

**HALF YEARLY EXAMINATION (2021-22)**  
**GEOGRAPHY**  
**CLASS 9**  
**SOLUTION KEY**

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**SKILL: Comprehension & Analysis (20 marks)**

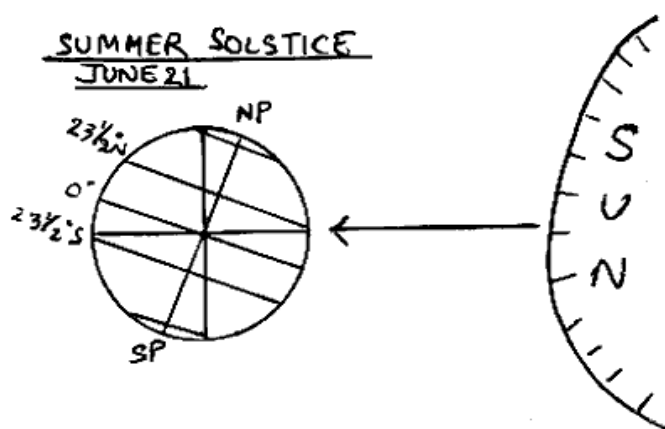
Ans. 1.

- i. Lines of longitudes are called so as they are not parallel to each other but intersect each other at the Poles. OR  
Meaning of Meridian is 'noon'. All places on the same Meridian or Longitude experience noon at the same time.
- ii. Rotation influences direction of ocean currents because of Coriolis effect. Due to its effect, ocean currents move clockwise and are deflected to the right in the Northern Hemisphere, and move in the anticlockwise direction and are deflected to the left in the Southern Hemisphere.
- iii. This is because the Earth is a watery planet, as its major part, i.e. 70% is covered by water or hydrosphere. The Earth is seen blue in satellite pictures due to the majority of water.

Ans. 2.

- i. Dong Valley is the first to see sunrise in India as the Earth rotates from West to east direction. Since the eastern part of the world moves ahead of the western part, it sees sunrise first. Thus, we say sun rises in the east and sets in the west.
- ii. Kuala Lumpur rotates faster on the Earth's axis than London because the speed of rotation of the Earth is greater at the Equator (1670 kmph) and it decreases towards the poles.
- iii. No active volcanoes in the Himalayas because it is formed by the collision of two continental plates which are of same density. Thus, there is no subduction, only collision that takes place.

Ans. 3. Position of the Earth during Summer Solstice



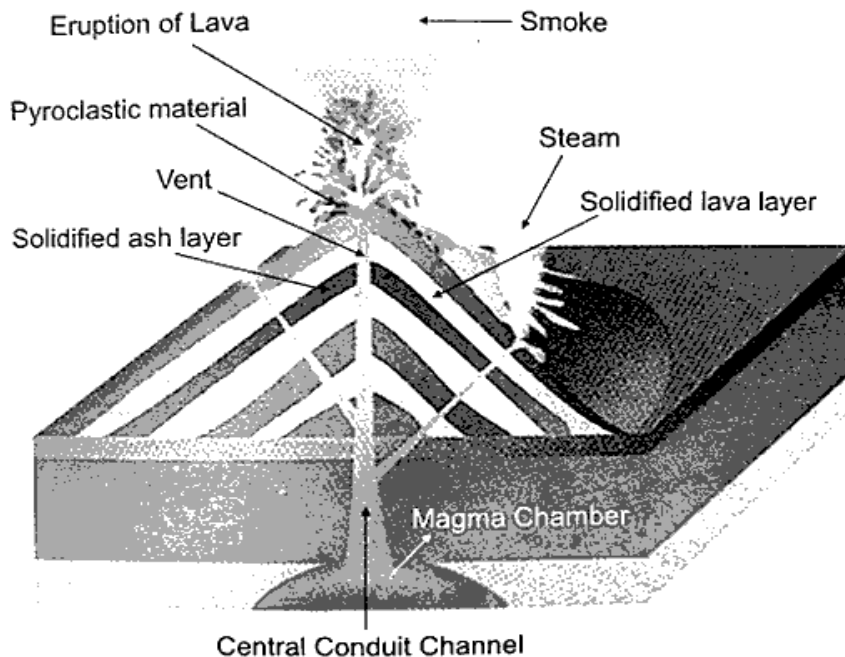
Ans. 4.

