Bahagian/*Section* A

1 Gabungan antara medan magnet Bumi dengan medan magnet di angkasa lepas dikenali sebagai..
The combination of Earth's magnetic field and magnetic field in the space is known as..

A kromosfera
chromosphere

B magnetosfera
magnetosphere

C korona
corona

D fotosfera
photosphere

2 Maklumat di bawah ialah ciri-ciri satu fenomena yang berlaku pada permukaan Matahari.
The information below are the characteristics of a phenomenon that occurs on the Sun's surface.

- Kawasan permukaan Matahari yang gelap
  The dark regions on the Sun's surface
- Berlaku letusan di fotosfera
  The eruption occurs in the photosphere

Apakah fenomena tersebut?
What is the phenomenon?

A Tompok Matahari
Sunspots

B Granul
Granules

C Nyalaan suria
Solar flares

D Angin suria
Solar winds

3 Antara berikut, pernyataan yang manakah tidak benar tentang angin suria?
Which of the following statements is not true about solar wind?

A Angin suria membawa zarah-zarah elektron, proton dan alfa yang meletus dari Matahari
Solar wind carries electrons, protons and alpha particles that erupts from the Sun

B Angin suria membawa medan magnet antara planet
Solar wind carries interplanetary magnetic field

C Kelajuan dan suhu angin suria adalah tetap dalam perlintasan gerakannya
The speed and temperature of solar wind fixes in the course of its movement

D Kelajuan dan suhu angin suria adalah berubah-ubah dalam perlintasan gerakannya
The speed and temperature of solar wind change along the course of its movement

4 Apakah yang dimaksudkan dengan cuaca angkasa?
What is the meaning of space weather?

A Fenomena yang berlaku di permukaan Matahari
Phenomena that occur on the Sun's surface

B Fenomena yang berlaku di angkasa lepas
Phenomena that occur in space

C Fenomena yang berlaku di atmosfera Bumi
Phenomena that occur in the Earth's atmosphere

D Fenomena yang berlaku di permukaan Matahari dan di angkasa lepas
Phenomena that occur on the Sun's surface and in space

5 Antara berikut, yang manakah bukan kepentingan magnetosfera Bumi?
Which of the following is not the importance of Earth's magnetosphere?

A Sekatan biologi
Biological shield

B Menghalang zarah bercas untuk sampai ke Bumi
Blocks charged particles from reaching Earth

C Penghasilan aurora
Aurora formation

D Mengurangkan tekanan terhadap atmosfera Bumi
Reduces the pressure on Earth's atmosphere

6 Ahli astronomi yang manakah mencadangkan bahawa orbit planet adalah berbentuk elips dan bukannya bulat?
Which astronomer suggests that the orbit of the planet an elliptical and not circular?

A Johannes Kepler   C Nicolaus Copernicu
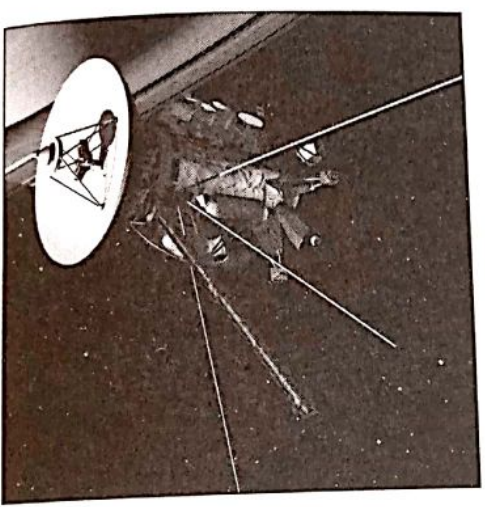
B Galileo Galilei   D Claudius Ptolemy

1 Maklumat di bawah menunjukkan penerangan satu model Sistem Suria.
The information below shows the explanation of a Solar System model.

