7.3 Factors for location of industries.	The student should be able to: a) Name factors necessary for location of industries.	Using photographs the teacher to guide students to discuss and identify factors for location of industries.	Photographs of manufacturing industries.	Is the student able to name factors responsible for the location of manufacturing industries?	
	b) Explain how these factors determine the location of industries.	i) By using texts on manufacturing industries the teacher to guide students to discuss in groups factors that determine location of industries. ii) Teacher to guide each group to present the factors for industry location. iii) Teacher to guide student to make a summary on how each factor determine the location of industries.	Texts of manufacturing industries.	Is the student able to explain how each factor determine the location of industries?	

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7.4 Pollutants from manufacturing industry.	The student should be able to: a) Identify types of pollutants from manufacturing industries.	i) The teacher to guide students by using texts on industrial pollutants to discuss on the concept of pollutants. ii) Teacher to guide students to visit an industrial area and record types of pollutants seen. iii) The teacher to guide students to identify types of pollutants from manufacturing industries.	i) Text on industrial Pollutants. ii) Physical industrial plants iii) Industrial areas.	Is the student able to identify the types of pollutants from manufacturing industry?	
	b) Explain how each pollutant affects the environment, industrial employees and the communities around the plant.	i) The teacher to guide students to carry out research about the effects of industrial pollution on the environment, industrial employees and people in the communities around the plant. ii) Using research information and relevant literature on manufacturing industries, the teacher to guide students to prepare a summary of how each pollutant affects the environment, industrial employees and neighboring communities.	Texts on manufacturing industries.	Is the student able to explain the effect of each industrial pollutants on employees, the environment and the neighboring community?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
7.5 Focal Studies	The student should be able to: a) Explain the production of cars in Japan, electronic equipment in South Korea and textiles in Tanzania.	Using photographs the teacher to guide students in discussing the production of: (i) Cars in Japan (ii) Electronic Equipment in South Korea (iii) Textiles in Tanzania	i) Photographs on production of cars in Japan, electronic equipment in South Korea and textile in Tanzania. ii) Texts on industrial activities.	Is the student able to explain the process of production of cars in Japan, electronic equipment in South Korea and textile in Tanzania respectively?	
	b) Identify lessons from Japan and South Korean industries for Tanzania.	The teacher to guide students to read relevant texts on the industries in the focal countries and draw lessons for Tanzania to view of successes and problems being realized.		Is the student able to identify lessons Tanzania can draw from Japan and South Korean industries?	
<b>8.0 SUSTAINABLE USE OF POWER AND ENERGY RESOURCES</b> 8.1 Define Power and Energy	The student should be able to define power and energy.	The teacher to guide students brainstorm the definition of power and energy.		Is the student able to define power and energy?	25

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8.2 Major sources of power.	a) Identify the major sources of power and energy.	i) Using different photographs of energy and power sources the teacher to guide students to describe major sources of power and energy. ii) Teacher to guide students to present in the class the major sources of power and energy (e.g Power from oil, biogas, wood, natural gas, Hydro Electric Power, solar power, wind power, nuclear power geothermal power). iii) Teacher to guide students to summarize on the major sources of power and energy.	i) Photographs showing different types of power and energy. ii) Real power sources like firewood, charcoal, gas.	Is the student able to identify major sources of power and energy?	
	b) Describe the origin of different types of energy and power sources.	Using texts on energy and power resources the teacher to guide students to describe the origin of different energy and power sources.	Texts on Energy and power sources.	Is the student able to describe types of energy and power sources?	
	c) Identify the types of energy and power sources.	Using texts the teacher to guide students to identify different types of energy and power sources.		Is the student describe the origin of different types of energy and power sources?	



TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
8.3 Methods of acquiring/ extracting power and energy.	The student should be able to explain the methods of acquiring/ extracting power and energy.	<ul style="list-style-type: none"> <li>i) The teacher to arrange a field visit or use maps and picture showing area where energy/power is produced and then guide students to identify the equipment used to extract energy and power.</li> <li>ii) Teacher to guide students to discuss on various methods used to extract power and energy.</li> <li>iii) By citing one/two examples (ie water (HEP) and solar power) teacher to discuss in groups the sources of power and how they are extracted.</li> <li>iv) The teacher to guide each group to present and make summary.</li> </ul>	<ul style="list-style-type: none"> <li>i) Map of the world showing areas where energy and power are produced.</li> <li>ii) Pictures showing various methods/ equipment for acquiring/ extracting the resources.</li> </ul>	Is the student able to explain the methods of acquiring/ extracting power and energy?	
8.4 Importance and uses of power and energy resources	The student should be able to explain the uses and importance of these types of power resources.	<ul style="list-style-type: none"> <li>i) The teacher to guide students to discuss on the uses of power and energy resources at family level.</li> <li>ii) By using pictures and photographs showing how power and energy is uses, teacher to guide students in groups to discuss the importance of power resources.</li> <li>iii) Teacher to guide students in groups to present and summarize the uses and importance of all types of energy and power resources.</li> </ul>	<ul style="list-style-type: none"> <li>i) Pictures and photographs</li> <li>ii) Actual samples of cookers, calculators.</li> </ul>	Is the student able to explain the uses and importance of power resources?	

