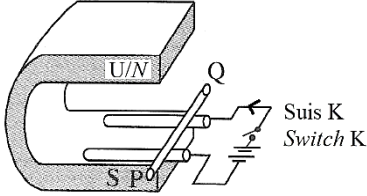
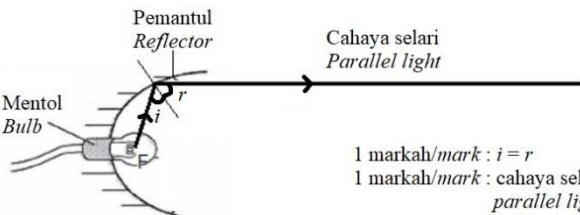


**SKEMA JAWAPAN / PEMARKAHAN**  
**PRAKTIS FIZIK 4531/2**  
**SET 3**

| Soalan<br>Question | Skema Pemarkahan<br>Marking Scheme                                                                        | Markah<br>Bahagian<br>Sub mark | Markah<br>Penuh<br>Full marks |
|--------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------|
| 1 (a)              |                          | 1                              | 1                             |
| (b)                | Rod PQ akan bergerak menjauhi magnet.<br><i>Rod PQ will move away from the magnet.</i>                    | 1                              | 1                             |
| (c)                | Peraturan tangan kiri Fleming<br><i>Fleming's left-hand rule</i>                                          | 1                              | 1                             |
| (d)                | Tingkatkan arus // Gunakan magnet yang lebih kuat<br><i>Increase the current // Use a stronger magnet</i> | 1                              | 1                             |
|                    |                                                                                                           |                                | 4                             |

| Soalan<br>Question | Skema Pemarkahan<br>Marking Scheme                                                                                                                 | Markah<br>Bahagian<br>Sub mark | Markah<br>Penuh<br>Full marks |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------|
| 2 (a)              | $\frac{9.0 - 4.0}{20.0 - 4.0} \times 100^\circ\text{C}$                                                                                            | 1                              | 2                             |
|                    | = 31.25 °C                                                                                                                                         | 1                              |                               |
|                    | (b) Merkuri mengembang dan mengecut dengan seragam apabila suhu berubah.<br><i>Mercury expands and contracts uniformly as temperature changes.</i> | 1                              | 1                             |
|                    | (c) Gunakan tiub kapilari yang mempunyai diameter lebih kecil<br><i>Use capillary tube with a finer bore</i>                                       | 1                              | 1                             |
|                    | Bebuli yang lebih kecil<br><i>Smaller bulb</i>                                                                                                     | 1                              | 1                             |
|                    |                                                                                                                                                    |                                | 5                             |
| 3 (a)              | (a) Melintang<br><i>Transverse</i>                                                                                                                 | 1                              | 1                             |
|                    | (b) (i) $15 \times \frac{10}{2}$                                                                                                                   | 1                              | 2                             |
|                    | = 75 cm s <sup>-1</sup>                                                                                                                            | 1                              |                               |
|                    | (ii) Kedalaman air<br><i>Depth of water</i>                                                                                                        | 1                              | 1                             |
|                    | (c) (i) Berkurang<br><i>Decrease</i>                                                                                                               | 1                              | 1                             |
|                    | (ii) Pelembapan<br><i>Damping</i>                                                                                                                  | 1                              | 1                             |
|                    |                                                                                                                                                    |                                | 6                             |
|                    |                                                                                                                                                    |                                |                               |

