

Target Prelims 2022
Science and Technology - 1

Q1) Consider the following statements with respect to Canadian Hydrogen Intensity Mapping Experiment (CHIME) telescope

1. It is a radio telescope in Canada.
2. It is used for studying the Sun's magnetic field.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 1 only
- (c) 2 only
- (d) None of these

Q2) Consider the following statements with respect to James Webb Telescope

1. It is being viewed as a successor of Hubble Space Telescope.
2. It is a joint collaboration between NASA, ESA and JAXA.
3. It will be put into L2 orbit.

Which of the statements given above is/are correct?

- (a) 1, 2 and 3
- (b) 2 only
- (c) 1 and 3 only
- (d) 1 only

Q3) With reference to Parker Solar Mission, consider the following statements

1. It is the first ever mission to “touch” the Sun.
2. Mission is a joint collaboration of NASA and ESA.
3. Mission aims to detect the flow of energy that heats the corona.

Which of the statements given above is/are correct?

- (a) 1 and 2
- (b) 2 and 3
- (c) 1 and 3
- (d) 1, 2 and 3

Q4) In context of Small Satellite Launch Vehicle, consider the following statements

1. It can carry satellites weighing up to 250 kg only.
2. It will launch the satellite into low earth orbit.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) None of these

Q5) With respect to Gaganyaan, consider the following statements

1. It will demonstrate human spaceflight to low earth orbit.
2. It will have an unmanned mission and a manned mission.
3. India will be the third country to have a manned mission after the U.S and Russia.

Which of the statements given above is/are correct?

- (a) 1 and 2
- (b) 1 and 3
- (c) 2 and 3
- (d) 1, 2 and 3

Q6) Consider the following statements in reference to Space Debris

1. Space debris is mostly accumulated in Lower Earth Orbit (LEO).
2. According to the International Space Treaty, the countries responsible for creating space debris are also responsible for clearing it.
3. India recently destroyed its own satellite which created space debris.

Which of the statements given above is/are correct?

- (a) 1 and 2
- (b) 1 and 3
- (c) 2 and 3
- (d) 1, 2 and 3

Q7) With reference to Radioisotope thermoelectric generator (RTG), consider the following statements

1. The generator uses nuclear energy to generate power.

2. ISRO plans to develop a 100 W RTG for its deep space missions.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) None of these

Q8) With reference to Gamma Ray Bursts, consider the following statements

- 1. It was detected by NASA's Hubble Space Telescope.
- 2. They are caused by the death of massive stars.
- 3. They are the most powerful events in the universe which can be detected billions of light years away.

Which of the statements given above is/are correct?

- (a) 1 and 2
- (b) 2 and 3
- (c) 1 and 3
- (d) 1, 2 and 3

Q9) Ryugu and Bennu were recently in the news. They are

- (a) Russian missiles
- (b) Asteroids
- (c) Malwares
- (d) Ukranian Drones

Q10) With reference to Aditya L1 mission, consider the following statements

- 1. It is ISRO's first space-based astronomy mission.
- 2. It will study the Sun's corona.
- 3. Ground support for Aditya L1 will be provided by ARIES.

Which of the statements given above is/are incorrect?

- (a) 1 and 2
- (b) 2 only
- (c) 3 only
- (d) 1, 2 and 3

Q11) In context of Chandrayaan 3, consider the following statements

1. It will consist of a lander and a rover.
2. To communicate with Earth, it will use the orbiter from Chandrayaan 2.
3. It will study the darker areas of the moon, sub-surface and exosphere.

Which of the statements given above is/are correct?

- (a) 1 and 2
- (b) 2 and 3
- (c) 1 and 3
- (d) 1, 2 and 3

Q12) Trojan asteroid, seen in the news is a

- (a) Constant companion to planets in our solar systems
- (b) Intergalactic bodies
- (c) Debris in LEO
- (d) None of the above

Q13) Consider the following statements with respect to Geomagnetic Storm

1. They are caused by higher than normal levels of radiation coming towards earth from the Sun.
2. They cause a disruption in earth's magnetosphere.
3. The frequency of these storms varies with sunspot cycle.

Which of the statements given above is/are correct?

- (a) 1 and 2
- (b) 2 and 3
- (c) 1 and 3
- (d) 1, 2 and 3

Q14) Consider the following statements with respect to Indian neutrino observatory

1. The observatory is in Andhra Pradesh.
2. Neutrinos are neutral subatomic particles.
3. They are only affected by electromagnetic force.

Which of the statements given above is/are correct?

- (a) 1 and 2

- (b) 2 only
- (c) 3 only
- (d) 1 and 3 only

Q15) Consider the following statements

1. Supermoon is full moon at apogee
2. Blood moon occurs at total lunar eclipse
3. Blue moon occurs twice a month

Which of the statements given above is/are correct?

- (a) 1 and 2
- (b) 3 only
- (c) 2 only
- (d) 1 and 3

Q16) Consider the following statements regarding China's Change' 5 probe

1. It was a Mars exploration programme.
2. China has become the second country after the U.S. to bring samples from the mission.
3. The mission was named after China's ancient moon goddess.
4. It was launched through the Long March - 5 rocket.

Which of the statements given above is/are correct?

- (a) 2 and 4
- (b) 3 and 4
- (c) 2, 3 and 4
- (d) 1, 2 and 3

Q17) Consider the following Space missions and their objectives

Missions	Objectives
1. Artemis	First woman and first person of colour on moon
2. Gaganyaan	To demonstrate human spaceflight
3. DART	To change the position of International Space Station

4. Dragonfly	To collect samples from Saturn's moon Titan
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Which of the above are correctly matched?

- (a) 1, 2 and 3
- (b) 1, 3 and 4
- (c) 1, 2 and 4
- (d) 1, 2, 3 and 4

Q18) Consider the following statements about Soft Robotics

1. They are constructed from highly compliant materials.
2. They are more flexible and adaptable in finishing their work around humans when compared to regular robots.
3. They can be used in prostheses and artificial organs.

Which of the above statements is/are correct?

- (a) 1 and 2
- (b) 1 and 3
- (c) 2 and 3
- (d) 1, 2 and 3

Q19) Xenobots are

- (a) Self replicating robots
- (b) Self destructing robots
- (c) Robots to kill other robots in case of malfunction
- (d) Robots developed for space missions

Q20) AI Research SuperCluster (RSC), an AI supercomputer is being developed by which tech giant

- (a) Google
- (b) Microsoft
- (c) Apple
- (d) Meta