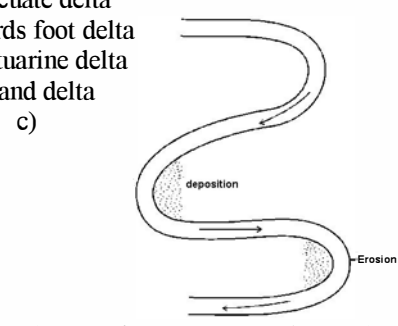


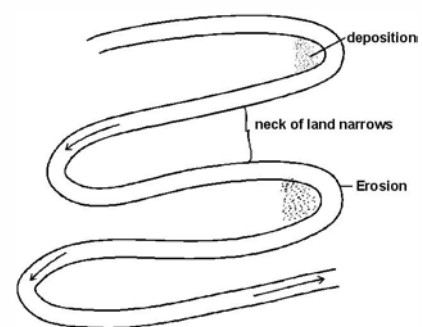
BURETI SUB COUNTY JOINT EVALUATION TEST
Kenya Certificate of Secondary Education
312/1
GEOGRAPHY
PAPER 1

1. Information obtained by geophysicists about the Earth's magnetic fields, gravity and vibration of the earth helps geographers in understanding the causes and effects of earthquakes.
 - Physics deals with aspects of matter, energy, light, heat, sound gravity and magnetism, similarly geography while studying the atmosphere focuses on the heat from the sun, which is responsible for the movement of air, evaporation of water and distribution of moisture in the atmosphere.
2. Five proofs that the earth is spherical
 - Circumnavigation of earth along a straight path leads one to the starting point from opposite direction.
 - The gradual emergence of a ship approaching the shore.
 - The circular shadow cast by the earth during lunar eclipse.
 - The different times during which the sun rises and sets in different parts of the world
 - The appearance of the middle pole to be relatively higher than other poles placed along a straight line on level ground at equal distance.
 - The earth is planet and all other planets are spherical
 - The circular shape of earth seen on photograph taken from satellites in the outer space.
3. a) An air mass is a large volume of air whose temperature and humidity are fairly uniform and which covers an extensive surface area.
 b) Four characteristics of ITCZ
 - High humidity
 - High rainfall
 - High temperature
 - Low pressure
 - The belt where trade winds converge
 - Shifts North or South of the equator with the apparent movement of overhead sun.
4. a) Hot springs are places where hot water comes out of the ground silently whereas geysers are jets of hot water or steam and gases ejected explosively from holes of fissure on the ground.
 b) Three ways by which calderas may be formed
 - Cauldron or block subsidence.
 - Violent explosion
 - Outward collapsing
5. a) Greenhouse effect is a naturally occurring process that aids in heating the earth fissure and the atmosphere.
 b) Carbon dioxide
 Chlorofluorocarbon
 Methane
 Nitrous oxide
 Ozone
6. a) i) The title of the map is Busia
 ii) The height of the highest point is
 iii) Latitudinal extent is to $0^{\circ}15'N$ to $0^{\circ}27'8''N$
 iv) All weather road loose surface settlement
 Other tracks and foot paths
 b) Cotton growing evidence cotton store
 - Transport evidence by all-weather road loose surface, other tracks and foot paths, main tracks (motorable)
 - Trade evidence by markers

- c) Explaining four reasons why the region to the West of Easting 27 is densely settled.
 - There are many transport lines e.g. all weather road loose surfaces for the easy movement of goods and services hence dense settlement
 - There are many rivers which provide water for domestic use as evidence by the many streams and seasonal swamps hence dense settlement
 - Gentle slopes as evidenced by spaced contours provide ideal situation for the construction of houses/settlement
 - High rainfall as evidenced by the many permanent rivers is ideal for crop growing / other economic activities.
- d) Describing the drainage of the area covered by the map
 - There are many rivers
 - The main river is Sio
 - Most rivers are permanent
 - Most rivers in the East flow towards the West/River in North flow towards the South.
 - River Sio and its tributaries form dendritic drainage pattern / most rivers exhibit dendritic pattern.
 - there are many seasons swamps
 - there are many reservoirs
 - some rivers in the East drain to the swamps.
7. a) A river capture is the diversion of the headwater of a weak river into the system of a stronger adjacent river whereas river rejuvenation is the renewal of the erosive power of a river.
 b) i) Three factors facilitating river erosion
 - steep gradient of the river valley / high velocity of the river.
 - high volume of water
 - Soft river bedrock
 - High/huge amount of load / large amount of load
- ii) Two types of deltas
 - Arcuate delta
 - Birds foot delta
 - Estuarine delta
 - Inland delta

