**SS2 THIRD TERM NOTE**

**SUBJECT: GEOGRAPHY (PRACTICALS)**

**TOPIC: MAP DISTANCES**

Distance on a map is the interval between two points on a map. It can either be straight or curved.

**MEASUREMENT OF STRAIGHT DISTANCES**

(i) Locate the places involved on the map.

(ii) Use long ruler to measure the distance between the two points or places.

(iii) Relate the distance measured on the map to the scale given and get the ground distance.

**MEASUREMENT OF CURVE DISTANCES**

This can be done through three methods**:**

(i) The use of a pair of divider.

(ii) The use of a piece of thread.

(iii) The use of straight edge of a paper.

Among the three methods, the easiest and the best is the use of thread.

**Use of a piece of thread:** Stretch a piece of white thread along the route or curve that is to be measured gradually, carefully and accurately. Carefully follow the curve and do not allow the thread to move out of the curve. Mark the end of the distance on the thread with a biro or a pencil and transfer it to the linear scale or calculate the distance in statement or R.F Scale.

**Evaluation Questions:**

1. What is a distance?
2. How do we measure distance on map?

**DIRECTION:**The direction of one place or object from another is expressed by means of compass points or cardinal points. There are 4 cardinal points namely**:** North**,** South**,** Eastand West**.** But for better accuracy in the measurement of direction, eight cardinal points are used. These include North**,** North‑East**,** North‑West**,** South**,**

South‑East**,** South‑West**,** East and West.

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**PROCEDURES FOR MEASURING DIRECTION** (i) Locate the two places involved on the map.

(ii) Place your four cardinal points at the location or places given.

(iii) Use your ruler to join the place you wish to find its direction from the location or reference point.

(iv) The cardinal point on that line or near it is the direction.

**BEARING:** The location of one place from another is described as its bearing**.**

Bearing is expressed in degrees using a protractor**,** measured from North in a clockwise direction**.**

**Procedures for Measuring Bearing**

(i) Locate the two places involved on the map**.**

(ii) Place your four cardinal points at the reference pointbecause you are looking for the bearing of the other town**.**

(iii) Use your ruler to join the two places**.**

(iv) Place your protractor on the side of the line and the degrees which falls on that line represents the bearing**.**

Evaluation Questions

1.Differentiate between location and bearing.

2.Explain the method of measuring bearing.

General Evaluation Questions:

1. What is bearing?
2. How can you measure a curved distance?
3. Draw the four cardinal points.
4. Describe the shape of the earth.
5. State four proofs of earth sphericity.

**Reading Assignment**

Read on measurement of direction and bearing in Essential Geography Pgs. 163-164

**WEEKEND ASSIGNMENT**

1. The interval between two points on the map is known as (a) bearing (b) distance

(c) grid system (d) cardinal points

2. One of these is not used for measuring distance (a) straight edge of a paper

(b) ruler (c) nylon (d) thread

3. The first step in the calculation of straight distance is? (a) locate the places involved on the map (b) use a ruler to measure the distance between the two points or places (c) relate the distance measured on the map to the scale given and get the ground distance (d) use a thread to get the distance

4. The cardinal interval between North and East is (a) North – South (b) North – West (c) West – South (d) North – East

5. The cardinal interval between East and South is (a) North – South (b) East – South (c) South - East (d) North – East

**THEORY**

1. State the procedures for measuring bearing.

Draw the four cardinal points.

**TOPIC: REPRESENTATION OF RELIEF LANDFORMS**

**CONVENTIONAL SYMBOLS**

Conventional signs are symbols used to represent both natural and human features found in an area that is represented on a map. The conventional signs represent the language of the map. The map reader cannot read any map without the use of the signs. They are usually shown at the bottom of all topographical maps where the symbols are found. From these signs, information on the map can easily be interpreted e.g

+ This sign represents hospital or dispensary.

+++++++++ This represents a railway line.

========== This sign represents a main road.

**EVALUATION QUESTION**

What are conventional signs or symbols?

**METHODS OF REPRESENTING RELIEF**

Therelief of an area refers to the position and character of the highlands and lowlands in that area.

