2. THE EARTH AND THE SOLAR SYSTEM

1. a i) i) Tropic of cancer

 ii)) 66 ½ º

b i) - Causes day and night

* Causes high and low tides
* Causes deflection of winds and ocean currents
* Causes time difference between longitudes
* Causes pressure difference on the earths surface

 ii) Time difference = 1400 hrs – 1030hrs

 = 0330 hrs

 = 3½ hrs

 \Difference in longitude is

 7/2 x a5 = 52.5

 52.5 – 45

 Longitude is 7.5W

 (c) - Sea breeze

* Land breeze
* Anabatic
* Katabatia

2. a i) - 28ºC-24ºC = 4ºC

 ii) - 1803mm

b) - the town experiences high temperature throughout the year (24ºC-28ºC)

* the annual range of temperature is small
* rain fall throughout the year/there is no marked dry season
* the rainfall patter has double maxima
* the wettest month is June/the driest month are December and January
* the rainfall is high i.e. 1803mm

3. a) Solstice is when the sun’s overhead position is over the tropic of caner and Capricorn

b) - Causes seasons i.e. spring, summer, autumn & winter

 - Varying lengths of day and night at different times of the year

 - Changes in the position of the midday sun at different times of the year

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4. a i) - Passing star theory

 - Nubular cloud theory

 ii) Centrifugal force

 b) - Layers of the overlying rocks exerts pressure hence the interior is hot

- After formation of the earth the interior cooled slowly compared to the exterior, thus the

 interior still retains much of its original temperature

- Radioactivity – mineral elements with the interior react with each other thus exploding

 to produce heat

5. a) - Passing star/ the big bang theory

 - Nebula cloud theory

 b)- The solar system is the group of heavenly bodies comprising the sun and the eight known planets which orbit the sun

6 .a) - Mercury

 - Venus

 b) (i) A time zone is a group of neghbouring countries that use the same standard time

 ii) - On crossing this line from east to West,, a day is gained / the clock has to be

 adjusted backwards by 24hours

 - On crossing this line from West to East a day is lose/the clock has to be adjusted

 forward by 24hours.

 c) - They are circular.

- They decrease in length Northwards and Southwards

- They are measured North and South of the equator

- There values increase Northwards and Southwards

- They are parallel to each other

7. a) - It is the sun and the planets orbiting around it.

 b) - The radio activity process taking place in the interior leads to a lot of energy

 production.

 - This keeps the temperature in the interior very hot.

 - The overlying materials exert a lot of pressure to the interior resulting to higher

 temperature.

 - When the earth was being formed the mantle and the core cooled at a slower rate than

 the crust.

 - As a result the temperature in the interior are still hot.

8. a i) -Solar/eclipse of the sun

. ii) - Q-moon

 - T-umbra

 b) -it cause days and night

-it causes high and low tides

-it causes the deflection of winds and oceans currents

-it causes time difference between longitudes

9. a) - Cooled at a slower rate than the outer exposed part

 - Due to the process of radio- activity where atoms break releasing heat

 - Weight of the overlying material that exerts pressure on the core

b) - Causes seasons

 - Varying lengths of day and night

10. a i) It is the date when the sun is overhead at the equator at mid day

 ii) 21st march√

 23rd September√

 iii) - causes four seasons i.e. winter, summer, autumn and spring√

* causes varying lengths of day and night at different times of the year√
* causes changes or altitude of the mid-day sun at different times of the year√

11. a) - U-mohorovicic discontinuity

 - V-the mantle/asthenosphere

 - X-Gutenberg discontinuity

 . b i) - it is made up of solid rocks

* composed of two layers /sial and sima/continental crust and oceanic crust
* sial is rich in silica and a aluminum
* sima is rich in silica and magnesium
* sima rocks are like plastic/more flexible
* the top layer of the sima is made of sediments and volcanic lava
* the bottom layer of sima is made up of basalt/igneous rocks
* the sima is made up of the basaltic/igneous rocks
* sima is made up of dense rocks /2.8-3.0 gm/cc
* the sial is made up of granites/sedimentary/metamorphic rocks
* the sial rocks are rigid/brittle

 ii) - the core is composed of two parts i.e. inner core and outer core

* the main mineral of the outer core are iron and nickel
* the main mineral of the inner core is iron
* the inner core has a high density i.e. 16-17gm/cc than the outer core i.e. 10.5gm/cc
* the inner core is made up of a solid rock mass
* the outer core is molten