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**CLASS TEST – SPACE**

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**Q.1)** The mission will employ a spacecraft in the first-ever mission dedicated to investigating and demonstrating one method of asteroid deflection by changing an asteroid's motion in space through kinetic impact". The mission in this question refers to?

- a) DART Mission
- b) MOXIE Mission
- c) Parker Mission
- d) Artemis Mission

**Q.2)** With reference to the Black holes, consider the following statements:

1. A black hole is a place in space where gravity pulls so much that even light cannot get out.
2. A black hole can be seen because of the strong gravity that pulls all of the light into the middle of the black hole.
3. The supermassive black hole at the center of the Milky Way galaxy is called Sagittarius A.

Which of the statements given above is/are correct?

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

**Q.3)** Consider the following statements regarding the Polar Satellite Launch Vehicle (PSLV):

1. PSLV is configured as a three-stage vehicle having a high-thrust cryogenic upper stage.
2. PSLV uses an Earth-storable liquid rocket engine for its second stage.
3. PSLV can launch satellites both into Geosynchronous as well as Geostationary orbits.

Which of the statements given above is/are correct?

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

**Q.4)** The High Mobility Artillery Rocket System (HIMARS) was recently mentioned in news in the context of

- a) A Precision-guided missile system provided by the United States to Ukraine during Russia Ukraine War.
- b) An indigenous multi-barrel rocket system developed by Defence Research and Development Organisation.
- c) A two-stage munition thermobaric weapon system of Russia used during the Ukrainian invasion.
- d) A medium-range surface-to-air missile defence system developed by Defence Research and Development Organisation.

**Q.5)** Which one of the following statements is not correct about the Neutrinos?

- a) The neutrinos can pass through Earth without interacting at all.
- b) Like electrons, neutrinos do not possess any charge or mass.
- c) The neutrinos are often derived as a product of heavy particles.
- d) The neutrinos interact only through gravity and the weak force.

**Q.6)** Artemis Accords sometimes seen in the news is related to

- a) Cosmetic testing on animals
- b) Safe and sustainable exploration of space
- c) Fortification of food crops
- d) Oil spill in the oceans

**Q.7)** Which of the following statements is/are correct about the Geomagnetic storms?

- 1. These storms result from variations in the solar wind that produces major changes in the currents and plasmas.
- 2. During solar maximum the sun storms occur less frequently as strong plasma circulation keeps plasma bound to corona of the sun.
- 3. These storms result in heating the ionosphere and upper atmosphere region called the thermosphere.

Select the correct answer using the code given below:

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

**Q.8)** Consider the following statements regarding Network for Space Objects Tracking and Analysis project:

- 1. It is a project of the National Aeronautics and Space Administration.
- 2. It comprises of a space debris tracking radar with a range of 1,500 km.
- 3. It aims to capture geostationary orbit where the communication satellites operate.

Which of the statements given above is/are correct?

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

**Q.9)** The term 'NavIC' recently talked about in news is

- a) An independent navigation satellite system developed by the Indian Space Research Organization.
- b) An Autonomous Navigation facility to develop unmanned ground and aerial vehicles.
- c) An advanced radar used for imaging to map the elevation of Earth's land and ice masses.
- d) An indigenously developed technology that can prevent collision of trains.

**Q.10)** Which of the following statement correctly defines the Kessler syndrome?

- a) A trisomy of chromosome 21
- b) A mutation in the blood-clotting factors VIII
- c) Collision among objects in space causing cascading effect
- d) None of the above

**Q.11)** The LUX-ZEPLIN (LZ) Experiment has been mentioned in news in context of

- a) Dark matter detection
- b) Electromagnetic phenomenon
- c) Radioactive decaying
- d) Polar mineral extraction

**Q.12)** Consider the following statements regarding the coronal holes:

1. Coronal holes are most prevalent and stable at the solar north and south poles.
2. They possess less dense regions than the surrounding plasma and are regions of unipolar magnetic fields.
3. They represent closed magnetic field as opposed to open magnetic fields present in Corona.