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8.5 Problems facing power and energy production	The student should be able to: a) Discuss the problems facing the process of power and energy harnessing.	<ul style="list-style-type: none"> <li>i) Teacher to organize visits to various energy/power producing centers.</li> <li>ii) Using pictures, photographs or field visits the teacher to guide students to identify problems facing the harnessing process of power and energy.</li> <li>iii) The teacher to guide each group to clarify on common problems of energy and power harnessing and summarize.</li> </ul>	<ul style="list-style-type: none"> <li>i) Pictures of energy/power production centres</li> <li>ii) Photographs</li> <li>iii) Maps showing different power or energy centres.</li> </ul>	Is the student able to discuss the problems facing the process of power and energy harnessing?	
	b) Suggest ways of addressing power and energy harnessing.	<p>The teacher to guide:</p> <ul style="list-style-type: none"> <li>i) Students to propose ways of addressing the problems of harnessing energy and power.</li> <li>ii) Students to summarize ways of addressing the problems.</li> </ul>		Is the student able to suggest ways of addressing the problems linked to harnessing of power?	
8.6 Focal Studies: Solar and Wind power in USA. H.E.P and Biogas in Tanzania	The student should be able to: a) Evaluate the importance of power and energy resources in the focal countries.	<ul style="list-style-type: none"> <li>i) Using texts on power and energy the teacher to guide students to discuss the importance of energy and power resources in focal countries.</li> <li>ii) The teacher to guide students to evaluate the importance of power and energy resources in Tanzania.</li> </ul>	Texts on power and energy	Is the student able to evaluate the importance of power and energy resources in focal countries?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	b) Summarize problems facing power and energy harnessing in focal countries.	i) The teacher to guide students to discuss in groups the problems facing power and energy harnessing in focal countries. ii) The teacher to guide each group to present and summarize problems facing power and energy harnessing in focal countries.	i) Text on power and energy sources harnessing. ii) Photographs on wind and solar power harnessing in USA and Biogas in Tanzania.	Is the student able to summarize the problems facing power and energy harnessing in focal countries?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	c) Propose solutions to these problems.	i) The teacher to guide students to explain the methods on how these problems are addressed in focal countries. ii) Teacher to guide a plenary discussion for students to propose and discuss solutions to problems arising from power and energy harnessing.		Is the student able to propose solutions to problems arising from power and energy harnessing in focal countries?	
	d) Draw successful lessons from countries for better harnessing of power and energy resources in Tanzania.	The teacher to guide: i) Students to read the texts on successful processes of harnessing of power and energy in different countries. ii) To discuss and summarize successful lessons drawn from other focal countries which will promote harnessing of power and energy resources in Tanzania.	Texts on power and energy resources.	Is the student able to draw lessons from other focal countries for better harnessing of power and energy in Tanzania?	
<b>9.0 TRANSPORT</b> 9.1 Main types of transport	The student should be able to describe the main types of transport system at global and East African level.	i) Teacher to guide students to brainstorm the definition of transport and main types of transport in the world. ii) With the aid of transportation maps the teacher to guide students to discuss on the main types of transport system in East Africa.	Maps showing transport system in East Africa and in the world.	Is the student able to describe the main types and patterns of transport system in (a) East Africa? (b) The world?	12

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
		iii) By using the map of East Africa the teacher to guide students to explain the pattern of major transport systems in the region.			
9.2 Importance of transport	The student should be able to explain the importance of transport in Tanzania and East Africa.	i) Teacher to guide students in groups to discuss the importance of transport in Tanzania and East Africa. ii) The teacher to guide each group to present for clarity the importance of transportation system in Tanzania and East Africa.		Is the student able to explain the importance of transport in Tanzania and East Africa?	
9.3 Problems facing transport industry	The student should be able to: a) Identify problems facing transportation in East Africa.	i) Using maps of the region, teacher to guide students to discuss the problems facing transportation in East Africa. ii) Teacher to guide students to suggest problems facing transportation in their areas and make summary.	Maps of relief features of East Africa.	Is the student able to identify problems facing transportation sector in East Africa?	
	b) Explain the measures to address transportation problems in Tanzania.	Teacher to guide students to discuss the solutions taken in addressing the problems facing transportation in Tanzania.	A site of modern transport systems.	Is the student able to explain solutions to the problems facing transportation in Tanzania?	



## FORM THREE

### CLASS LEVEL COMPETENCES

The student demonstrates:

1. Knowledge on the composition of the earth, geological time scale and forces that affect the structure of the earth.
2. Ability to utilize resources resulting from geological processes.
3. The understanding of the knowledge on the formation, composition and characteristics of soil.
4. Ability to classify and conserve soil.
5. Knowledge on surveying techniques and ability to use survey equipment for proper land use planning.
6. Knowledge on photographs and map work to read, identify, measure and interpret information for use in social and economic activities.
7. Knowledge on the concepts, types and importance of statistics.
8. The application of simple statistical measures to present and use data for various purposes.

### CLASS LEVEL OBJECTIVES

By the end of Form Three course, the student should be able to:

- (a). Show an understanding of the composition of the earth, geological time scale, structure and forces that affect the earth and their economic importance.
- (b). Show an understanding of formation, composition, importance, characteristics, simple classification and conservation of soil.
- (c). Develop an understanding of the meaning, types, equipment and application of simple survey.
- (d). Develop skills to read, identify, measure and interpret topographical maps and photographs.
- (e). Develop an understanding of the concept, types of statistics, presentation of data, simple statistical measures and their use.

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
<p><b>1.0 STRUCTURE OF THE EARTH</b></p> <p>1.1 The earth's crust, the mantle, the core and their respective characteristics.</p>	<p>The student should be able to:</p> <p>a) Identify concentric zones of the earth.</p>	<p>i) By using a model of internal structure of the earth/diagrams, the teacher to guide students in groups to observe and identify the zones (the crust, the mantle and the core) of the earth.</p> <p>ii) The teacher to guide students to clarify on the concentric zones of the earth.</p> <p>iii) The teacher to guide the students to draw and label the concentric zones of the earth.</p>	<p>i) Models of inner structure of the earth.</p> <p>ii) Diagrams showing concentric zones of the earth.</p>	<p>Is the student able to:</p> <p>i) Identify concentric zones of the earth?</p> <p>ii) Draw diagrams illustrating the core, mantle and crust?</p>	<p>16</p>
	<p>b) Account for the variation in density and thickness of the concentric zones of the earth's crust.</p>	<p>i) The teacher to assign students to read written materials on structure of the earth and collect information for variation of density and thickness of zones.</p> <p>ii) The teacher to guide students to summarize the variation of density and thickness of concentric zones.</p>	<p>Written materials on structure of the earth.</p>	<p>Is the student able to account for the variation in:</p> <p>i) Density of the concentric zones?</p> <p>ii) The thickness of the concentric zones?</p>	



TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	c) Describe the characteristics of the earth's crust, the mantle and the core.	i) Using diagrams/models of inner structure of the earth, the teacher to guide students to discuss and describe in groups the characteristics of concentric zones of the earth. ii) The teacher to guide each group to discuss and present the characteristics of concentric zones and make a summary.	i) Diagrams of concentric zones of the earth. ii) Models of inner structure of the earth.	Is the student able to describe the characteristics of the crust, mantle and the core?	
1.2 Types of rocks of the earth's crust.	The student should be able to: a) Identify types of rocks of the earth's crust.	i) Using samples of rocks the teacher to guide students in groups to discuss and identify the major types of rocks. ii) The teacher to guide each group to present and describe the characteristics of the major types of rocks and write a summary.	Samples of rocks.	Is the student able to identify types of rocks of the earth's crust?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	b) Explain the mode of formation for each type of rocks and their economic importance.	i) Using samples of rocks, the teacher to guide students in groups to brainstorm on mode of formation and the economic importance of each rock type. ii) The teacher to guide each group to discuss, present and make summary of mode of formation and economic importance of rocks.		Is the student able to explain: i) The mode of formation for each type of a rock? ii) The economic importance of each type of rock?	
1.3 Simplified geological Time Scale	The student should be able to describe the geological time scale.	Using a Geological Time Scale Chart the teacher to guide students in groups to discuss and describe the geological time scale and make a summary.	Chart of simple geological Time Scale	Is the student able to describe the geological time scale?	
<b>2.0 FORCES THAT AFFECT THE EARTH</b> <b>2.1</b> Forces causing earth movements.	The student should be able to explain the forces which cause earth movements and their origin.	i) The teacher to guide the students in groups to brainstorm the origin and causes of earth movements. ii) Using the three dimensional diagrams the teacher to demonstrate and elaborate the process.	Diagrams showing movements of the earth.	Is the student able to explain the forces which cause earth movements and their origin?	50

