Earth & The Solar System

Question Paper

Course	CIE IGCSE Physics
Section	6. Space Physics
Topic	Earth & The Solar System
Difficulty	Medium

Time Allowed 10

Score /5

Percentage /100

Question 1

Which line in the table best describes the angle of the Earth's axis from the vertical, and the effect of this tilt?

	Angle of tilt	Effect of tilt
A	23.4°	Rising and setting of the Sun
B	23.4°	Changing of the seasons
C	66.6°	Rising and setting of the Sun
D	66.6°	Changing of the seasons

[1 mark]

Question 2

Which line in the table correctly identifies the length of one year, one day and daylight hours during an equinox, all as experienced on Earth?

	One Earth year / days	One Earth day / hours	Daylight hours during an equinox / hours
A.	356	8	8
B.	364	12	12
C.	365	12	8
D.	365	24	12

[1 mark]

Question 3

Extended tier only

The orbit of the Earth around the Sun can be thought of as following a circular path with a circumference of 942×10^6 km.

What is the approximate orbital speed of the Earth?

A. 10 000 km /h

B. 100 000 km /h

C. 2.5×10^6 km /h

D. 50×10^6 km /h

[1 mark]

Question 4

Extended tier only

Comets travel faster within the Solar System than they do when they are outside it.

Which of the following gives the correct reason for this?

A. A comet near to the Sun has more gravitational potential energy.

B. Comets closer to the Sun transfer gravitational potential energy to kinetic energy due to conservation of energy.

C. A comet which is outside the Solar System has less energy than one which is passing through it.

D. Comets closer to the Sun transfer kinetic energy to gravitational potential energy due to conservation of energy.

[1 mark]

Question 5

The radius of Jupiter's orbit is 778×10^6 km. What is the time taken for light from the Sun to reach the surface of Jupiter?

The speed of light is 3×10^8 m/s.

A. 2600 ms

B. 2600 s

C. 0.39 s

D. 3.9×10^{-4} s

[1 mark]