Select the correct statement using the code given below:

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

**Q.13)** With reference to Aditya L1 Mission, consider the following statements:

1. It is the first Indian space mission to observe the Sun.
2. It includes the study of solar upper atmospheric dynamics.
3. It is limited to the study of solar corona excluding chromospheric heating.

Which of the statements given above is/are correct

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

**Q.14)** Which of the following statement(s) is/are correct regarding the Sunspots?

1. They appear dark on the surface of the Sun because they are cooler than other parts of the Sun's surface.
2. Solar minimum refers to time when the Sun has the least sunspots.
3. This phenomenon is linked to photosphere of the Sun.

Select the correct answer using the code given below:

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

**Q.15)** Consider the following statements regarding Man Portable Air Defence Systems (MANPADS)

1. These are surface to air missiles that can be fired by an individual within a range of 8 km.
2. They can be used to engage aircrafts at altitudes above 5 kilometres range.
3. The missiles use heat radiation emitted by its airborne target to track it.

Which of the statements given above is/are correct?

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

**Q.16)** Consider the following statements regarding NETRA Project

1. Under it, a radar having range of more than 1000 km will be installed to track space debris.
2. It will help to track very small objects up to a range of 3400 km.
3. Clearspace-1 will be launched by ISRO under it to eliminate debris from orbits.

Which of the statements given above is/are correct

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

**Q.17)** Consider the following statements:

1. Satellites in geostationary orbit (GEO) circle Earth above the equator from west to east following Earth's rotation.
2. It is the orbit most commonly used for satellite imaging.
3. PSLV is not able to launch satellites into Geosynchronous and Geostationary orbits.

Which of the statements given above is/are correct?

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

**Q.18)** Consider the following statements regarding mission NISAR.

1. It is a joint Earth-observing mission between NASA and the European Space Agency (ESA)
2. NISAR will detect movements of the planet's surface using advanced radar imaging.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

**Q.19)** Consider the following statements regarding IN-SPACE.

1. It is a Public Sector Undertaking (PSU) of the Government of India and the commercial arm of the Indian Space Research Organisation (ISRO).
2. The agency promotes the entry of the Non-Government Private Entities (NGPES) in the Indian space sector.
3. It aims to manufacture the Small Satellite Launch Vehicle (SSLV) in collaboration with the private sector.

Select the correct statement using the code given below:

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

**Q.20)** Consider the following statements:

1. Cryogenic engines use both Liquid Oxygen (LOX) and Liquid Hydrogen (LH<sub>2</sub>) as propellants which liquefy at -183 deg C and -253 deg C respectively.
2. A cryogenic engine generates less force with each kilogram of cryogenic propellant it uses compared to solid and liquid propellant rocket engines.
3. India does not have its own cryogenic rocket engines.

Which of the statements given above is/are correct?

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

**Q.21)** Consider the following statements regarding Solar Flare

1. It is a flare defined as a sudden, rapid, and intense variation in brightness.
2. Solar flares extend out to the layer of the Sun called the corona,
3. The frequency of the flares coincide with the Sun's eleven year cycle

Which of the statement is correct?

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

**Q.22)** Consider the following statements regarding the Small Satellite Launch Vehicle:

1. It has the capability to deliver payload 500kg at a height of 500km.
2. It has all solid motor stages only.
3. It can accommodate multiple satellites like GSLV and PSLV.

Which of the statements given above is/are correct?

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

**Q.23)** Which of the following statements is/are correct about “Aditya L1 mission”?

1. It is first scientific expedition of ISRO to study Sun.
2. Aditya L1 satellite will be placed in the halo orbit around the Lagrangian point 1 (L1) of the sun-earth system.
3. It will be launched using the Geo-synchronous Satellite Launch Vehicle (GSLV) Mark-III.

Select the correct answer using the code given below:

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

**Q.24)** Consider the following statements regarding Coronal Mass Ejections (CMEs)

1. It is stronger than solar wind.
2. Sun’s corona can eject billions of tons of coronal material.
3. CMEs travelling faster than the background solar wind speed can generate a shock wave.

Which of the statements given above is/are correct?

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

**Q.25)** Which of the following are considered as applications of coal gasification?

1. Electricity generation
2. Ammonia production
3. Powering hydrogen economy
4. Production of gasoline

Select the correct ones:

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