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
		iii) The teacher to guide each group to demonstrate, discuss and summarise the origin and causes of earth movements.			
<b>2.2 Internal forces</b> i) Radial/ Vertical movement.	The student should be able to: a) Describe the vertical/radial movement.	i) Using models/diagrams/ video showing vertical movement the teacher to demonstrate the upward and downward movement of the earth. ii) Using models the teacher to guide students in groups to discuss, demonstrate and describe the vertical movement of the earth. iii) The teacher to guide each group to discuss, describe, present and make summary of the vertical movements of the earth.	i) Diagrams ii) Models/video iii) Three dimensional diagrams and maps	Is the student able to describe the vertical/radial movements?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	b) Identify the resulting features from the vertical movement.	i) Using written documents the teacher to guide students in groups to discuss and identify the resulting features from vertical/radial movements. ii) By the use of wall maps, the teacher to guide students to locate the specific areas affected as a result of this process. iii) The teacher to guide each group to present and make summary.	i) Written documents ii) Wall maps	Is the student able to identify the resulting features from the vertical/radial earth movement?	
2.3 Lateral or horizontal movement	The student should be able to: a) Explain how horizontal movements take place.	i) Using written texts on earth movements the teacher to guide students in groups to discuss and explain how horizontal movements take place. ii) The teacher to guide students to present in the class what they have gathered. iii) The teacher to guide students to summarize how horizontal movements take place.	Written texts on the lateral/horizontal movements.	Is the student able to explain how horizontal movements take place?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	b) Identify different features produced by horizontal forces.	i) Using written texts on earth movements the teacher to guide students in groups to discuss and identify features produced by horizontal movements. ii) The teacher to guide each group to discuss the effects of the features produced on the environment such as changes in relief, moderation of climate, mineral exploitation, soil pH. iii) The teacher to guide students to present and summarize.		Is the student able to identify features produced by horizontal forces?	
2.4 Vulcanicity	The student should be able to: a) Differentiate vulcanicity from volcanicity.	i) Using written documents on volcanism the teacher to guide students in groups to discuss the differences between vulcanicity and volcanicity. ii) The teacher to guide students to clarify on the differences.	Written documents on volcanism.	Is the student able to differentiate vulcanicity from volcanicity?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	b) Explain causes of vulcanicity, vulcanicity and the resulting features.	i) Using different texts on vulcanicity the teacher to guide students in groups to discuss and explain the causes of vulcanicity, vulcanicity and the resulting features. ii) The teacher to guide each group to discuss, present and make summary.	Texts on vulcanicity	Is the student able to explain: i) The causes of vulcanicity and vulcanicity? ii) The resulting features of vulcanicity?	
	c) Classify features resulting from the processes of vulcanicity.	i) Using different texts written on vulcanicity, the teacher to guide students in groups to discuss and classify features resulting from the processes of vulcanicity and vulcanicity. ii) The teacher to guide each group to present the classification of features resulting from the processes and make summary.	Written text on classification of volcanic features	Is the student able to classify features resulting from the process of vulcanicity?	
	d) Locate the distribution of major volcanic zones in the world.	Using world maps the teacher to guide students to draw and locate the distribution of major volcanic zones in the world.	World Maps	Is the student able to locate the distribution of major volcanic zones in the world?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	e). Assess the economic importance of volcanoes.	Using written documents on volcanoes the teacher to assign students in groups to assess the value of volcanoes to human beings. The teacher to guide each group to discuss, present the findings and make a summary.	Written documents on volcanoes	Is the student able to assess the economic importance of volcanoes?	
2.5 Earth -quakes	The student should be able to: a) Define earthquake, epicenter and focus.	i) The teacher to guide students to read different texts on earthquake for the definitions of earthquake, epicenter and focus. ii) The teacher to guide the students to clarity on definitions of earthquake, epicenter and focus.	Texts on earthquakes.	Is the student able to define: i) Earthquake? ii) Epicenter? iii) Focus?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	b) Describe how earthquake can be detected.	i) Using pictures of seismograph, the teacher to demonstrate how earthquake can be detected. ii) Using pictures of seismograph, the teacher to guide students in groups to describe how earthquake can be detected and make a summary.	i) Pictures of a seismograph ii) Seismograph	Is the student able to describe how earth quake can be detected?	
	c) Explain the causes and effects of earth quake.	i) Using pictures showing effects of earthquakes, diagrams/video the teacher to guide the students to discuss and explain in groups the causes and effects of earthquakes. ii) The teacher to guide each group to present the causes and effects of earthquakes.	i) Pictures showing earthquakes. ii) Video iii) Written texts	Is the student able to explain: i) Causes of earthquake? ii) Effects of earthquake?	



TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
		iii) Using written documents the teacher to guide students to identify precautionary measures to be taken against earthquake. iv) The teacher to guide the students to summarise on the causes, effects and precautionary measures to be taken.			
	d) Locate the possible areas where earthquake is likely to occur on world map.	Using world map the teacher to assign students to draw world map and locate areas where earthquake is like to occur.	World maps	Is the student able to locate areas where earthquake is likely to occur on world map?	
<b>2.6 External forces</b> i) Mass wasting	The student should be able to: a) Define mass wasting.	i) The teacher to assign students individually to search for the definition of a mass wasting from texts on mass wasting. ii) The teacher to guide the students summarise on the definition of mass wasting.	Texts on mass wasting.	Is the student able to define mass wasting?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	b) Identify types of mass wasting.	i) Using texts on mass wasting the teacher to guide students in groups to discuss, identify and present types of mass wasting. ii) The teacher to guide the students to make summary of different types of mass wasting.	Texts on mass wasting	Is the student able to identify types of mass wasting?	
	c) Describe the factors which cause mass wasting.	i) Using texts, the teacher to guide students in groups to discuss and describe the factors which cause mass wasting. ii) The teacher to guide each group to discuss and present the factors which cause mass wasting and make summary.		Is the student able to describe the factors which cause mass wasting?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	d) Assess the effects of mass wasting to the environment.	i) Using written documents the teacher to assign students individually to search for information on the effects of mass wasting to the environment. ii) Using photographs and pictures the teacher to guide students in groups to discuss and present the assessment of the effects of mass wasting to the environment and make summary.	i) Written documents ii) Photographs/ pictures showing effects of mass wasting.	Is the student able to assess the effects of mass wasting to the environment?	
ii) Weathering	The student should be able to: a) Define the term weathering.	i) The teacher to guide students in groups to search for definition of weathering from texts. ii) The teacher to guide students clarify on the meaning of weathering.	Texts on weathering	Is the student able to define weathering?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	b) Identify types of weathering.	i) Using texts on weathering the teacher to guide students to identify different types of weathering from the immediate environment. ii) The teacher to guide students in groups to present and make summary of different types of weathering (physical, chemical and biological).	Texts on weathering	Is the student able to define weathering?	
	c) Differentiate weathering processes.	With the aid of diagrams showing types of weathering the teacher to guide students in groups to discuss and present the different weathering processes and make summary.	Diagrams showing types of weathering.	Is the student able to differentiate weathering processes?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	d) Assess the significance of weathering.	i) Using written documents the teacher to assign students in groups to search for and make an assessment on the significance of weathering. ii) The teacher to guide each group to discuss, present and make summary. iii) Teacher to organize a study visit to an affected area for students to assess the significance of weathering.	Written documents	Is the student able to assess the significance of weathering?	
iii) Erosion and Deposition by running water, ice, wind and wave action.	The student should be able to: a) Define the concept of erosion and deposition.	Using questions and answers the teacher to guide students in group to define erosion and deposition.		Is the student able to define the concept of: 1. Erosion? 2. Deposition?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	b) Examine how agents of erosion and deposition operate on the landscape.	i) The teacher to guide students in groups to read different texts on erosion and deposition to examine how running water, ice action, wind action and wave action operate on the landscape. ii) The teacher to guide students in groups to present how each of the agents operate. iii) The teacher to guide students to write the summary of erosional and depositional process for each agent.	Texts on erosion and deposition.	Is the student able to: i) Examine how agents of erosion operate on the landscape? ii) examine how agents of deposition operate on the landscape?	
	c) Examine erosional and depositional features for each agent.	i) Using diagrams/ photographs the teacher to guide students in groups to differentiate between erosional and depositional features produced by each agent. ii) The teacher to guide individual students to draw erosional features produced by each agent.	i) Diagrams ii) Photographs, a visit site.	Is the student able to: i) examine erosional features for each agent? ii) examine depositional features for each agent?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	<p>d) Assess the importance of erosional and depositional features to human beings.</p>	<p>iii) The teacher to organize a visit for students to observe erosional or depositional features to concretize the knowledge.</p> <p>i) Using photographs, pictures/video the teacher to guide students in groups to discuss and present the importance of erosional and depositional features to human beings.</p> <p>ii) The teacher to guide students summarize the importance of erosional and depositional features to human beings.</p>	<p>i) Photographs ii) Pictures iii) Video</p>	<p>Is the student able to: i) assess the importance of erosional features to human beings? ii) assess the importance of depositional features to human beings?</p>	
2.7 Artificial forces	<p>The student should be able to: a) Explain the meaning of artificial forces which cause earth movements.</p>	<p>i) Using written documents the teacher to guide the students to explain on the meaning of artificial forces.</p> <p>ii) The teacher to guide students to clarify on the meaning of artificial forces.</p>	Written documents	<p>Is the student able to explain the meaning of artificial forces which cause earth movements?</p>	

<b>TOPIC/SUB-TOPIC</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING RESOURCES</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
	b) Describe causes and effects of artificial forces.	i) The teacher to distribute photographs of artificial forces to groups of students for identification of different types of artificial forces. ii) The teacher to assign students in groups to read literature on artificial forces and search information on the causes of artificial forces. iii) The teacher to guide each group to discuss present and make summary.	i) Literature on artificial forces. ii) Photographs of artificial forces.	Is the student able to describe: i) Cause of artificial forces? ii) Effects of artificial forces?	
<b>3.0 SOIL</b> 3.1 Soil formation	The student should be able to: a) Define soil	i) Using texts on soil the teacher to guide students in groups to define soil. ii) The teacher to guide students to clarify on the definition of soil.	i) Texts on soil ii) Text in Braille	Is the student able to define soil?	20
	b) Describe factors for soil formation	i) Using guiding questions the teacher to assign students in groups to search for factors of soil formation.		Is the student able to describe factors for soil formation?	



TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
		ii) The teacher to guide each group to discuss, present and summarize the factors for soil formation.			
	c) Assess the importance of soil.	i) Using written documents the teacher to assign students in groups to make assessment on the importance of soil. ii) The teacher to guide each group to discuss, present and summarize the importance of soil.	Written documents	Is the student able to assess the importance of soil?	
3.2 Soil composition and properties.	The student should be able to illustrate soil composition and properties.	i) Using written documents the teacher to assign students in groups to search for information on soil composition. ii) The teacher to guide individual students to draw diagrams showing soil composition. iii) The teacher to assign students to collect soil samples for identification of soil properties (physical and chemical).	i) Written documents ii) Soil samples	Is the student able to illustrate soil: 1.composition? 2.properties?	

<b>TOPIC/SUB-TOPIC</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING RESOURCES</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
		iv) using soil samples the teacher to guide students in groups to test soil texture and observe its colour, properties and make summary.			
3.3 Soil profile and characteristics	The student should be able to: a) Define soil profile	i) Using written documents the teacher to guide students to define soil profile. ii) The teacher to guide students to clarify on the definition of soil profile.	Written documents	Is the student able to define soil profile?	
	b) Illustrate soil profile and its characteristics.	i) The teacher to organize a field study to a site for the students to observe soil profile. ii) The teacher to guide students in groups to discuss the characteristics of soil profile. iii) Using diagrams and photos showing soil profile the teacher to guide students to draw and label the diagram of soil profile.	i) Field site ii) Diagrams and photographs showing soil profile.	Is the student able to : i) Illustrate soil profile? ii) Illustrate soil profile characteristics?	