| Soalan<br>Question | Skema Pemarkahan<br>Marking Scheme                                                                                                                                                                                      | Markah<br>Bahagian<br>Sub mark | Markah<br>Penuh<br>Full marks |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------|
| 4                  | (a) Cahaya dengan satu warna dan satu panjang gelombang.<br><i>Light with only one colour and one wavelength.</i>                                                                                                       | 1                              | 1                             |
|                    | (b) Supaya fotoelektron tidak kehilangan tenaga kinetik apabila bergerak dalam ruang antara elektrod.<br><i>So that the photoelectron does not lose kinetic energy when moving in the space between the electrodes.</i> | 1                              | 1                             |
|                    | (c) Fotoelektron dipancar keluar apabila katod disinari oleh cahaya merah.<br><i>Photoelectron is emitted when the cathode is illuminated by red light.</i>                                                             | 1                              | 3                             |
|                    | Fotoelektron akan tertarik ke anod.<br><i>Photoelectron will be attracted to the anode.</i>                                                                                                                             | 1                              |                               |
|                    | Pengaliran fotoelektron akan menghasilkan arus.<br><i>The flow of photoelectron will produce current.</i>                                                                                                               | 1                              |                               |
|                    | (d) Bacaan mikroammeter bertambah.<br><i>The reading of microammeter increases.</i>                                                                                                                                     | 1                              | 2                             |
|                    | Cahaya biru mempunyai panjang gelombang yang lebih pendek.<br><i>Blue light has shorter wavelength.</i>                                                                                                                 | 1                              |                               |
|                    | (e) $W = (6.63 \times 10^{-34}) \times (6.033 \times 10^{14})$<br>$= 4.0 \times 10^{-19} \text{ J}$                                                                                                                     | 1                              | 2                             |
|                    |                                                                                                                                                                                                                         | 1                              |                               |
|                    |                                                                                                                                                                                                                         |                                | 9                             |

| Soalan<br>Question | Skema Pemarkahan<br>Marking Scheme                                                                                                                                                                                                                                                                                                                                                                                                                               | Markah<br>Bahagian<br>Sub mark | Markah<br>Penuh<br>Full marks |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------|
| 5 (a)              | <p>Titik pada paksi utama yang mana sinar cahaya yang selari dan rapat pada paksi utama mengenai suatu cermin cekung akan menumpu pada titik fokus atau mencapah seolah-olah datang dari titik fokus dalam cermin cembung.</p> <p><i>The point on the principal axis in which the light rays parallel and close to the axis converge after reflected from the concave mirror or diverge as if from the focal point after reflected in the convex mirror.</i></p> | 1                              | 1                             |
| (b) (i)            | <p>Kelengkungan permukaan cermin pada Rajah 5.2 lebih besar.</p> <p><i>Curvature of the mirror surface in Diagram 5.2 is bigger.</i></p>                                                                                                                                                                                                                                                                                                                         | 1                              | 1                             |
| (ii)               | <p>Sudut pembengkokan sinar cahaya pada Rajah 5.2 lebih besar.</p> <p><i>The angle of bending of light rays in Diagram 5.2 is bigger.</i></p>                                                                                                                                                                                                                                                                                                                    | 1                              | 1                             |
| (iii)              | <p>Panjang fokus cermin pada Rajah 5.2 lebih pendek.</p> <p><i>Focal length of the mirror in Diagram 5.2 is shorter.</i></p>                                                                                                                                                                                                                                                                                                                                     | 1                              | 1                             |
| (c) (i)            | <p>Semakin besar kelengkungan cermin, semakin besar sudut pembengkokan sinar cahaya.</p> <p><i>The bigger the curvature of the mirror surface, the bigger the angle of bending of light rays.</i></p>                                                                                                                                                                                                                                                            | 1                              | 1                             |
| (ii)               | <p>Semakin besar kelengkungan permukaan cermin, semakin pendek panjang fokus cermin.</p> <p><i>The bigger the curvature of the mirror surface, the shorter the focal length of the mirror.</i></p>                                                                                                                                                                                                                                                               | 1                              | 1                             |
| (d) (i)            |  <p>1 markah/mark : <math>i = r</math><br/>1 markah/mark : cahaya selari parallel light</p>                                                                                                                                                                                                                                                                                   | 2                              | 2                             |