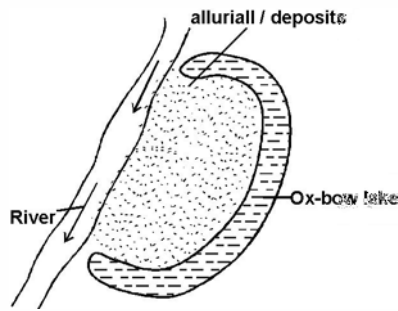


The river begins to meander on the flood plain.



for free past papers visit www.freekcsepapers.com or call 0720002119

- Intense lateral erosion takes place on the outer bank (concave) forming a bluff.
- Deposition takes place on the inner bank (convex)
- The land between the two concave banks is narrowed



- The two concave banks join causing the river to take a short cut.
- The cuts are completely off the rest of the river forming a meander cut off called ox-bow lake.

d) i) River braids are network of diverging and converging shallow channels along a river course.

ii) Describing four processes through which a river transports its load.

- Suspension light and insoluble materials are transported as they float on the surface of water
- Saltation- medium sizes/large load are bounced and moved by water in series of hops and jump
- Solution- load is dissolved in water and transported downstream.
- Traction- heavy load like boulders are dragged and rolled along the river bed by hydraulic action or force of gravity

8. a) Natural vegetation- is the plant cover that exists on its own in an area without the interference of external modifying influences like people and animals.

b) i) types of grasslands in the following countries

- Newzealand – Downs
- Argentina –pampas
- South Africa-Veldt/veld

ii) Describing the characteristics of tropical rainforest.

- Has three distinct canopies (layers)
- Trees have buttress roots
- The middle canopy consists of taller trees, lianas, ferns
- Lowest canopy consists of stunted trees
- Top canopy, trees have straight trunks and are hardwoods.
- Types of trees are: rosewood, ironwood, greenheart, ebony, mahogany, sepele.
- Most trees have evergreen broadleaves
- Trees shed their leaves.

c) Explaining four uses of mountain vegetation

- On the slopes of mountains grazing is carried.
- The forest are habitat for wild animals such as elephants
- Alpine meadows are used as summer pasture for animals
- The forest provide timber for building and construction
- The vegetation in the mountain forests is used for research.
- Mountain forest act as water catchment areas.

d) i)

- Identifying the direction I would take
- Estimating the distance to be covered
- Estimating the time likely to take
- Planning schedule of activities

- Identifying the location of different tree types.
- ii)
- Need for tape measure
- To measure the height of trees.
- To measure the width and length of identified area of the forests/area of the section identified

iii) Challenges

- Attack by wild animals
 - Bad weather eg rain
 - Difficulty in penetrating the forest
 - Difficulty in climbing tall trees (measuring)
9. i) Soil is the uppermost surface layer of loose or unconsolidated material which overlies the crustal rocks and on which plants grow.

ii) Three components of soils

- air/gases
- Water/moisture
- Organic matter/humus
- Inorganic matter/minerals

b) i) Soil layers

- B –subsoil
- C- Weathered parent material
- D- Bedrock

ii) Eluviation

- Leaching

iii) Characteristics of soil in horizon B

- Consists of mainly of silicate clays, aluminium and iron
- Calcium carbonate/gypsum present
- Made up of hard pan (laterite)
- Soils are prismatic/columnar
- Is a zone of illuviation / zone of enrichment?
- Soil is generally dark in colour.

c) Explaining how the following helps in maintenance of soil fertility and quality.

- Crop rotation – growing of different types of crops on the same piece of land prevent soil exhaustion since different crops require different nutrients from the soil hence soil fertility is improved.
- Mixed farming – keeping of animals and growing of crops in the same piece of land improves the fertility of the soil. this is because manure from animals is used to enrich the soil with minerals.
- Bush fallowing – when land is cultivated for some time and left to rest for a given period it improves the quality of soil in that of the land regains its fertility during a period of rest.

d) State five uses of soil to human activities.

- Soils are used in building and construction
- Some soil types are used as raw materials for pottery /ceramics/bricks /tiles
- Soils are used for agriculture
- Some soil types are sources of valuable minerals
- Some soils are mixed with herbs and sold for medicinal purposes.
- Some soils are directly used as food (salts)

10. a) A lake is a large mass of water in a depression

b) i) Two saline lakes within the R. Valley of Kenya.