<b>TOPIC/SUB-TOPIC</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING RESOURCES</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
3.4 Simple soil classification	The student should be able to classify soil according to textural groups.	Using samples of soil the teacher to guide students to classify soil according to their texture.	Soil samples	Is the student able to classify soil according to textual groups?	
3.5 Soil erosion	The student should be able to: a) Define soil erosion.	i) Using photographs and posters showing areas where soil erosion has taken place the teacher to guide the students in groups to explain soil erosion. ii) The teacher to guide students clarify the meaning of soil erosion.	Photographs and posters showing eroded areas.	Is the student able to define soil erosion?	
	b) Examine how agents of soil erosion work.	i) Using written documents the teacher to guide the students to discuss and examine different agents of soil erosion. ii) Using written documents the teacher to guide students in groups, to discuss, present and make summary on how agents of soil erosion work.	Written documents	Is the student able to examine how agents of soil erosion work?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	c) Describe types and effects of soil erosion to social and economic activities.	i) The teacher to organize a visit to an eroded area use pictures or photographs of eroded sites for the students to observe types and effects of soil erosion to human life. ii) The teacher to guide students in groups to discuss on what was observed in the field. iii) The teacher to guide students in groups to summarise types and effects of soil erosion to human life.	i) Site area ii) Pictures/ photographs of eroded sites.	Is the student able to describe: types of soil erosion? effects of soil erosion to human life?	
	d) Relate population growth and rate of soil erosion on the quality of life.	i) Using a library research the teacher to assign students in groups to do a project work to find out the relationship between population growth and the rate of soil erosion on the quality of life. ii) The teacher to guide each group to discuss, present and make a summary.	Different texts on soil erosion.	Is the student able to relate population growth and rate of soil erosion on the quality of life?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	e) Demonstrate ways of controlling soil erosion through the application of various conservation techniques.	i) Using pictures and photographs on various methods of soil conservation the teacher to guide individual students to identify different techniques of controlling soil erosion. ii) At school level, the teacher to guide students to practice how to control soil erosion by mulching, planning trees and grasses, planting cover crops and terracing. iii) The teacher to make a follow-up and keep records.	Pictures and photographs on various methods of soil conservation.	Is the student able to demonstrate: i) Ways of controlling soil erosion? ii) Techniques for soil conservation?	
<b>4. 0 ELEMENTARY SURVEY AND MAP</b> 4.1 Meaning and types of survey.	The student should be able to: a) explain the meaning of simple land surveys.	Using written documents the teacher to guide students in groups to read and explain the meaning of land surveys	Written documents	Is the student able to explain the meaning of simple land survey?	16
	b) Explain the types of simple and survey	The teacher to guide students in groups to discuss and explain the types of simple land survey.		Is the student able to explain types of land surveying?	

<b>TOPIC/SUB-TOPIC</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING RESOURCES</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
4.2 Chain survey	The student should be able to: a) Describe chain/ tape survey.	i) Using guiding questions the teacher to guide the students in groups to discuss and describe chain/tape survey. ii) The teacher to guide each group to discuss, present and make summary.	Guiding questions	Is the student able to describe chain/ tape survey?	
	b) Explain different types of equipment used in chain/tape surveying.	i) Using surveying equipment the teacher to guide the students in groups to discuss and explain different types of equipment used in chain surveying. ii) The teacher to guide each group to demonstrate how chain survey equipment is used.	i) Tape measure ii) Chain iii) Arrows iv) Ranging poles v) Pegs vi) Compass	Is the student able to explain different types of equipment used in chain/tape surveying?	
	c) Practise chain/ tape surveying activities at school level.	Using surveying equipment the teacher to guide the students in groups to practice chain/tape surveying activities.		Is the student able to: i) Use chain/ tape surveying equipment? ii) Practice chain/ tape surveying activities?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	d) Explain the importance of survey.	i) Using written documents the teacher to guide students in groups to search for information on the importance of survey in social and economic activities. ii) The teacher to guide each group to discuss and explain the importance of survey in social and economic activities and make summary.	Written documents	Is the student able to explain the importance of survey?	
<b>5. 0 MAP READING AND MAP INTERPRETATION</b> 5.1 Concept of map reading.	The student should be able to: a) Explain the concept of map reading and its importance to social economic activities.	Using questions and answers teacher to guide the students in groups to brainstorm on the meaning of map reading and its importance.		Is the student able to explain: the concept of map reading? the importance of map reading?	20
	b) Identify essentials of a map.	Using guiding questions, the teacher to guide students in groups to identify essentials of a map.	Guiding questions	Is the student able to identify essentials of a map?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
5.2 Reading and interpreting topographical maps.	The student should be able to: a) Recognize features on a map	Using maps and guiding questions the teacher to guide students in groups to recognize features on a map.	Topographical maps (map extracts).	Is the student able to recognize features on a map?	
	b) Generate information from maps.	Using topographical maps and guiding questions the teacher to guide students in groups to discuss and generate information from maps.	Topographical maps	Is the student able to generate information from maps?	
	c) Interpret information in relation to daily activities.	1. The teacher to demonstrate how to interpret information from maps. 2. Using guiding questions the teacher to assign students in groups to discuss and interpret information from maps in relation to daily activities.	Guiding questions	Is the student able to interpret information from maps?	
<b>6.0 PHOTOGRAPH READING AND INTERPRETATION</b> 6.1 Types of photographs	The student should be able to:- a) identify types of photographs.	i) Using written documents the teacher to guide students in groups to identify types of photographs. ii) The teacher to guide each group to discuss, present and summarize the types of photographs.	i) Written documents ii) Types photographs	Is the student able to identify types of photographs?	14



TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	b) Differentiate between ground, vertical and oblique photographs.	i) Using texts and photographs, the teacher to guide students in groups to differentiate between ground, oblique and vertical photographs. ii) The teacher to guide each group to discuss present and make a summary.	i) Ground, vertical and oblique photographs. ii) Texts on photographs.	Is the student able to differentiate ground, vertical and oblique photographs?	
6.2 Reading and interpreting photographs	The student should be able to:- a) Read features presented on photographs.	i) The teacher to demonstrate how to read features on photographs. ii) Using guiding questions and photographs the teacher to guide students in groups to read features on photographs.	i) Photographs showing variety of features. ii) Guiding questions.	Is the student able to read features presented on photographs?	
	b) Identify natural and man made features in the fore, middle and background of the photograph.	Using written documents, guiding questions and different types of photographs the teacher to guide students in groups to sort out images as regards to fore, middle and background of the photographs.	i) Different types of photographs. ii) Guiding questions.	Is the student able to: Identify natural and man make features in the fore, middle and background of the photography?	