| Soalan<br>Question |         | Skema Pemarkahan<br>Marking Scheme                                                                                                                                                                                                       | Markah<br>Bahagian<br>Sub mark | Markah<br>Penuh<br>Full marks |
|--------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------|
| 6                  | (ii)    | Pemantul berkilat // guna cermin sebagai pemantul // mentol berkuasa tinggi<br><i>Shiny reflector // use mirror as reflector // high power of light bulb</i>                                                                             | 1                              | 1                             |
|                    |         |                                                                                                                                                                                                                                          |                                | 9                             |
|                    | (a) (i) | Daya apungan, berat.<br><i>Buoyant force, weight.</i>                                                                                                                                                                                    | 1                              | 1                             |
|                    | (ii)    | Daya apungan = berat<br><i>Buoyant force = weight</i>                                                                                                                                                                                    | 1                              | 1                             |
|                    | (b) (i) | Berat kapal kargo B lebih besar.<br><i>The weight of cargo ship B is bigger.</i>                                                                                                                                                         | 1                              | 1                             |
|                    | (ii)    | Isi padu air yang disesarkan oleh kapal kargo B lebih besar.<br><i>The volume of water displaced by cargo ship B is bigger.</i>                                                                                                          | 1                              | 1                             |
|                    | (iii)   | Ketumpatan air laut adalah sama.<br><i>The density of seawater is the same.</i>                                                                                                                                                          | 1                              | 1                             |
|                    | (iv)    | Semakin besar berat kapal kargo dengan bebannya, semakin besar isi padu air yang disesarkan oleh kapal itu.<br><i>The bigger the weight of a cargo ship carrying a load, the bigger the volume of water displaced by the cargo ship.</i> | 1                              | 1                             |
|                    | (c)     | Prinsip Archimedes<br><i>Archimedes principle</i>                                                                                                                                                                                        | 1                              | 1                             |
|                    | (d)     | Kapal kargo itu tenggelam lebih banyak.<br><i>The cargo ship sinks more.</i><br>Ketumpatan air sungai adalah kurang daripada ketumpatan air laut.<br><i>The density of the river water is less than the density of the sea water.</i>    | 1<br>1                         | 2                             |
|                    |         |                                                                                                                                                                                                                                          |                                | 9                             |

| Soalan<br>Question | Skema Pemarkahan<br>Marking Scheme                                                                                                                 | Markah<br>Bahagian<br>Sub mark | Markah<br>Penuh<br>Full marks |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------|
| 7 (a)              | Hasil darab jisim dan halaju.<br><i>The product of mass and velocity.</i>                                                                          | 1                              | 1                             |
| (b)                | $v^2 = u^2 + 2as$<br>$0 = 15^2 + 2(-9.81)s$<br>$s = 11.47 \text{ m}$                                                                               | 1<br>1                         | 2                             |
| (c) (i)            | Aerodinamik // Larus<br><i>Aeodinamic // Streamline</i><br>Mengurangkan rintangan udara<br><i>Reduce air resistance</i>                            | 1<br>1                         | 2                             |
| (ii)               | Tinggi<br><i>High</i><br>Daya lebih besar<br><i>Larger force</i>                                                                                   | 1<br>1                         | 2                             |
| (iii)              | Sirip pada ekor roket<br><i>Fins at the tail of the rocket</i><br>Menambah kestabilan roket<br><i>Increase the stability of the rocket</i>         | 1<br>1                         | 2                             |
|                    |                                                                                                                                                    |                                | 9                             |
| 8 (a)              | Cahaya / <i>Light</i> = 80%; Haba / <i>Heat</i> = 20%<br>$20 = \frac{E_{\text{Haba/Heat}}}{40} \times 100$<br>$E_{\text{Haba/Heat}} = 8 \text{ J}$ | 1<br>1                         | 2                             |
| (b) (i)            | Tungsten<br><i>Tungsten</i><br>Rintangan tinggi<br><i>High resistance</i>                                                                          | 1<br>1                         | 2                             |
| (ii)               | Nipis<br><i>Thin</i><br>Rintangan tinggi<br><i>High resistance</i>                                                                                 | 1<br>1                         | 2                             |
| (iii)              | Bergegelung<br><i>Coiled</i><br>Lebih panjang // rintangan tinggi<br><i>Longer // high resistance</i>                                              | 1<br>1                         | 2                             |