- Matahari berada pada pusat Sistem Suria
  The Sun is at the centre of the Solar System
- Bumi berputar pada paksinya dan beredar mengelilingi Matahari dalam orbit yang membulat
  The Earth rotates on its axis and revolves around the Sun in a circular orbit

Siapakah yang mencadangkan model ini?
Who was suggested this model?

A Galileo Galilei

B Johannes Kepler

C Claudius Ptolemy

D Nicolaus Copernicus

8 Rajah di bawah menunjukkan satu prob angkasa.
The diagram below shows a space probe.

Antara berikut, yang manakah bukan fungsi prob angkasa?
Which of the following is not the function of space probe?

A Mengumpul maklumat dan menghantarnya kembali ke Bumi
Collects information and send it back to the Earth

B Membawa kamera bagi penderiaan jauh
Carries camera for remote sensing

C Membawa roket ke angkasa lepas
Carries rocket to the space

D Membawa pemancar dan penerima radio
Carries radio transmitters and receivers

9 Teleskop yang manakah paling banyak digunakan dalam sejarah astronomi?
Which telescope is the most widely used in astronomy history?

A Teleskop Hubble
Hubble telescope

B Teleskop Galileo
Galileo's telescope

C Sekstan
Sextant

D Teleskop Spitzer
Spitzer telescope

10 Maklumat di bawah ialah fungsi-fungsi satu alat teknologi.
The information below shows the functions of a technology instrument.

- Mengenal pasti pencemaran dan pembakaran hutan
  To identify pollution and forest fires
- Mengesan lokasi sumber Bumi
  To detect the location of Earth's sources

Apakah alat teknologi tersebut?
What is the technology instrument?

A Teleskop angkasa
Space telescope

B Prob angkasa
Space probe

C Roket
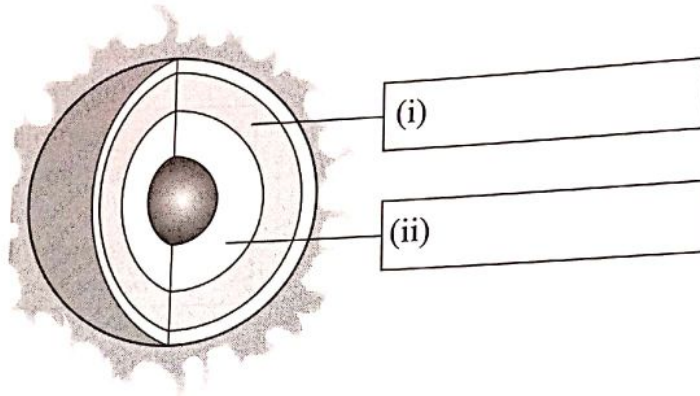*Rocket*

D Penderiaan jauh
Remote sensing

1 (a) Tandakan (✔) bagi pernyataan yang betul.
       Tick (✔) for the correct statements.