- Lake Magadi
- Lake Nakuru
- Lake Bogoria
- Lake Elementaita

ii) Explain four reasons why some lakes within the R. Valley are fresh water lakes

- | | |
|--|--|
| <ul style="list-style-type: none"> - Some lakes are fed by fresh water rivers which dilutes the concentration of salt hence making the lake fresh - Some lakes are situated in high rainfall areas which increases the amount of fresh water in the lake making them fresh. - Some lakes have underground drainage reducing the concentration of the salt in the lake making the lake fresh water reservoir - Some lakes are situated in areas of low temperatures thus low rate of evaporation making the lake water fresh. - Some lakes have surface outlets through which excess salt deposits are carried away thus making the lake fresh water lake. <p>c) Explain three negative significance of lakes to human activities.</p> <ul style="list-style-type: none"> - High rainfall may cause a lake to flood neighbouring shore land leading to loss of life and destruction of property/displacement of settlement - Fresh water lakes are habitat for disease vectors eg. Mosquitoes and snail that cause malaria and Bilharzia respectively. | <ul style="list-style-type: none"> - The presence of a lake may make construction of roads and railway line difficult/ expensive since it has to follow along the course. <p>d) i) Sea breeze
ii) Fishing
Transport
Tourism</p> <p>iii)</p> <ul style="list-style-type: none"> - Taking photographs / video taping /tape recording. - Field sketching/drawing maps - Note taking - Filling in questionnaire - Tallying - Tabulating <p>iv) Challenges</p> <ul style="list-style-type: none"> - Water hyacinth covering the surface of water - Difficulty in transport due to water weed. - Water pollution due to motor vehicles washing/industrial waste. |
|--|--|

BURETI SUB COUNTY JOINT EVALUATION TEST
Kenya Certificate of Secondary Education
312/2
GEOGRAPHY
PAPER 2

1. a) Ports through which minerals pass.
 - Mombasa
 - Dar-es-Salaam
 - Tanga **any 2 × 1 = 2 marks**
- b) Three ways of reclaiming derelicts land.
 - Planting trees.
 - Creating a park to attract tourists.
 - Introducing aquaculture.
 - Refilling the holes.
 - Landscaping for settlement or farming. **any 3 × 1 = 3**
- 2.a) What is biogas - Biogas is a combustible gas comprising of methane and carbon dioxide gas which is generated by fermentation of biomass. **any 1 × 2 = 2**
- b) Three advantages of Uranium
 - Generates a large amount of energy / has high calorific value.
 - The power is free from pollution
 - Reliable source of energy due to its long lasting supply.
- 3.a) Three reasons for sparse population.
 - Low rainfall / it is dry.
 - Thin / poor soils unsuitable for agriculture.
 - Scanty vegetation to support livestock.
 - Rugged terrain unsuitable for settlement.
 - Insecurity.
 - Inaccessibility / remoteness. **any 3 × 1 = 3 marks**
- b) Two types of information from pyramid.
 - Size of the population
 - Population by age
 - Composition by sex.
 - Dependant ratio
 - Sex ratio / proportion of male to female
 - Different age cohorts/age groups. **any 2 × 1 = 2 marks**
- 4.a) What is urbanization?
 - It is the process through which towns and cities grown in number and size.üü
 - OR A process through which a population is transformed form rural based agricultural lifestyle to town based non- agricultural lifestyle.üü
 - OR A process whereby an increasing population of the total population in a country settles in towns.
- b) Three factors for Eldoret
 - Cool and wet climate ideal for settlement
 - Fertile volcanic soils for agriculture.
 - Well developed transport network
 - Serves a rich agricultural hinterland
 - Strategic location along the Nairobi - Kampala truck road.
 - Close proximity to Uganda and Southern Sudan is Conducive to the growth of export trade.
 - Has a rapidly expanding urban population. **any 3 × 1 = 3**
- 5.a) Horticulture is the intensive cultivation of vegetables, fruits and flowers for sale. **any 1 × 2 = 2 marks**
- b) Three characteristics of horticulture.
 - Advanced methods of crop production as employed.
 - The produce is capital intensive.
 - An efficient transport system.
 - Land is intensively cultivated.
 - Forms one well linked to urban areas.