| Soalan<br>Question | Skema Pemarkahan<br>Marking Scheme                                                                                                                                                                                                                                                                                                                        | Markah<br>Bahagian<br>Sub mark | Markah<br>Penuh<br>Full marks |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------|
| (c)                | P                                                                                                                                                                                                                                                                                                                                                         | 1                              | 1                             |
|                    |                                                                                                                                                                                                                                                                                                                                                           |                                | 9                             |
| 9 (a)              | <p>Kuasa dua tempoh orbit planet adalah berkadar langsung dengan kuasa tiga jejari orbitnya.<br/> <i>The square of the orbital period of any planet is directly proportional to the cube of the radius of its orbit.</i></p>                                                                                                                              | 1                              | 1                             |
| (b)                | $\frac{mv^2}{r} = \frac{GMm}{r^2}$ $v^2 = \frac{GM}{r}$ $\left(\frac{2\pi r}{T}\right)^2 = \frac{GM}{r}$ $T^2 = \left(\frac{4\pi^2}{GM}\right)r^3$ <p>Oleh sebab <math>\frac{4\pi^2}{GM}</math> adalah malar, maka <math>T^2 \propto r^3</math>.</p> <p>As <math>\frac{4\pi^2}{GM}</math> is constant, thus <math>T^2 \propto r^3</math>.</p>             | 1                              | 3                             |
| (c)                | $\frac{(3.96 \times 10^4)^2}{T^2} = \frac{(2.5 \times 10^7)^3}{(4.2 \times 10^7)^3}$ <p><math>T = 8.62 \times 10^4</math> s</p>                                                                                                                                                                                                                           | 1                              | 2                             |
| (d)                | <p><b>M1</b> Jisim satelit yang kecil<br/> <i>Low mass of satellite</i></p> <p><b>M2</b> Mengurangkan kos pelancaran satelit kerana kos pelancaran adalah berdasarkan berat satelit.<br/> <i>Reduce cost to launch the satellite as the cost of launching is based on weight of satellite.</i></p> <p><b>M3</b> Tenaga solar<br/> <i>Solar energy</i></p> | 1                              |                               |
|                    |                                                                                                                                                                                                                                                                                                                                                           | 1                              |                               |
|                    |                                                                                                                                                                                                                                                                                                                                                           | 1                              |                               |