   (i)   Zarah gas daripada nyalaan suria menghasilkan aurora.
         Gas particles from solar flare produce aurora.
   (ii) Aurora boleh diperhatikan di seluruh kawasan langit Bumi.
         Aurora can be observed throughout the Earth's sky.
   (iii) Lentingan jisim korona merupakan letusan zarah gas yang bermagnet.
         Coronal mass ejection is an eruption of magnetic gas particles.
   (iv) Prominen ialah letusan zarah gas tanpa magnet.
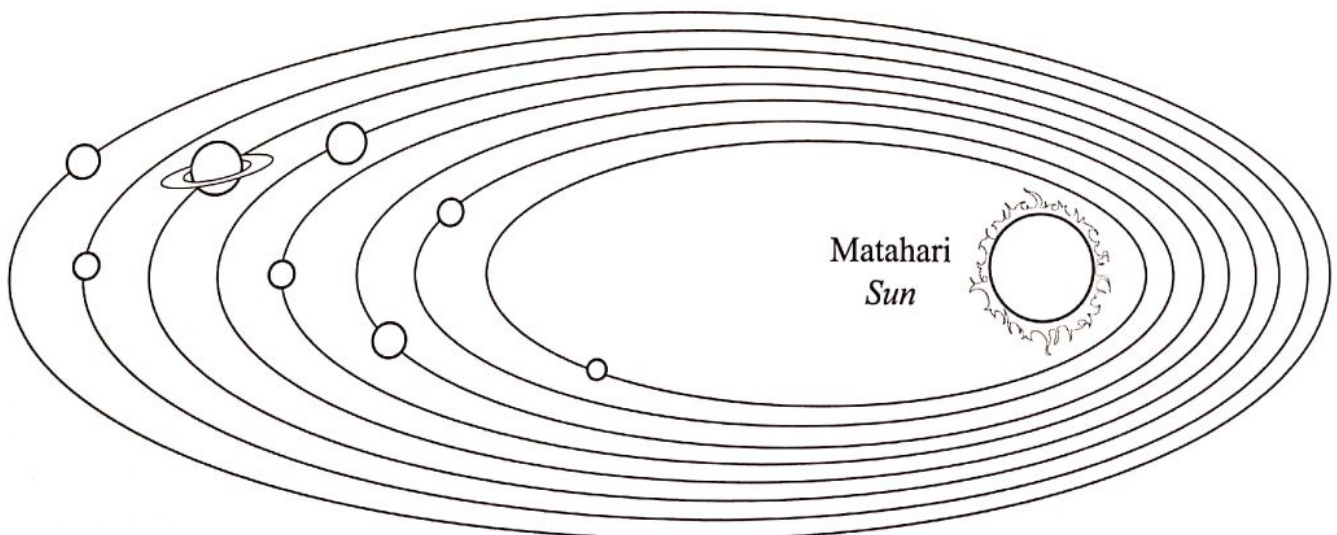   *Prominence is an eruption of non-magnetic gas particles.*

[2 markah/*marks*]

   (b) Label zon pada struktur Matahari di bawah.
        Label zones on the structure of the Sun below.

[2 markah/*mark*

2 Rajah di bawah menunjukkan satu model Sistem Suria.
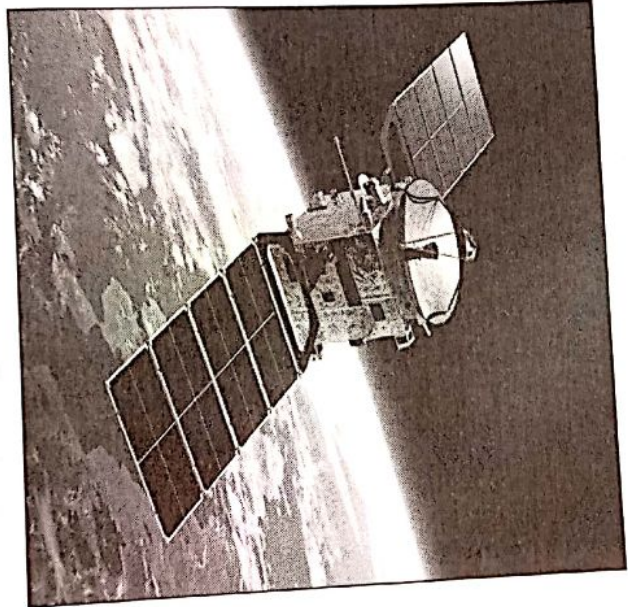   *The diagram below shows a Solar System model.*

Gariskan jawapan yang betul.

Underline the correct answers.

(a) Model Sistem Suria ini dinamakan sebagai (model geosentrik, model heliosentrik mengikut Hukum Kepler).

The Solar System model is named as (geocentric model, heliocentric model accordings to Kepler's Law).

(b) Model Sistem Suria ini diperkenalkan oleh seorang saintis bernama (Copernicus, Kepler).

The Solar System model was introduced by a scientist named (Copernicus, Kepler).