<b>TOPIC/SUB-TOPIC</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING RESOURCES</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
	c) Interpret features presented on the photograph.	Using guiding questions the teacher to assign students in groups to interpret features presented on the given photographs.		Is the student able to interpret features presented on the photograph?	
<b>7. 0 APPLICATION OF SIMPLE STATISTICS</b> 7.1 Concept of statistics	The student should be able to: a) Explain the concept of statistics.	Using written documents the teacher to guide students in groups to discuss and explain the concept of statistics.	Written documents	Is the student able to explain the concept of statistics?	
	b) Differentiate types of statistical data.	i) Using texts on statistics the teacher to guide students in groups to discuss and differentiate types of statistical data. ii) The teacher to assign each group to collect different types of statistical data. iii) Using tables showing different statistics, the teacher to guide students to summarise different types of statistical data.	i) Tables showing different statistics ii) Texts on statistics	Is the student able to differentiate types of statistical data?	
	c) Present data graphically	i) The teacher to demonstrate how to present data graphically.	Different statistical data	Is the student able to present data graphically?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
		ii) Using different statistical data, the teacher to guide the students in groups to discuss and draw line and bar graphs on presenting data.			
	d) Explain the importance of statistics to the user.	i) Using guiding questions the teacher to assign students in groups to discuss the importance of statistics to the user. ii) The teacher to guide each group to present the importance of statistics to the user and make summary.	i) Texts on statistics. ii) Guiding questions	Is the student able to explain the importance of statistics to the user?	
	e) Describe how massive data can be summarized	i) The teacher to assign the students in groups to read texts on how to summarise massive data. ii) The teacher to guide each group to discuss, present the findings and make a summary. iii) Using different statistical data and diagrams the teacher to guide students to summarize massive data.	i) Statistical data ii) Diagrams.	Is the student able to describe how massive data can be summarized?	

<b>TOPIC/SUB-TOPIC</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING RESOURCES</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
b) Simple statistical measures and interpretation.	The student should be able to:- a) Describe methods of presenting simple and mixed data.	i) Using written documents the teacher to guide the students in groups to discuss methods of presenting mixed data. ii) The teacher to guide each group to present and summarize methods of presenting mixed data. iii) Using statistical data the teacher to guide students present simple and mixed data.	Statistical data.	Is the student able to describe methods of presenting simple and mixed data?	
	b) Calculate the mean, mode and median.	i) Using texts on statistics the teacher to guide students in groups to explain the meaning of mean, mode and median. ii) Using guiding questions the teacher to guide each group to calculate the mean, mode and median.	i) Tables and data for calculation. ii) Texts on statistics.	Is the student able to calculate the: i) Mean? ii) Mode iii) Median?	
	c) Explain the significance of mean, mode and median.	Using questions and answers the teacher to guide students in groups to discuss on the significance of the mean, mode and median in daily life.		Is the student able to explain the significance of mean, mode and median?	

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	d) Interpret data using simple statistical measures.	i) The teacher to provide different data (population data, traffic data, agricultural data, etc) and assign students in groups to discuss how to interpret data using simple statistical measures. ii) The teacher to guide each group to interpret data using simple statistical measures.	Table of data for interpretation.	Is the student able to interpret data using simple statistical measures?	



## FORM FOUR

### CLASS LEVEL COMPETENCES

The student demonstrates:

1. The ability to utilize basic research skills and research output.
2. The knowledge on major climatic types and ability to relate climate and natural regions so as to plan and manage daily life activities.
3. Knowledge on the concepts of settlement and human population change, distribution and associated problems and use appropriate skills to manage them.
4. Ability to critically examine environmental problems and take appropriate measures to solve them.

### CLASS LEVEL OBJECTIVES

By the end of Form Four course, student should be able to:

- (a). Develop an understanding of the objectives, tools, instruments and importance of research output.
- (b). Show an understanding of the major climatic types and their relationship to natural regions.
- (c). Develop an understanding of the concepts of human population and settlement, factors for their distribution and change, relevant policies, associated problems and possible solutions.
- (d). Develop an understanding of the problems facing environment, their causes and solutions at national and global contexts.

<b>TOPIC/SUB-TOPIC</b>	<b>SPECIFIC OBJECTIVES</b>	<b>TEACHING AND LEARNING STRATEGIES</b>	<b>TEACHING AND LEARNING RESOURCES</b>	<b>ASSESSMENT</b>	<b>NUMBER OF PERIODS</b>
<b>1. 0 INTRODUCTION TO RESEARCH</b>  1.1 Concept of Research	The student should be able to: a) Explain the meaning of research.	Using questions and answers the teacher to guide students in groups to brainstorm the meaning of research.	Prepared questions on a paper.	Is the student able to explain the meaning of research?	20
	b) Assess the importance of research in daily life.	i) Using texts on research the teacher to guide students in group to read and discuss the importance of research in daily life. ii) The teacher to guide each group to discuss and present the importance of research in life and make summary.	Texts on Research	Is the student able to assess the importance of research in daily life?	
1.2 States of Research Work	The student should be able to: a) Describe research stages in conducting a research.	i) Using texts on research the teacher to guide students in groups to read and describe stages of research. ii) The teacher to guide each group to discuss and present stages of research (e.g. formation of topics, development of research tools, piloting the research tools, collecting and analyzing data, presentation	Texts on research	Is the student able to describe stages of conducting research?	



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		of data, making recommendations) and make summary.			
	b) Conduct research	i) The teacher to guide students in groups to choose topics for research within the school premises, discuss and present them in the class (eg. topic on performance, attendance, discipline). ii) The teacher to guide each group to develop research tools (questionnaires, interviews, observation), discuss, pilot them and present for clarification. iii) The teacher to guide each group to conduct simple research (on project basis). iv) The teacher to guide the students to analyze (qualitative/quantitatively) and present data using simple statistical methods (bar and line graphs). v) The teacher to guide students to make recommendations and summarize.	i) List of research topics. ii) List of research tools.	Is the student able to conduct research?	

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	c) Explain the use of research output and recommendations.	i) Using answers from the research conducted, the teacher to guide the students in groups to discuss and explain the uses of research outputs and recommendations. ii) The teacher to guide each group to discuss, present and make summary.	Research reports	Is the student able to explain uses of research output and recommendations?	
<b>2.0 CLIMATE AND NATURAL REGIONS</b> 2.1 World climatic types and their characteristics	The student should be able to:- a) Describe major climatic types of the world and their characteristics.	i) Using World Climatic Maps, the teacher to guide students in groups to discuss and identify major climatic types and their characteristics. ii) The teacher to guide each group to discuss and present the description of major climatic types and their characteristics and make summary.	World Climatic Maps.	Is the student able to describe major climatic types of the world and their characteristics?	40

