

## (SOLUTION) Mock Test 8

### 30 Correct Answer : B

#### Answer Justification :

**Justification:** Statement 1: Below the exosphere, molecules and atoms of atmospheric gases constantly collide with each other. However, air in the exosphere is so thin that such collisions are very rare.

Gas atoms and molecules in the exosphere move along "ballistic trajectories", reminiscent of the arcing flight of a thrown ball (or shot cannonball), as it gradually curves back towards Earth under the pull of gravity.

Most gas particles in the exosphere zoom along curved paths without ever hitting another atom or molecule, eventually arcing back down into the lower atmosphere due to the pull of gravity.

Statement 2: Although the exosphere is technically part of Earth's atmosphere, in many ways it is part of outer space. Many satellites, including the International Space Station (ISS), orbit within the exosphere or below. For example, the average altitude of the ISS is about 330 km (205 miles), placing it in the thermosphere below the exosphere!

Although the atmosphere is very, very thin in the thermosphere and exosphere, there is still enough air to cause a slight amount of drag force on satellites that orbit within these layers.

This drag force gradually slows the spacecraft in their orbits, so that they eventually would fall out of orbit and burn up as they re-entered the atmosphere unless something is done to boost them back upwards.

The ISS loses about 2 km (1.2 miles) in altitude each month to such "orbital decay", and must periodically be given an upward boost by rocket engines to keep it in orbit.

Statement 3: At this distance, radiation pressure from sunlight exerts more force on hydrogen atoms than does the pull of Earth's gravity. A faint glow of ultraviolet radiation scattered by hydrogen atoms in the uppermost atmosphere has been detected at heights of 100,000 km (62,000 miles) by satellites. This region of UV glow is called the geocorona.

**Q Source:** Chapter 4: 7th NCERT: Geography

### 31 Correct Answer : D

#### Answer Justification :

**Justification:** Statement 1: The extra tropical cyclone differs from the tropical cyclone in number of ways. The extra tropical cyclones have a clear frontal system.

Initially, the front is stationary. In the northern hemisphere, warm air blows from the south and cold air from the north of the front.

When the pressure drops along the front, the warm air moves northwards and the cold air move towards, south setting in motion an anticlockwise cyclonic circulation. The cyclonic circulation leads to a well developed extra tropical cyclone, with a warm front and a cold front.

Statement 2: Tropical cyclones are violent storms that originate over oceans in tropical areas and move over to the coastal areas bringing about large scale destruction caused by violent winds, very heavy rainfall and storm surges.

Statement 3: The extra tropical cyclone affects a much larger area as compared to the tropical cyclone. The wind velocity in a tropical cyclone is much higher and it is more destructive. The extra tropical cyclones move from west to east but tropical cyclones, move from east to west.

**Q Source:** Page 94: Chapter 10: Fundamentals of Physical Geography

### 32 Correct Answer : B

#### Answer Justification :

**Justification:** Statement 1: The Soviet–Afghan War lasted over nine years, from December 1979 to February 1989. Insurgent groups known collectively as the mujahideen, as well as smaller Maoist groups, fought a guerrilla war against the Soviet Army and the Democratic Republic of Afghanistan government, mostly in the rural countryside.

Statement 2: After several weeks of civil unrest, the East German government announced on 9 November 1989 that all East Germany citizens could visit West Germany and West Berlin. Crowds of East Germans crossed and climbed onto the Wall, joined by West Germans on the other side in a celebratory atmosphere

Statement 3: The dissolution of the Soviet Union occurred on December 26, 1991, officially granting self-governing independence to the Republics of the Soviet Union.

Statement 4: The Russian Revolution was a pair of revolutions in Russia in 1917 which dismantled the Tsarist autocracy and led to the rise of the Soviet Union.

**Q Source:** Exercise at the end of Chapter 2: 12th NCERT: Contemporary World Politics