**METHODS OF SHOWING RELIEF ON MAPS**

1. Spot Height: These are spot or points on the maps whose height above the sea level has been accurately measured.
2. Hill Shading: In this method, only one colour is used but the intensity or thickness of thecolour depends on the steepness of the hill. The higher the hill, the deeper the shade representing it.
3. Trigonometrical Stations: These are simple points on the ground marking the angle of triangulation when mapping an area. They are usually represented by a triangle and a dot in the middle, with the height written by the side.
4. Form Lines: These are lines drawn on a map like contours but are based on estimations. They are not as accurate as contours and they are represented by broken lines.
5. Contours: These are lines drawn to join places of equal height level or altitude. The sea level is taken as the starting point in all measurements in metres or feet. The height of a particular point is written on the line.
6. Hatchures: These are short lines drawn down the slope in the direction of the steepest gradient. The steeper the slope the heavier the lines which are used.
7. Contour Layering : As an aid to visual impression , the space between contours are often coloured or tinted. Different shades of colours are used to denote differences in height e.g green represents a low land, yellow and brown represent highlands and white represents snow capped peaks. Blue represents water bodies and the darker the blue, the deeper the sea.
8. Bench Mark: This is a permanent mark made on objects like walls, building and bridges. It indicates the actual height which is usually written on the object. In most cases, it is written along the road.

**EVALUATION QUESTIONS**

1. What do you understand by the term relief?
2. Explain four methods of representing relief.

**DRAWING OF RELIEF PROFILE AND DETERMINING INTERVISIBILITY**

**MEANING OF RELIEF PROFILE**

Relief profile or cross section is the practice whereby relief shown by contour on map are drawn to bring out the real appearance of such relief as it is on the ground. It shows the nature of the relief that is represented by contour lines on a map.

**STEPS / PROCEDURE FOR CROSS SECTION DRAWING**

1. Draw a straight line to join the two points to be drawn.
2. Place a strip of paper on the section line and mark all the points at which contours cross the line. Number the marked contours down vertically. The rise and fall in the lines should be indicated respectively.
3. Transfer the strip of paper to the point of the scale of height and at each point draw a vertical line to the corresponding height on the scale.
4. A smooth line should be drawn to join up the points.

**DETERMINING INTERVISIBILITY**

Intervisibility is defined as a way of knowing whether one point or place on the map can be seen from another point or place on the same map.

1. A point at the peak of a conical hill is visible to another point at the base of the hill.
2. A concave slope gives room for intervisibility between two points while a convex slope does not.
3. Two points on the same contour lines are intervisible when all the contour lines between them are at the same point or lower than the two points.

**EVALUATION QUESTION**

Explain relief profile.

**INTERPRETATION OF TOPOGRAPHICAL MAPS** :Topographical maps are maps that shows the relief and important features of a place. It is important for geography students to be able to interpret topographical maps either with or without the use of conventional signs. Important features that need interpretation are relief, drainage, settlement communication and land use.

**Interpretation of Relief**

1. Use contour lines, spot height, trigonometrical station to note the highest point and the lowest point on the land. The highest point is found on the highest contour lines.
2. Note the proportion of the land occupied by highlands and lowland.
3. Note the specific landform or relief whether a ridge, hill, knoll or plateau.
4. Note the location or direction of the relief features on the map.
5. Note the height of the lowlands above the sea level and whether they are flat plains or undulating.
6. Note if the hills and plateau are dissected or not.

**Interpretation of Drainage**

1. Find out the important rivers on the map.
2. Note the direction of flow of the rivers.
3. Find out the pattern of drainage on the map whether radial, trellis or dendritic.
4. Look out for water sheds which separate drainage system.
5. Note if there are marshy areas which are usually poorly drained and are liable to flooding.
6. Note if there are water bodies like river, sea, ocean or ake. Identify their location on the map.
7. Determine whether the river has a delta or an estuarine.