(c) Walau bagaimanapun, model Sistem Suria tersebut telah diubah suai oleh seorang saintis iaitu (Kepler, Ptolemy).

However, the Solar System model has been modified by a scientist (Kepler, Ptolemy).

(d) Kepler telah menyatakan bahawa orbit sebenarnya berbentuk (bulatan, elips).

Kepler has said that the orbits is actually an/a (circular, elliptical).

[4 markah/*marks*]

3 Rajah di bawah menunjukkan sebuah satelit.

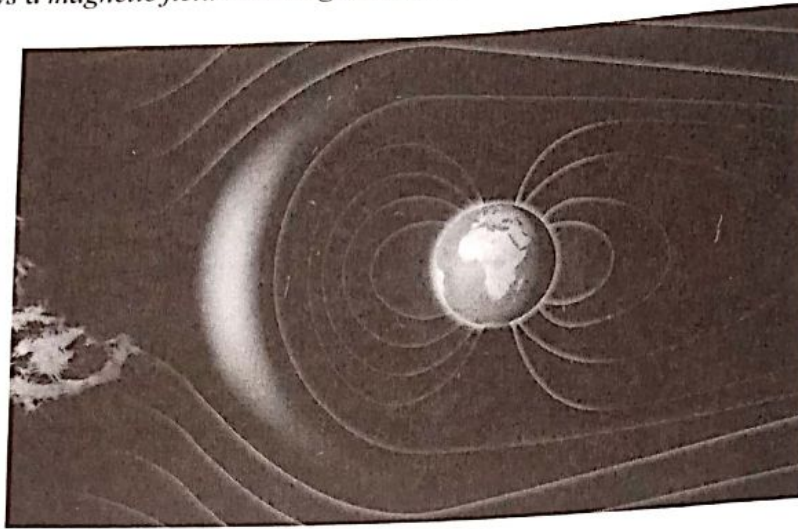*The diagram below shows a satellite.*

Tulis **BENAR** atau **PALSU** bagi setiap pernyataan di bawah.

*Write **TRUE** or **FALSE** for each statement below.*

(a)	Satelit mengumpul maklumat cuaca angkasa. *Satellite collects space weather information.*	
(b)	Satelit adalah penting dalam sistem komunikasi. *Satellite is important in communication system.*	
(c)	Satelit berperanan dalam menghantar kapal angkasa. *Satellite is responsible to send space craft*	
(d)	Satelit mengumpul dan menghantar maklumat tentang jasad angkasa yang jauh. *Satellite collects and transmits the information about distant space bodies.*	

4 Rajah di bawah menunjukkan suatu medan magnet yang melibatkan Bumi dan medan magnet di angkasa lepas.
   The diagram below shows a magnetic field involving the Earth and the magnetic field in the space.

(a) Nyatakan definisi bagi magnetosfera Bumi.
     State the definition of Earth's magnetosphere.

     _____

     [1 markah/*mark*]

(b) Apakah faktor yang mempengaruhi bentuk magnetosfera Bumi?
     What is the factor that affects the shape of the Earth's magnetosphere?

     _____

     [1 markah/*mark*]

(c) Adakah bentuk magnetosfera Bumi tetap atau berubah-ubah? Jelaskan jawapan anda.
     Is the shape of the Earth's magnetosphere fixed or changed? Explain your answer.

     _____

     [2 markah/*marks*]

(d) Namakan **satu** fenomena Matahari yang mempunyai hubung kait dengan magnetosfera Bumi.
     Name **one** *Sun's phenomenon that is related with the Earth's magnetosphere.*

     _____

     [1 markah/*mark*]

(e) Angin suria dikatakan memberi kesan kepada Bumi. Jelaskan.
     Solar wind is said to affect the Earth. Explain.

     _____

     [2 markah/*marks*]

(f) Nyatakan **dua** kepentingan magnetosfera kepada hidupan di Bumi.
     State **two** *importance of magnetosphere to living things in the Earth.*

     _____

     [2 markah/*marks*]