

1.4 Cosmology Homework Questions

Q1. Put the following in order of increasing size (smallest first).

galaxy solar system planet universe (2)

Q2. The time taken for light to reach us from the Sun is approximately

- A** 1 second
- B** 8 seconds
- C** 1 minute
- D** 8 minutes
- E** 1 hour

(1)

Q3. Which term describes an object which orbits a star?

- A** moon
- B** planet
- C** solar system
- D** galaxy
- E** universe

(1)

Q4 Copy and complete the following passage.

The Earth is a _____ which orbits the Sun. The Earth has one natural satellite called the _____.

The Sun is at the centre of our _____. Light from the Sun takes about _____ to travel to the Earth.

The nearest star to Earth is _____.

All of space is known as the _____.

(6)

Q5 Read the following passage about comets.

Halley's Comet is famous because it is visible to the naked eye, orbiting from beyond the planet Neptune and returning to the solar system on average once every 76 years.

Halley's Comet last visited the inner solar system in 1986. It will return again in 2061.

Comets are made of ice mixed with frozen methane; substances very similar to those found on a moon called Miranda.

Comets can only survive very far away from the Sun. Most comets reside in the Oort Cloud which contains many billions of comets. The Oort Cloud reaches a quarter of the distance from the Sun to the next nearest star called Proxima Centauri.

The Oort Cloud is easily affected by the gravitational pull of the Milky Way galaxy which causes comets to move into new orbits that carry them closer to the Sun.

- a) Use information given in the passage to answer the following questions.
- i) State the name of one object that orbits a planet. (1)
 - ii) State the name of one object that generates light. (1)
 - iii) State the name of the object furthest away from the Earth. (1)
 - iv) State the name of one object that orbits the Sun. (1)
- b) State what is meant by the term galaxy. (1)
- c) State what is meant by the term solar system. (1)

Q6 An exo-planet is a planet orbiting a star other than the Sun. As telescopes have become bigger and more sensitive, astronomers have discovered over 770 exo-planets. State the conditions required for an exo-planet to be capable of supporting life. (3)

Q7 A team of astronomers observes a star 200 light years away.

State what is meant by the term 'light year'. (1)

Q8 Using the internet or any physics textbook find the distance in light years, from Earth to the Sun, the next nearest star, galaxy and to the edge of the known Universe. (3)

Total Marks 23