**Interpretation of settlement**

1. Find out the type of settlement, either rural or urban.
2. Note the pattern of settlement whether linear, nucleated or disperse.
3. Relate the settlement to relief i.e are the settlements located on highlands, plateaux, ridges or on lowland?
4. Relate settlement to drainage i.e are settlements along the river course, far from rivers, near a lake, ocean or far from marshy areas? And give reasons for such settlement.
5. Relate settlement to communication i.e is the settlement linear i.e along the road, railway, far from airport, or along a navigable river or lake?
6. Describe also areas which are not settled and give reasons why they are uninhabited.

**EVALUATION QUESTIONS**

* 1. State two methods of interpreting relief.
  2. State two procedures for interpreting drainage.
  3. Mention three ways of interpreting settlements on topographical maps.

**Procedures for interpreting communication**

1. Find out the means of communication i.e by road, railway, footpath, air (if there are airports) and rivers(if there are navigable rivers).
2. Note from conventional signs: If the roads are primary, secondary or minor roads.
3. Relate communication to relief: Do the roads, railways or footpath avoid steep slopes, passes through highlands, ridges or are they located on the lowlands? Are there passes? Etc.
4. Relate communication with settlement: the presence of major roads is an indication of commercial or industrial towns while minor roads and foot path are common features of rural settlement.
5. Note important natural and man made features like mountains, boreholes, ridges which one may come across when traveling from one area to another.

**LAND USE**

Land use refers to the various ways in which man uses the land i.e the use of land by man is a reflection of the function of that settlement. The use of land or the function of a particular settlement can best be determined from the conventional symbols usually found below all topographical maps.

**FEATURES FROM CONVENTIONAL USES OF LANDS OR FUNCTIONS**

**SIGNS ON A MAP OF A SETTLEMENT**

|  |  |
| --- | --- |
| 1. Presence of banks & markets | Commercial |
| 2. Presence of mineral resources | Mining |
| 3. Presence of rivers | Fishing and canoe building |
| 4. Presence of hotels and stadium | Social function |
| 5. Presence of schools | Educational function |
| 6. Presence of marshy area | Swamp rice cultivation |
| 7. Presence of industries | Industrial functions |
| 8. Presence of forest | Farming and lumbering |
| 9. Presence of grasses | Livestock |
| 10. presence of prison, court, police station. | Administration |
| 11. Presence of buildings | Residential |
| 12. Presence of hospital, dispensary | Health function |

**GENERAL EVALUATION QUESTIONS**

* 1. State three procedures in interpreting communication on topographical maps.
  2. What do you understand by “land use”?
  3. Explain map reduction.
  4. Explain the procedures involved in reducing a map.
  5. Explain the procedures of enlarging a map.

**READING ASSIGNMENT**

Essential Geography, page 181.

**WEEKEND ASSIGNMENT**

1. Enlarge the scale 1:100,000 by 3 times (a) 1:300,000 (b) 1:33,000 (c). 1:150,000 (d) 1: 500,000
2. The presence of marshy area signifies ---------------- (a) Educational function (b) Social function (c) Swamp rice cultivation (d) Livestock and farming
3. The presence of features like forest indicates ---------------- (a) Farming and lumbering (b) Commercial function (c) Administrative function (d) Residential function
4. The presence of hotels and stadium signifies ( a) Social function (b) Educational function (c) Farming and lumbering (d) Administrative function
5. In relating communication to settlement, the presence of minor roads and foot paths are common features of ----------------------- (a) Urban settlement (b) Rural settlement (c) Town (d) City

**THEORY**

1. Reduce the following scale by 2 times

(i) 1:800,000

(ii) 1/250,000

1. State two procedures for interpreting communication.

**TOPIC: WORLD POPULATION**

Population is defined as the number of people living in an area at a particular time.

In terms of countries, China is the most populous country, followed by India, United States, Indonesia etc. In Africa, Nigeria is the most populous country with approximate population of over 160million people.

**POPULATION CONCEPTS**

(a) **OVER POPULATION**: Over-population exists when the given population of a country is considered too large for the available resources for people to enjoy the highest possible standard of living.

(b) **UNDER POPULATION**: This is the type of population that is less than the available resources of a country. This means that given the existing technology of such a country; her population is considered too small to fully utilize the available resources.

