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| International Science Olympiad (ISO) | International Maths Olympiad (IMO) |
| English International Olympiad (EIO) | General Knowledge International Olympiad (GKIO) |
| International Computer Olympiad (ICO) | International Drawing Olympiad (IDO) |
| National Essay Olympiad (NESO) | National Social Studies Olympiad (NSSO) |
| National Hindi Olympiad (NHO) | National Logical Reasoning Olympiad (NLRO) |
| Abacus Olympiad (AO) | Astronomy Space Olympiad (ASO) |

Total Questions : 50

Time : 65 min



| PATTERN & MARKING SCHEME | | |
|--------------------------|------------|--|
| Section | Subjective | HOT'S (High Order Thinking Section) |
| No. of Questions | 45 | 5 |
| Marks per Ques. | 1 | 1 |

SYLLABUS

Section - 1 : Solar System Mechanics, Planetary Atmospheres, Minor Bodies, Stellar Evolution, Black Holes and Supernovae, Positional Astronomy, Telescope Optics, Rocketry, Deep Space Missions, Big Bang Theory, Dark Matter and Energy, Electromagnetic Spectrum

Section - 2 : High Order Thinking Section - Syllabus as per Section 1

Astronomy Space

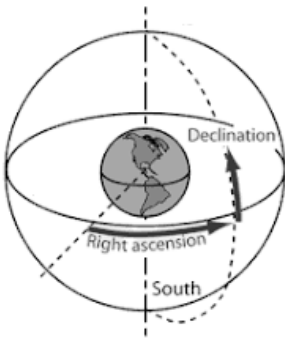
- What is the primary force that keeps the planets in our solar system orbiting around the Sun?
 - Magnetism
 - Friction
 - Gravity
 - Atmospheric pressure
- The planet known for having an extremely dense atmosphere and the highest surface temperatures caused by an intense runaway greenhouse effect is:
 - Mars
 - Venus
 - Mercury
 - Jupiter
- What is the main difference between an asteroid and a comet?
 - Asteroids are rocky and metallic, while comets are mostly icy and dusty.
 - Asteroids always have tails, but comets never do.
 - Asteroids only exist outside our solar system.
 - Comets are much larger than planets, while asteroids are tiny.
- Our Sun is currently in the longest and most stable stage of its life. What is this stage called?



- Main Sequence
- Supernova
- Planetary Nebula
- Neutron Star

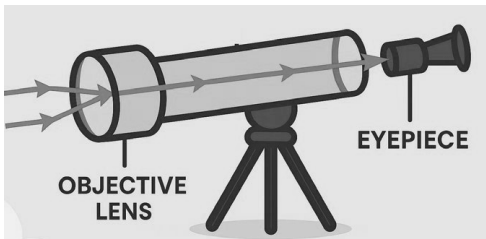
- What is a supernova?
 - The birth of a new moon.
 - A massive explosion at the end of a heavy star's life.
 - A planet moving faster than light.
 - A type of telescope lens.

06. The imaginary line in the sky directly above the Earth's equator is called:



- a. Prime Meridian
- b. Celestial Equator
- c. Ecliptic
- d. Zenith

07. The main purpose of a telescope's objective lens or mirror is to:



- a. Make the image look colourful.
- b. Magnify the image to see small details.
- c. Collect as much light as possible.
- d. Protect the eye from solar radiation.

08. Which famous space probe, launched in 1977, has traveled the furthest into interstellar space?



- a. Hubble
- b. Voyager 1
- c. Cassini
- d. Mars Rover

High Order Thinking Section

09. **Assertion (A):** Dark matter is easily visible through high-powered optical telescopes.

Reason (R): Dark matter does not emit, absorb, or reflect light, making it invisible to conventional instruments.

- a. Both A and R are true, and R is the correct explanation of A.
- b. Both A and R are true, but R is not the correct explanation of A.
- c. A is true, but R is false.
- d. A is false, but R is true.

10. Consider the following statements about Electromagnetic Waves in space:

I. Astronomers use different types of light to see through gas and dust in space.

II. Stars only emit energy in the form of visible light that we can see.

III. X-rays and Gamma rays are types of high-energy light used to study black holes.

Which of the statements above are correct?

- a. I and II only
- b. I and III only
- c. II and III only
- d. I, II, and III