TOPIC/SUB-TOPIC	SPECIFIC OBJECTIVES	TEACHING AND LEARNING STRATEGIES	TEACHING AND LEARNING RESOURCES	ASSESSMENT	NUMBER OF PERIODS
	<p>b) Explain how different geographical factors influence climate.</p>	<p>i) Using the Visualised in Participatory Programmes (VIPP) cards with geographical factors, the teacher to assign students in groups to discuss and identify different geographical factors that influence climate.</p> <p>ii) The teacher to guide each group to discuss and present each factor which influence climate and summarize.</p>	<p>VIPP cards with geographical factors.</p>	<p>Is the student able to explain how different geographical factors influence climate?</p>	
<p>2.2 Natural Regions of the World</p>	<p>The student should be able to:</p> <p>a) Identify different types of natural regions.</p> <p>b) Draw a world map showing different natural regions.</p>	<p>i) Using a globe or world maps, the teacher to guide students in groups to use guiding questions to discuss and identify the world natural regions.</p> <p>ii) The teacher to guide each group to discuss and present the different types of natural regions and make summary.</p> <p>iii) The teacher to guide individual students to draw a world map and show different world natural regions.</p>	<p>i) Globe, guiding questions</p> <p>ii) World maps</p>	<p>Is the student able to:</p> <p>i). Identify different types of natural regions?</p> <p>ii). Draw a world map and show different natural regions?</p>	

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	c) Explain the relationship between human activities and climate.	i) Using pictures and photographs showing human activities the teacher to guide students in groups to identify different human activities. ii) Using empty VIPP cards the teacher to guide each group to discuss and relate human activities with climate. iii) The teacher to guide each group to discuss and present the relationship between human activities and climate and make a summary.	i) Pictures and photographs showing different human activities. ii) VIPP cards	Is the student able to explain the relationship between human activities and climate?	
	d) Propose ways of solving climatic problems.	i) Using guiding questions the teacher to organize a plenary discussion for students to propose ways of solving climatic problems in Tanzania. ii) The teacher to guide the students to summarize the ways of solving climatic problems.	Guiding questions on a paper.	Is the student able to propose ways of solving climatic problems?	

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<b>3.0 HUMAN POPULATION</b>  3.1 Concept of population	The student should be able to:- a) Define the term population.	Using questions and answers the teacher to guide students in groups to brainstorm the meaning of population.	Pre-pared questions on a paper	Is the student able to define the term population?	30
	b) Describe characteristics of human population.	i) Using population charts and graphs, teacher to guide students in groups to discuss and explain the characteristics of human population focusing on size, structure, composition, sex ratio and dependency ratio. ii) The teacher to guide each group to discuss and present the characteristics of human population and make summary.	Population charts and graphs.	Is the student able to describe characteristics of human population?	
	c) Explain the importance of studying population	i) Using questions and answers the teacher to guide students in groups to discuss the importance of studying population. ii) The teacher to guide students to clarify and make a summary.		Is the student able to explain the importance of studying population?	

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3.2 Population distribution	The student should be able to describe factors governing human population distribution.	<ul style="list-style-type: none"> <li>i) Using guiding questions the teacher to guide students in groups to read written documents and discuss factors government human population distribution.</li> <li>ii) The teacher to guide each group to present and make summary.</li> </ul>	<ul style="list-style-type: none"> <li>i) Written documents on population</li> <li>ii) Guiding questions.</li> </ul>	Is the student able to describe factors government human population?	
3.3 Population change	The student should be able to: a) Define Population change	The teacher to guide students to brainstorm the meaning of population change.		Is the student able to define population change?	
	b) Explain factors which influence population change.	<ul style="list-style-type: none"> <li>i) Using information/data on birth rate, death rate and migration, the teacher to guide students in groups to discuss and explain the factors which influence population change.</li> <li>ii) The teacher to guide each group to discuss present and make summary.</li> </ul>	Data/information on birth rate, death rate and migration.	Is the student able to explain factors which influence population change?	

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	c) Analyse the effects of population change to an individual and a nation	i) Using guiding questions the teacher to assign the students in groups to read texts on population to search for and discuss the effects of population change to an individual and a nation. ii) The teacher to guide each group to make presentation and summary.	i) Texts on population ii) Guiding questions on a paper.	Is the student able to analyze effects of population change to an individual and a nation?	
3.4 Population data	The student should be able to: a) Explain the sources of population data.	i) Using texts on population the teacher to guide students in groups to read and identify sources of population data. ii) Using different population data, the teacher go guide students to make clarification on sources of population data.	i) Population data ii) Texts on population	Is the student able to explain sources of population data?	
	b) Interpret population data	i) Using population census data the teacher to demonstrate how to interpret population data. ii) The teacher to guide students in groups to interpret population data.	Population census data	Is the student able to interpret population data?	

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	c) Explain the uses of population data	i) Using the information from data presentation, the teacher to guide students to discuss in groups and present how to use information to solve problems. ii) The teacher to guide students to clarify the uses of population data.	Information from data presentation	Is the student able to explain the use of different population data?	
3.5 Population problems	The student should be able to: a) Analyse population problems.	i) Using guiding questions the teacher to guide students in groups to define and analyze population problems. ii) The teacher to guide each group to discuss and present population problems and make summary.	Guiding questions	Is the student able to analyse population problems?	
	b) Analyse the effects of population change on economic growth, labour, human needs and investment, and suggest possible solutions.	i) Using written documents the teacher to guide the students to read the effects of population change on economic growth, labour, human needs and investment and suggest possible solutions.	i) Written documents ii) Flip charts iii) Manila cards iv) Marker pens	Is the student able to: i) Analyse the effects of population change on economic	



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		ii) Using gallery walk method the teacher to guide each group to discuss and present a given factor/situation affected by population change and make summary. iii) Teacher to guide students in plenary discussion to suggest solutions to population problems.		growth, labour, human needs and investment? ii) Suggest possible solutions to population problems?	
3.6 Population policy	a) Explain the meaning of population policy.	Using guiding questions the teacher to guide students in groups to discuss and explain the meaning of population policy.		Is the student able to explain the meaning of population policy	
	b) Compare the national population policy on family planning strategies in Tanzania to the population policies in other countries.	i) The teacher to guide students in groups to read written texts/literature on population policy about family planning in Nigeria, china, German and Tanzania or any other highly populated country. ii) The teacher to guide each group to discuss, compare and contrast the population policies between the said countries and Tanzania.	Written Texts on family planning.	Is the student able to compare population policy on family planning strategies in Tanzania with the population policies in other countries?	

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		iii) The teacher to guide students in groups to summarize the strategies used to control population problems and make summary.			
<b>4.0 SETTLEMENTS</b> 4.1 Concepts of settlement	The student should be able to: a) Define settlement.	i) Using guiding questions the teacher to guide students to explain the meaning of settlement. ii) Using maps showing settlements, the teacher to guide students to define settlement.	i) Maps showing settlement patterns. ii) Guiding questions on a paper	Is the student able to define settlement?	16
	b) Explain categories, types and characteristics of settlements	i) Using map extracts, diagrams and photographs, the teacher go guide students in groups to discuss and explain categories, types and characteristics of settlements. ii) The teacher to guide each group to discuss and present the catetories, types and characteristics of settlements and make summary.	i) Map extracts, diagrams and photographs.	Is the student able to explain: categories of settlements? types of settlements? characteristics of settlements?	