- Practised near urban centres
- Farms are usually small
- Labour intensive
- Export - oriented. **any 3 × 1 = 3 marks**

Section B

6. a) Pie chart.
 World production of cocoa, beans by West countries in percentage .

Country	%
Ghana	26.1
Nigeria	24.9
Cameroon	18.2
Cote d'Ivoire	11.6
Others	19.2

Calculations of the degrees of the various segments.

$$\frac{26.1}{100} \times 360^\circ = 93.96^\circ$$

$$\frac{24.9}{100} \times 360^\circ = 89.64^\circ$$

$$\frac{18.2}{100} \times 360^\circ = 65.52^\circ$$

$$\frac{11.6}{100} \times 360^\circ = 41.76^\circ$$

$$\frac{19.2}{100} \times 360^\circ = 69.12^\circ$$



Pie chart showing World production of cocoa beans by West African countries.

- b) Two advantages of a piechart
 - Easy to draw / construct
 - Easy to read / interpret
 - Gives clear visual impression.
 - Can be used to show a wide variety of data.
- c) i) Ports - Tema - Takoradi
- ii) Three physic conditions for cocoa.
 - High temperatures / 24°C - 30°C
 - High rainfall / 1100mm - 2000mm well distributed throughout the year
 - High humidity / 75% - 80%
 - Deep well drained fertile volcanic soils
 - Protection from strong winds
 - Plenty of sunshine for ripening of pods.
 - Low altitude / 700m above sea level

any 3 × 1 = 3

for free past papers visit www.freekcepastpapers.com or call 0720502479

- d) i) Cultivation
- Cocoa is grown on plantations and small farms.
 - Plants are propagated from seed and do better in forest conditions.
 - Trees are planted about four metres apart.
 - No pruning is done
 - Weeding and manuring is done. **any 3 × 1 = 3 marks**
- Harvesting and processing
- The ripe pods are removed from the trunk and branches using a long sharp knife.
 - Pods are collected and piled at a central place.
 - Pods are then split open with sharp knives.
 - The beans are then scooped out.
 - The beans are put in heaps and placed on mats to ferment for 5 - 6 days.
 - Fermented beans are washed and cleaned.
 - Beans are spread on tables to dry in the hot sun.
 - The beans are turned over frequently as they dry and turn brown.
 - Dry beans are put in sacks and sent to market or buying centres. At the centre the beans are weighed, graded ready for export.
- ii) Five problems faced by Cocoa
- Fluctuation of prices in the world market.
 - Strong harmattan winds blowing from the Sahara desert destroy the pods.
 - Poor feeder roads making it difficult to transport the beans.
 - Pest like capsid bug / diseases like black pod attack and destroy the cocoa pods.
 - Low domestic prices discourage the farmers.
 - Inadequate labour during harvesting period.
 - Migration of farmers to towns or mining areas for better pay. **any 5 × 1 = 5 marks**
- 7.a) Three agricultural non-food industries.
- Tobacco processing.
 - Footwear making
 - Bees wax processing
 - Sisal processing
 - Pyrethrum processing. **any 3 × 1 = 3 marks**
- ii) Four benefits of motor industry
- Kenya saves foreign exchange.
 - Kenya earns foreign exchange through motor vehicle exports.
 - The industry has created employment opportunities.
 - The industry has attracted foreign investments.
 - The industry has led to development of skills among Kenyans
 - The industry promotes trade links with the neighbouring countries as Kenya sells motor vehicles to them
 - The industry has promoted transport sector by availing buses / lorries / vans / cars.
 - Kenya earns revenue from taxes, licences. **any 4 × 1 = 4 marks**
- b) Three problems arising from industrialization
- Some industries have led to the displacement of people thus disrupting their social / economic life.
 - Concentration of infrastructure and social services in the industrial towns has created an imbalance in economic development.
 - Industrialization has led to rural-urban migration that has increased the urban population leading to congestion / shortage of houses / increase in crime.
 - Some industries emit toxic gases that are harmful to

