statement 2 is incorrect. The **mesopelagic (disphotic) zone**, where **only small amounts of light penetrat**e, lies below the epipelagic zone. This zone is often referred to as the Twilight Zone due to its scarce amount of light. **Temperatures** in the mesopelagic zone range from **5 to 4°C (41 to 39°F)**. The **pressure is higher here;** it can be up to 1,470 pounds per square inch (10,100,000 Pa) and increases with depth.

statement 3 is correct. 90% of the ocean lies in the bathypelagic (aphotic) zone into which **no light penetrates**. This is also called the **midnight zone. Water pressure is very intens**e and the **temperatures are near freezing** (range 0 to 6°C (32 to 43°F)).

Q.37) Ans: A
Exp:

- **Pair 1 is correct: Gabbro** is an example of **Plutonic rocks** that are **igneous rocks**, formed at some **depth in the earth's crust.** They have cooled and solidified slowly so that **large**, **easily-recognised crystals** have been able to form. E.g. **Granite** and **diorite** etc.
- **Pair 2 is correct**: **Sedimentary rocks** are formed from **sediment accumulated over long periods**, **usually under water**. They are distinguished from other rock types in their characteristic **layer formation** and are termed **stratified rocks**. **Sandstone** is an example of **Mechanically formed sedimentary rocks** that have been formed from the **accumulation of materials** derived from other rocks which have been **cemented together**.
- **Pair 3 is incorrect**: Limestone is an example of **Organically formed sedimentary rocks** that are formed from the **remains of living organisms** such as **corals or shellfish**, whose fleshy parts have been **decomposed**, leaving behind the **hard shells**. The most common rocks formed in this way are of the **calcareous type**. Another example is **chalk**.
- **Metamorphic rocks** are those rocks whose **original character and appearance** have been greatly **altered** by forces during intense earth movements. E.g. **slate**, **marble**, **quartzite** etc.

Reference: G C Leong

Q.38) Ans: B
Exp:

- **Composite Volcanoes:** These volcanoes are characterised by **eruptions of cooler and more viscous** lavas than **basalt**. These volcanoes often result in **explosive eruptions**. Along with lava, large quantities of **pyroclastic material and ashes** find their way to the ground. This material **accumulates** in the **vicinity** of the vent openings leading to **formation of layers**, and this makes the mounts appear as **composite volcanoes**.
- **Shield volcanoes:** The shield volcanoes are the **largest of all** the volcanoes on the earth. These volcanoes are **mostly made up of basalt**, therefore these volcanoes are **not steep**. They are generally characterised by **low-explosivity**.
- **Caldera:** These are the **most explosive** of the earth's volcanoes. They are usually so explosive that when they erupt, they tend to **collapse on themselves** rather than building any tall structure. The **collapsed depressions** are called **calderas**.
- **Mid-oceanic ridge volcanoes:** These volcanoes occur in the **oceanic areas**. There is a system of mid-ocean ridges **more than 70,000 km long** that stretches through all the ocean basins. The central portion of this ridge experiences frequent eruptions.

Reference: NCERT, Page no. 27

Q.39) Ans: C
Exp:

- **Statement 1 is incorrect**: **Fold mountains** are those mountains that are formed because of **large-scale earth movements**, where stresses are set up in the earth's crust. When such forces are initiated, rocks are subjected to **compressive forces** that produce wrinkling or folding along the **lines of weakness.** The great fold mountains of the world are the Himalayas, Rockies, Andes and Alps.
  Block mountains: When earth's crust bends, folding occurs, but when it **cracks**, **faulting** takes place. Faulting may be caused by **tension or compression**, forces which **lengthen or shorten the earth's crust**, causing a **section** of it to **subside** or to **rise** above the surrounding level.
    - **Western Ghats** are **Block mountains** and the **faulted edge of the Deccan Plateau**. They are believed to have formed during the breakup of the