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	c) Explain the functions of settlements and their importance.	i) Using map extracts diagrams and photographs the teacher to guide the students in groups to discuss the functions of settlements (agricultural collecting centers, communication centers, market centers, administrative centers, mining centers, port fishing centers) and their importance. ii) The teacher to guide each group to discuss and present the functions and importance of settlements and make summary.	i) Maps showing the functions of settlement. ii) Map extracts diagrams and photographs.	Is the student able to explain: i) The functions of settlements? ii) The importance of settlements?	
4.2 Growth of settlements.	The student should be able to: a) Analyse factors which lead to growth of settlements.	i) Using written documents on settlements, the teacher to guide students in groups to discuss the factors which lead to growth of settlements. ii) The teacher to guide each group to discuss, present and make summary.	Written documents on settlements.	Is the student able to analyse factors which lead to growth of settlements?	

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	b) Assess social and economic problems associated with urban growth.	i) Using written documents the teacher to guide students in groups to search for information on social and economic problems associated with urban growth.  ii) The teacher to guide each group in plenary for discussion, presentation and clarification.	Texts on problem of urban growth	Is the student able to assess the social and economic problems associated with urban growth?	
	c) Suggest ways of solving existing problems related to urban growth.	i) The teacher to guide students in groups to discuss and suggest ways of solving existing problems, drawing experiences from rural settlements and urban settlements such as Johannesburg, Lagos, Bombay, Peking and Dar es Salaam.  ii) The teacher to guide students in plenary and summarize.	i) Maps showing different towns ii) List of urban problems	Is the student able to suggest ways of solving existing problems related to urban growth?	

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<b>5.0 ENVIRONMENTAL ISSUES AND MANAGEMENT</b> 5.1 The concept of environment.	(a) The student should be able to explain the meaning of environment	i) The teacher to guide students in groups to read different texts on environment and discuss the meaning of environment. ii) The teacher to guide students to summarize the meaning of environment.	Texts on environment	Is the student able to explain the meaning of environment?	50
5.2 Importance of environment	The student should be able to explain the importance of environment.	i) Citing real examples from the environment, the teacher to guide students in groups to discuss the importance of environment. ii) The teacher to guide each group to discuss and present the importance of environment and make summary.	Real examples from environment	Is the student able to explain the importance of environment?	
5.3 Environmental problems	The student should be able to: a) Identify environmental problems.	i) Using the actual environment, photographs and pictures the teacher to guide students to discuss in groups and identify the environmental problems. ii) The teacher to guide each group to discuss and present the environmental problems and make summary.	i) Actual environment ii) Photographs iii) Pictures	Are students able to identify environmental problems?	

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	b) Analyse the causes, extent and effects of the loss of biodiversity.	i) Using written texts on environment the teacher to guide students in groups to discuss and explain the meaning of bio-diversity and loss of bio-diversity. ii) Using guiding questions, the teacher to guide each group to use pictures and photographs to discuss and analyze the causes, extent and effects of loss of bio-diversity in plants and animals in the ecosystem.	Written texts on	Is the student able to: i). explain the meaning of bio-diversity and loss of bio-diversity? ii). analyse the causes, extent and effects of loss of bio-diversity?	
		iii) The teacher to guide each group to discuss and present the meaning, causes, extent and effects of loss of bio-diversity and make summary.			
	c) Analyse the causes, extent and effects of pollution and waste mismanagement.	i) Using questions and answers, the teacher to guide students to brainstorm on the meaning of pollution and waste mismanagement.	i) Dumping site ii) Pictures iii) Photographs	Is the student able to: explain the meaning of pollution and waste	

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		<p>ii) The teacher to organize a trip to a dumping site or use pictures and photographs showing waste mismanagement for the students to observe the causes and effect of pollution and waste mismanagement.</p> <p>iii) Using guiding questions the teacher to guide students in groups to discuss and present their findings for clarification and summary.</p>		<p>mismanagement? analyse the cause, extent and effects of pollution and waste mismanagement?</p>	
	<p>d) Explain the causes, extent, effects of fast rate of population and urban growth on environment.</p>				

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	e) Examine causes, extent and impacts of desertification.	i) Using questions and answers the teacher to guide students in groups to brainstorm the meaning of desertification. ii) Using photographs of cleared areas/live examples/ video the teacher to guide each group to discuss the causes, extent and impact of desertification on environment. iii) The teacher to guide each group to discuss and present the meaning, causes, extent and impact of desertification on environment and make summary.	i) Photographs of cleared areas ii) Video iii) List of questions	Is the student able to: examine the causes of desertification on environment? examine the extent and impacts of desertification?	
	f) Explain the impact of poverty on environment	i) Using guiding questions the teacher to guide students in groups to read texts on environment to explain the meaning and discuss the impact of poverty on environment.	Texts on environment	Is the student able to explain i) the meaning of poverty? ii) the impact of poverty on environment?	



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		ii) The teacher to guide students to debate on the impact of poverty on environment.  iii) The teacher to clarify the impact of poverty on environment and guide students to summarize.			
	g) Analyse causes and consequences of global climatic change on environment.	i) The teacher to invite a knowledgeable person on environmental issues to explain the causes and consequences of global climatic change on the environment.  ii) Using guiding questions, the teacher to guide students to discuss in groups the meaning, causes and consequences of global climatic change on environment and make a summary.	Resource person	Is the student able to: Explain the meaning of global climatic change? Analyse the causes of global climatic change on environment? Analyse the consequences of global climatic change on the environment?	

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5.4 Environmental conservation	The student should be able to: a) Define environmental conservation.	i) The teacher to guide the students to brainstorm in groups the meaning of environmental conservation. ii) Using different photographs and pictures showing conservation practices e.g. reclamation of land, tree planting, the teacher to guide students to clarify the definition of environmental conservation.	Photographs showing reclaimed areas.	Is the student able to define environmental conservation?	
	b) Analyse various ways of conserving environment.	i) Using written documents on land reclamation and photographs showing reclaimed areas, the teacher to guide students in groups to discuss and explain the various techniques used in environment conservation. ii) The teacher to guide each group to discuss and analyse various ways of conserving environment and make summary.	i) Photographs showing reclaimed areas. ii) Written documents.	Is the student able to analyse various ways of environmental conservation?	

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	c) Practice environmental conservation and management at school level.	i) Using different ways/ techniques of conserving the environment the teacher to guide students in groups to practice environmental conservation by planting trees, grasses, flowers, collecting garbage and cleaning the school compound. ii) The teacher to make a follow-up and keep records.	i) Grasses ii) Seedlings iii) Dustbins iv) Brooms	Is the student able to practice environmental conservation and management at school level?	