- people / wildlife.
- Fumes from chemical industries corrode metallic roofs of buildings hence destroying them.
 - Careless disposal / dumping of industrial waste has led to the degradation of land
 - Industrial effluent pollutes water sources making the water unfit for human / animal use. **any 3 × 2 = 6 marks**
- c) Three factors favouring electronics
- Advanced technology / highly skilled labour has increased efficiency leading to mass production of high quality goods.
 - Highly developed sources of energy provide the power required in the industries.
 - A large population / high purchasing power provides the local market.
 - Availability of capital that has enabled entrepreneurs to set up / expand the industries.
 - The ruggedness of the land does not favour agriculture hence more concentration on industrialization.
 - Well developed transport network has enabled the movement of raw materials to the industries / finished products to the market.
 - Availability of a large external market has led to more production.
 - Advanced scientific research led to advanced / high quality products.
 - Government emphasis on technical / scientific oriented education led to rapid development of industries. **any 3 × 2 = 6 marks**
- d) i) Two reasons for previsit
- To determine the likely cost to be incurred during the study.
 - Prepare a work schedule.
 - To be able to formulate appropriate objectives.
 - To be able to prepare appropriate data collection methods.
 - To find out likely problems to be experienced during the study.
 - To determine the appropriate tools for the study.
 - To be able to prepare a route map. **any 2 × 1 = 2 marks**
- ii) Two items in a work schedule
- Time for departure.
 - Time to spend in the study.
 - Time for lunch.
 - Time to end the study. **any 2 × 1 = 2 marks**
- Two advantages of studying Jua Kali industries through field study.
- Enables one to get first hand information.
 - Make learning interesting / breaks classroom monotony.
 - Makes learning real.
 - Enables one to share information.
 - Enables one to retain information learnt.
 - Enables one to apply skills learnt / acquired skills. **any 2 × 1 = 2 marks**
- 8.a) i) Definition of energy
- Energy is the power or fuel needed to run machines or assist humanity in production / or ability to do work. **any 1 × 2 = 2 marks**
- ii) Types of energy
- Sun - solar energy **1 mark**
 - Uranium - nuclear energy **1 mark**
 - Wind - Wind energy. **1 mark**

- b) i) Project marked
 F Kambura **1 mark**
 G Gitaru **1 mark**
 HKindaruma **1 mark**
 ii) J Grand falls **1 mark**
- c) i) Three benefits of HEP
 - The H.E.P projects provide electricity used for domestic and industrial purpose.
 - HEP projects create employment in the power plants where they work both as engineers, iii mechanics / drivers enabling them to earn income, hence boasting their standards of living.
 - HEP projects provide cheap electricity that has led to industrial development in Kenya, /Uganda and Tanzania providing employment to the jobless.
 - HEP has led to the development of the communication sector i.e. hence media that is able to transmit information through powered computers, telephones, satellites.
 - Uganda earns foreign exchange from power / electricity exported to Kenya and other countries that has been used to improve other sectors of the economy.
 - The countries earn revenue from consumers that has helped in setting up of other projects. **any 3 × 2 = 6 marks**
- ii) Two physical factors for Owen falls project
 - Presence of hard basement rock to provide a strong foundation for the construction of the dam.ii
 - Availability of high volume of water on river Nile required to drive the turbines.ii
 - Availability of a natural fall (Owen and Murchison falls) which provide a force required to turn the turbines.ii
 - Presence of a steep gradient on the Owen falls.
 - A narrow gorge which creates hydro-pressure needed to generate power.
 - Presence of lake Victoria which is a natural reservoir, which ensures there is regular and constant supply of water throughout the year. **any 2 × 1 = 2 marks**
- iii) Two other projects
 - Bujagali station.
 - Murchison fall station.
 - Buso wako station. **any 2 × 1 = 2 marks**
- d) i) Two objectives of study
 - To find out how geothermal power is generalised at Olkaria.
 - To find out the source of geothermal energy in Okaria.
 - To find out the advantages of geothermal energy.
 - To find out problems encountered in the generation of geothermal energy at Okaria. **any 2 × 1 = 2 marks**
- ii) Two follow-up activities
 - Holding class discussion about findings from the field.
 - Writing a report on data collected from the field.
 - Displaying photographs, taken in the field
 - Individual groups giving reports through their leaders.
 - Displaying a map of Kenya showing the location of Olkaria. **any 2 × 1 = 2 marks**
- 9.a) i) Two methods of reclamation
 - Irrigation
 - Tsetse fly control
 - Planting of trees / afforestation
 - Flood control **any 2 × 1 = 2 marks**
- ii) Two methods of swamp drainage
 - Construction of drainage pipes.