- i. The period taken by the Earth to make one complete round of the Sun is 365 days, 5 hours, 48 minutes and 45.51 seconds, which is taken as, 365 days and 6 hours. The length of one solar year is 365 days. The remaining 6 hours are

adjusted every 4 years into one complete day and added to the month of February.

- ii. Length of Equator is equal to the circumference of the Earth or 40,075 km. Since the circumference of a circle is 360 degrees, the 1 degree angular distance is roughly equal to 111 km.
- iii. Limestone is an organically formed sedimentary rock. These rocks contain remains of dead plants and animals. Thus, limestone has fossils in it.

Ans. 5.



Ans. 6. Total longitudes= 104 degrees

Since 1 degree is 4 minutes,

Therefore, 104 degrees=  $104 \times 4 = 416$  minutes

$416 \text{ minutes} / 60 = 6 \text{ hours } 56 \text{ minutes}$

As we are moving from west to east, time will be added.

Therefore, local time at Singapore will be 6pm + 6 hours 56 minutes, which is **12:56 am** of the next day.

Ans. 7. Difference in latitudes=  $40 + 23.5 = 63.5$  degrees

Altitude of mid-day sun on 21<sup>st</sup> June at 23.5 degree North= 90 degree

Altitude of mid-day sun on 21<sup>st</sup> June at 40 degree South =  $90 - \text{difference in latitude} = 90 - 63.5 = 26.5$  degrees.

### **SKILL: Application (20 marks)**

Ans. 8. Japan is located around the Pacific Ring of Fire, which is an area where the oceanic plate is subducting under the continental plate. This produces faults along lines of weakness- making it a tectonically active zone.

Ans. 9.

- Efficient administration and policy making
- High capital investment in disaster resilient infrastructure

- Educated citizens who are aware of how to react in a disaster-like situation.
- Effective warning system

Ans. 10. Dust, Lapilli

Ans. 11. Destructive effects:

- Destroy life and property
- Agricultural fields made unsuitable for cultivation
- Floods and landslides
- Pollution and health problems
- Tsunami waves

Constructive effects:

- Lava and ash adds valuable nutrients to the soil creating fertile soil
- Geothermal energy
- Dramatic scenery which attracts tourists
- Creation of new land and islands

Ans. 12. Mechanically formed **Sedimentary rock** – Sandstone.

Ans. 13.

- Such rocks are formed from breaking up of other rocks.
- The breaking up of older rocks takes place through denudation by agents like running water, moving glaciers and wind.
- In this process, the sediments are gradually squeezed by the weight of overlying sediments and the lower layers harden to form rocks.

Ans. 14. Processes involved- Lithification – turning loose sediments into hard rocks.

Three processes are involved in this:

- Evaporation- water from loose materials is evaporated.
- Compaction- sediments are gradually squeezed by weight of overlying layers.
- Cementation- bonding together of compacted materials.  
*(only names are enough)*

Ans. 15.

- Heat and pressure would not be released through vents or fissures.
- No formation of volcanic landforms.
- No formation of rich volcanic soil or black soil.
- Most of earth's water would still be trapped in the crust and mantle.
- They keep the Earth warm, which is a necessary condition for sustaining life on Earth.

Ans. 16.

- Right distance from the Sun- protected from solar winds.
- Insulating atmosphere.
- Water.
- Important gases (both major and minor)- oxygen, carbon, nitrogen.
- Earth's natural resources
- Nutrition cycle
- Oil, gas, metal ores.