(c) **OPTIMUM POPULATION**: This is the best type of population concept because the number of people is adequately enough to fully maximize the available resources of the country to attain the highest possible standard of living.

(d) **POPULATION DENSITY**: This is defined as the number of persons per unit area of land or per square kilometer of land.

Mathematically,

Population density = Total Population

Land Area

**FACTORS OF POPULATION GROWTH**

Factors responsible for world population growth can be classified broadly into physical and

human factors.

**(a) Physical Factors:**

(1) Climate: Favourable climate of Europe, USA and China attracts high population while harsh climate of polar and desert regions do not attract population.

(2) Availability of good portable water for human and agricultural purposes e.g. USA, India, Java (Indonesia) etc.

(3) Relief e.g. Lowlands and river valleys like the Nile delta, Indus, and Ganges delta (India) attract high population while high mountains and rugged hills like the Rockies, Andes etc do not attract population.

(4) Soil: Fertile soil tends to attract population.

(5) Presence of mineral resources e.g. Coal, Petroleum, iron ore.

**(b) Human Factors:**

(1) Agriculture e.g. Java, China and India practice intensive agriculture hence have high population.

(2) Religious beliefs: e.g. The Islamic religion believes in polygamy and early marriages. These encourage high population in areas where they are practiced.

(3) Industry e.g. Industrial regions like pittsburg in USA,Ruhr in Germany tend to attract high population.

(4) Immigration: The movement of people into countries like USA, Canada and some European countries due to opportunities of employment tend to increase population in these areas.

(5) Good Transportation Network

(6) Improved Social Facilities like pipe-borne water, electricity etc and improved medical care attract high population.

**EVALUATION**

1. Briefly explain the following population concepts:

(a) over population (b) under population (c) optimum population

2. Mention any three factors responsible for high population growth.

**PATTERN OF WORLD POPULATION DISTRIBUTION**

World population is not evenly distributed, some areas are densely or moderately

populated while others are sparsely populated.

(a) The very densely populated parts of the World: These include:

(i) Industrial North: Countries here include Great Britain, France, Germany, Denmark, Belgium etc. These areas are highly industrialized due to the presence of coal and iron.

(ii) Industrial North-Eastern USA: This is the great industrial belt of the United States and Canada stretching from the share of the great lakes through pittsburg to New York which is very rich in coal and Iron ore.

(iii) Agricultural Monsoon Asia: This includes the populous countries like China, India, Japan, Pakistan, Indonesia (Particularly, Java) etc. This area has fertile soil, warm climate and abundant rainfall which promote agriculture.

(b) The moderately populated parts of the world: These areas include the cool temperate forest of Europe, Canada and Asia, agricultural USA, Mediterranean Europe, Africa, most parts of South East Asia etc.

(c) The very sparsely populated parts of the world.

These include:

* 1. The cold polar lands of Arctic and Antarctica (very cold areas).
  2. The Canadian and Eurasian tundra and Greenland (also very cold).
  3. The high mountains of Himalayas, Rockies and parts of Andes due to rugged topography and cold weather.
  4. The hot deserts of the world like the Kalahari, Atacama and Sahara deserts (due to hot weather and lack of rainfall).
  5. The dense tropical rain forest like the Amazon basin (South America), Congo basin (Zaire).

**PROBLEMS (DISADVANTAGES) OF HIGH POPULATION DENSITIES:** The following problems are associated with high population growth in USA, Java, India, Japan etc.

(1) Pressure on natural resources such as Land, water and forest.

(2) Increase in crime rate.

(3) Insufficient food.

(4) Unemployment and under employment.

(5) Inadequate housing.

(6) Traffic Congestion.

(7) Environmental pollution.

(8) Pressure on social amenities like pipe borne water, electricity etc.

(9) Inadequate health services.

(10) Development of slums and ghettos.

**SOLUTIONS TO WORLD POPULATION PROBLEMS**

The following are some of the ways world population problems can be solved:

1. Family Planning measures to control the high birth rate especially in developing countries.

2. Discouraging early marriages.

3. Monogamy and other measures that cut down high birth rate should be encouraged.

4. Provision of gainful employment for women: This is to occupy them with gainful ventures rather than continousbreeding of children.