- Digging open ditches / canals.
 - Pumping out water. **any 2 × 1 = 2 marks**
- b)i) Two rivers that supply water to Mwea
 - Thiba River
 - Nyamindi river
 - Murubaru river. **any 2 × 1 = 2 marks**
- ii) Factors influencing establishment of Mwea irrigation scheme
Topography
 - The gently sloping / undulating land makes it possible for water to flow by gravity onto / out of the irrigated land.
 - The gently sloping land allows for mechanization which allows large areas to be put under cultivation. **any 1 × 2 = 2 marks**
Soils
 - Presence of black cotton soil which retains water for a long time suitable for cultivation of rice. **any 1 × 2 = 2 marks**
Population
 - The area was originally sparsely populated which enabled large areas to be put under cultivation iii / very few people were displaced thus it as cheaper to start the scheme. **any 1 × 2 = 2 marks**
Government policy
 There was need to keep political detainees busy / use them to provide free labour. This made the colonial government to set up Mwea where scheme there was a large detention camp. **any 1 × 2 = 2 marks**
- c) i) Three areas of Zuider zee project
 - North Eastern folder
 - South Flavoland
 - East flavoland
 - Markerward
 - Wie ringer meer polder. **any 3 × 1 = 3 marks**
- ii) Four differences between land reclamation in Kenya and Netherlands.
 - In Kenya the reclaimed land is relatively small while areas reclaimed in the Netherlands are large.
 - In Kenya irrigation is used as a means of reclaiming dry areas while irrigation in the Netherlands is used to lower salinity of the soil in reclaimed lands.
 - In Kenya simple methods like digging canals ditches to drain water from the land while in the Netherlands highly advanced methods like draining land from the sea/ creating a polder are used.
 - In Kenya dykes are used to control water floods while in the Netherlands dykes protect the reclaimed land from invasion by the sea.
 - In Kenya land is reclaimed from marginal areas and swamps while in the Netherlands it is from the sea.
 - Drought resistant crops are planted in marginal areas while in the Netherlands hardy crops lie oats, barley are planted in the polders.
 - In Kenya there is low market for irrigated crops while in the Netherlands there is a large market for irrigated crops. **any 4 × 2 = 8 marks Comparison must be complete to score.**
- 10.a) i) Differentiate between a settlement pattern and settlement.
 - A settlement pattern is an arrangement or layout of dwellings in a particular place while settlement is a place with houses where people live. **any 1 × 2 = 2**

for free past papers visit www.freekcepastpapers.com or call 0720002479

marks

- ii) Two types of settlements
- Linear settlement.
 - Radial settlement. **any 2 × 1 = 2 marks**
- b) Three factors that may lead to
- i) Nucleated settlement
- availability of social amenities like schools and health centres.
 - Presence of an industrial plant or natural resources such as minerals.
 - limitations of building land leading to clustering of dwellings in one place.
 - Security concerns e.g. banditry.
 - Zones prone to cattle rustling, so people stay in one place for security reasons. **any 3 × 1 = 3 marks**
- ii) Dispersed settlement
- Availability of big land for cultivation
 - Availability of evenly distributed water resources.
 - Good security over a wide area.
 - Dry climate that leads to dispersed settlement pattern. **any 3 × 1 = 3 marks**
- c) i) Three characteristics of the CBD
- High population during the day and low population during the night.
 - Land values are very high compared to other functional zones.
 - Accommodates very tall buildings most of which are office blocks and shops.
 - Heavy traffic during day time.
 - Roads converge on the CBD - focus of transport and

communication. **any 3 × 1 = 3 marks**

- ii) Three problems Mombasa faces.
- Limited space for expansion on the Island which has resulted into expansion of the town towards the mainland. üü
 - Inadequate housing facilities that has led to the growth of slums üü / informal settlements.
 - Congestion and traffic jams on the roads as the streets are narrow.
 - Unemployment resulting in increase crimeü ü / a social evils.
 - Pressure on available social amenities due to growing population. **any 3 × 2 = 6 marks**
- ü) Six functions of New York
- Industrial centre - major industries such as heavy industry, shop building.
 - International centre - headquarters for United Nations World Bank and IMF
 - Residential centre - Numerous houses.
 - Educational centre - Several schools, colleges and universities.
 - Financial and trade centre - World Bank and IMF.
 - Transport and communication - John F. Kennedy Airport Road, rails and water transport.
 - Recreational and cultural centre - night clubs cinema halls, social halls parks.
 - Religious centre - Churches, mosques and Jewish synagogues.
 - Sea port - international sea port which is very busy. **any 6 × 1 = 6 marks**