5. Sex education should be taught consistently in schools and mass media to enlighten the people.

6. Encouragement of emigration.

7. Stiffening immigration laws.

**GENERAL EVALUATION**

1. Mention three areas in the world where population is very high.

2. Give any two physical factors and two human factors that are responsible for high population in the world.

3. Mention the advantages of high population.

4. What are the disadvantages of high population?

5. State the disadvantages of low population.

**READING ASSIGNMENT**

Essential Geography, pages 185-188.

**WEEKEND ASSIGNMENT**

1. The most populous country in the world is \_\_\_\_

(a) Nigeria (b) Indonesia (c) China

2. The best type of population concept is \_\_\_\_\_\_\_population.

(a) under (b) optimum (c) over

3. One of these cannot reduce world population?

(a) polygamy (b) monogamy (c) celibacy

4. The major reason for the high population density in India is the \_\_\_\_\_\_\_

(a) presence of Iron ore in the Ganges (b) Early marriages in the Ganges delta (c) India is the seat of civilization for Hindus religion

5. One of these areas is sparsely populated \_\_\_\_\_\_\_\_\_\_\_

(a) The Rurh region of Germany (b) The Pittsburgh region of North-East USA

(C) The Amazon basin of South America

**THEORY**

1. Briefly explain any two factors responsible for world population growth.

2. Outline any six problems associated with high population densities of the world.

**TOPIC: WORLD SETTLEMENT**

A settlement is defined as a place containing one or more buildings with people living in them. A settlement can be a city, village or a compound.

**Favourable conditions for siting a settlement:**

(i) Adequate water supply

(ii) Fertile soil

(iii) Availability of low and well-drained land.

(iv) Good communication network

(v) Defence/Protection for human habitation.

**Factors Affecting Growth of Settlement**

Some of the factors that promote the growth of towns, cities or states and finally lead tourbanization are:

(i) Accessibility by road, rails, air etc.

(ii) Presence of economic activities such as trading, farming, mining etc.

(iii) Good administration /seat of government.

(iv) Provision of social amenities like pipe borne water, electricity etc.

(v) Good soil condition that encourages intensive agriculture.

(vi) Absence of disaster.

(vii) Political stability.

(viii) Relief and drainage.

(ix) Favourable climatic condition.

**CLASSIFICATION OF SETTLEMENT ACCORDING TO TYPES**

There are two main types of settlements.

(a) Rural settlements (b) Urban settlements

**(1) Rural Settlements**

- A rural settlement is relatively a small area with socially homogenous people who know themselves very well.

- A rural settlement could be nucleated, dispersed or linear.

- They consist of people with the same cultural background and language.

- They are normally involved in primary activities such as farming, fishing, hunting and lumbering.

- They live a simple life-style with few social amenities.

- They are normally made up of few buildings with people ranging from one family to few hundreds.

**TYPES OF RURAL SETTLEMENTS**

There are basically, three (3) types of rural settlement. These are:

(1) **Homestead**: This is one family residence. They have dispersed settlements which are separated by bushes, called buffer zones.

(2) **Hamlet:** This settlement may be nucleated with few house, usually less than a hundred with many people living in them.

(3) **Village:** This is a large nucleated rural settlement formed from the combination of several hamlets. It contains several hundreds or a thousand of people with limited services.

**FUNCTIONS OF RURAL (VILLAGE) SETTLEMENT**

A village performs the following functions:

1. Agricultural function

2. Lumbering function

3. Small-scale shopping e.g. Petty shop and local markets

4. Fishing function

5. Religions function

**(b) Urban Settlements**

- An urban settlement is a relatively large, densely populated settlement with socially heterogenous people who do not know one another very well.

- Urban settlements are nucleated in nature.

- They consist of people with different cultural background and different languages.

- They consist of many buildings with thousands of people living in them.

- They have abundance social amenities.

- They are mainly involved in secondary activities such as manufacturing, construction, banking etc.

**TYPES OF URBAN SETTLEMENTS**

Four (4) major types of urban settlements exist. These are:

(1) **Town:** With several thousands of people.

(2) **City**: This is a large town with greater number of people than town.

(3) **Conurbation**: This is made up of several towns joined together but each town still maintains its identity.

(4) **Megalopolis**: It is the largest type of urban settlement made up of large cities with several millions of people. Megalopolis simply means, mega cities joining together to form one big city.

**Functions of Urban Settlement**

Most urban settlements perform the following functions:

(1) Industrial functions e.g. manufacturing industries.

(2) Commercial functions e.g. presence of markets, banks, shopping malls etc.

(3) Administrative functions e.g. seats of government, states and federal capitals etc.

(4) Socio-Cultural functions e.g. establishment of universities, churches, mosques, cinemas etc.

(5) Mining function.

(6) Residential functions.

**EVALUATION**

1. Mention any three favourable conditions for siting a settlement.

2. Briefly differentiate between a rural settlement from an urban settlement.

3. What is conurbation, and how is it different from megalopolis?

**CLASSIFICATION OF SETTLEMENT ACCORDING TO PATTERN OR SHAPE**

The pattern or shape of settlement refers to the arrangement of buildings in a settlement.

There are three main patterns of settlement. These are:

(1) Dispersed

(2) Nucleated

(3) Linear settlement

**(1) DISPERSED OR SCATTERED SETTLEMENT**

**Characteristics**

- Dispersed settlements have buildings scattered or far from each other.

- They have few social amenities because they are rural in nature.

- They are mainly involved in primary activities like farming, lumbering etc.

- Individual buildings are widely spaced from one-another and; behind the buildings, these are family parcels of land.

- They live a quiet lifestyle.

- The dispersed pattern of settlement reduces conflict among families because individual families are distinctly far apart.

**(2) LINEAR SETTLEMENT**

**Characteristics**

- The buildings are located along the routes e.g. roads, railways or rivers.

- Where two or more routes meet, a sub-linear settlement called nodal town is formed.

- When a settlement is formed as a result of the meeting of two rivers; a confluence town or settlement is formed e.g. Lokoja, in Nigeria, Khartoum (Sudan) where the blue Nile and the white Nile meet.

- Gardens are located behind houses.

- Farmlands may be located behind gardens.

- Linear settlements could extend to several kilometers in length.

- Some of the reasons for linear settlement are:

(i) The need to be closed to a transport network.

(ii) For easy accessibility to other areas.

(iii) The need to transport farm produce to markets.

**(3) NUCLEATED OR DENSE SETTLEMENT**

**Characteristics**

- Here, the buildings are very close to each other or they are concentrated in a small area.

- It has many social amenities.

- It is a feature of urban settlement.

- People are mainly involved in secondary and tertiary activities like manufacturing, construction etc.

- The area is well connected with roads.

- Farmlands are located outside the settlement.

- The level of interaction between the inhabitants is very high.

**REASONS OR NEED FOR NUCLEATED SETTLEMENT**

(i) The quest to maintain social ties.

(ii) It leads to easy development of infrastructure and social amenities.

(iii) The need for defence.

(iv) There is easy communication.

(v) For commercial development.

(vi) It enhances a well-defined leadership structure.

**GENERAL EVALUATION QUESTIONS**

1. What is linear settlement?

2. Mention two reasons for linear settlement.

3. Mention any four (4) characteristics of a linear settlement.

4. Briefly explain the three classification of settlement according to pattern or shape.

5. Outline any four functions of either the rural or the urban settlement.

**READING ASSIGNMENT**

Essential Geography pages 198-202.

**WEEKEND ASSIGNMENT**

1. One of these is not a factor for siting a settlement.

(a) Good soil condition (b) Good communication network (c) To preserve slavery

2. The smallest type of settlement is called \_\_\_\_\_\_

(a) Village (b) Hamlet (c) Homestead

3. When several towns join together but each town still retains its identity it is called \_\_\_\_\_\_

(a) conurbation (b) nuclear town (c) Megalopolis

4. The type of settlement located along major transportation routes is called \_\_\_\_\_\_ settlement.

(a) dispersed (b) Linear (c) Nucleated

5. One of these is not a major function of a rural settlement?

(a) Agricultural function (b) Industrial function (c) Religious function

**THEORY**

1. What is a settlement?
2. Outline any four factors affecting the growth of settlement.

**TOPIC: COMPONENTS OF GEOGRAPHIC INFORMATION SYSTEM (GIS)**

A **geographic information system** (**GIS**) is a system designed to capture, store, manipulate, analyze, manage, and present all types of spatial or geographical data.

The [acronym](http://en.wikipedia.org/wiki/Acronym) GIS is sometimes used for **Geographical Information Science** or **Geospatial Information Studies** to refer to the academic discipline or career of working with geographic [information systems](http://en.wikipedia.org/wiki/Information_system) and is a large domain within the broader academic discipline of [Geoinformatics](http://en.wikipedia.org/wiki/Geoinformatics" \o "Geoinformatics).

In general, GIS describes any [information system](http://en.wikipedia.org/wiki/Information_systems) that integrates, stores, edits, analyzes, shares, and displays [geographic](http://en.wikipedia.org/wiki/Georeference) information. [GIS applications](http://en.wikipedia.org/wiki/GIS_applications) are tools that allow users to create interactive queries (user-created searches), analyze spatial information, edit data in maps, and present the results of all these operations. Geographic information science is the science underlying geographic concepts, applications, and systems.

SOURCES OF GEOGRAPHIC DATA

1. Satellite images
2. Existing maps
3. Land survey
4. Socio-economic statistical records
5. Aerial photographs
6. Field work or survey

COMPONENTS OF GIS

Geographic Information System has five key components which are:

* Hardware e.g keyboard, CPU, mouse, hard disk e.t.c
* Software e.g Microsoft word, corel draw, Microsoft excel, computer games e.t.c
* Data
* People: these are the people who design and maintain the system and they also develop plans for applying it.
* Method: A successful GIS operates according to a well-designed plan and business rules.

GENERAL EVALUATION QUESTIONS

1. What is GIS?
2. Mention two features that can be represented with GIS.
3. Give examples of hardware.
4. What is software?
5. Define geography.

WEEKEND ASSIGNMENT

1. Real objects can be divide into (a) continuous and circulatory (b) discrete and continuous (c) circulatory and discrete
2. Raster images are used to (a) analyse data (b) interpret data (c) store data
3. All are physical objects except (a) road (b) mountain (c) river
4. Which of these is a socio-cultural feature? (a) airport (b) trees (c) lake
5. ‘Geo’ refers to (a) description (b) space (c) earth

THEORY

1. State two uses of GIS
2. Write three features within the school that can be represented with GIS

LAND RECLAMATION:

Land reclamation is the process of recovering bad or wasteful land and turning it to a useful or beneficial one. In Nigeria, land reclamation is common around coastline area like Victoria Island, Ajah, Ikoyi, Lekki all in Lagos State, Warri in Delta State, PortHarcourt in Rivers State, Calabar in Cross River State and Uyo in Akwa-Ibom State.

Reasons for Land Reclamation

(i) Insufficient land

(ii) Population pressure

(iii) For pleasure purposes

(iv) For residential purposes

(v) For commercial purposes

(vi) For industrial purposes

(vii) For social cultural purposes

Methods of Land Reclamation:

(i) Afforestation

(ii) Construction of barriers

(iii) Sand filling

(iv) Emboldening

(v) Construction of drainages

(vi) Control of erosion

Importance of Land Reclamation

(i) Increase in land area

(ii) Promotion of agriculture

(iii) It encourages tourism

(iv) Natural preservation of farms

(v) Environmental quality etc.

GEOGRAPHIC INFORMATION SYSTEM (DATA SOURCE) 2:

Data Input refer to the procedure of automatization of the data and the conversion into forms that can be stored and analyzed in computer.

Sources of GIS Data

(i) Land surveying

(ii) Remote sensing

(iii) Map digitizing

(iv) Field investigation

(v) Tabular data