| Soalan<br>Question | Skema Pemarkahan<br>Marking Scheme                                                                                                                                                                                                                                                                                                                                                        | Markah<br>Bahagian<br>Sub mark | Markah<br>Penuh<br>Full marks |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------|
|                    | <b>M4</b> Sumber tenaga yang tidak habis digunakan.<br><i>A source of energy that is not depleted by use.</i>                                                                                                                                                                                                                                                                             | 1                              | <b>10</b>                     |
|                    | <b>M5</b> Orbit geopegun Bumi.<br><i>Geostationary Earth orbit.</i>                                                                                                                                                                                                                                                                                                                       | 1                              |                               |
|                    | <b>M6</b> Tidak perlu menukar arah antena stesen bumi.<br><i>Does not have to change the direction of the ground station antenna.</i>                                                                                                                                                                                                                                                     | 1                              |                               |
|                    | <b>M7</b> Dari barat ke timur<br><i>From west to east</i>                                                                                                                                                                                                                                                                                                                                 | 1                              |                               |
|                    | <b>M8</b> Searah dengan putaran Bumi pada paksinya.<br><i>Same direction as the rotation of Earth on its axis.</i>                                                                                                                                                                                                                                                                        | 1                              |                               |
|                    | <b>M9</b> Sistem satelit L<br><i>Satellite system L</i>                                                                                                                                                                                                                                                                                                                                   | 1                              |                               |
|                    | <b>M10</b> Jisim satelitnya kecil, tenaga solar digunakan, berada pada orbit geopegun Bumi dan bergerak dari barat ke timur.<br><i>Low mass of satellite, solar energy is used, at geostationary Earth orbit and move from west to east.</i>                                                                                                                                              | 1                              |                               |
|                    | <b>(e) Kebaikan :</b> Bumi dapat mengekalkan lapisan atmosfera pada sekelilingnya kerana molekul udara bergerak pada laju linear purata yang kurang daripada halaju lepas dari Bumi.<br><b>Benefit :</b> <i>Earth is able to maintain a layer of atmosphere around it because air molecules are moving at average linear speed that is lower than the escape velocity from the Earth.</i> | 2                              |                               |
|                    | <b>Implikasi :</b> Pelancaran roket memerlukan bahan api yang banyak untuk menghasilkan tujah yang tinggi bagi mencapai halaju lepas dari Bumi.<br><b>Implication :</b> <i>The launching of rocket requires large quantities of fuel to produce high thrust that enable the rocket to achieve escape velocity of the Earth.</i>                                                           | 2                              |                               |
|                    |                                                                                                                                                                                                                                                                                                                                                                                           |                                | <b>20</b>                     |

| Soalan<br>Question | Skema Pemarkahan<br>Marking Scheme                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Markah<br>Bahagian<br>Sub mark | Markah<br>Penuh<br>Full marks |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------|
| 10 (a) (i)         | <p>Daya tunggal yang sama dengan hasil tambah vektor semua daya yang dikenakan pada suatu objek.<br/><i>A single force equal to the vector sum of all forces applied to an object.</i></p>                                                                                                                                                                                                                                                                                                              | 1                              | 1                             |
| (ii)               | <p>Bongkah kayu menggelongsor turun ke bawah pada sudut <math>45^\circ</math> kerana daya komponen yang selari dengan cerun lebih besar daripada daya geseran.<br/><i>Wooden block slides down the plane with <math>45^\circ</math> inclination because the component of the weight of the block parallel to the inclined plane is greater than the frictional force.</i></p> <p>Menghasilkan daya paduan dan pecutan ke bawah.<br/><i>A resultant force and acceleration downward is produced.</i></p> | 1                              |                               |
|                    | <p>Bongkah dalam keadaan pegun pada sudut <math>30^\circ</math> kerana daya selari dengan cerun adalah sama dengan daya geseran.<br/><i>Wooden block stays stationary on the plane with an inclination of <math>30^\circ</math> because the force parallel to the inclined plane is equal to the frictional force.</i></p>                                                                                                                                                                              | 1                              |                               |
|                    | <p>Daya paduan adalah sifar.<br/><i>Resultant force is zero.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1                              | 4                             |
| (b) (i)            | <p><math>W = 5(9.81) = 49.05 \text{ N}</math></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1                              | 1                             |
| (ii)               | <p><math>W_g = 49.05(\sin 45^\circ) = 34.68 \text{ N}</math><br/>Daya paduan / <i>Resultant force</i><br/><math>= 34.68 \text{ N} - 24.52 \text{ N}</math><br/><math>= 10.16 \text{ N}</math></p>                                                                                                                                                                                                                                                                                                       | 1<br>1<br>1                    | 3                             |
| (iii)              | <p><math>10.16 = 5 \times a</math><br/><math>a = 2.032 \text{ m s}^{-2}</math></p>                                                                                                                                                                                                                                                                                                                                                                                                                      | 1                              | 1                             |

| Soalan<br>Question | Skema Pemarkahan<br>Marking Scheme                                                                                                                                                                                                                   | Markah<br>Bahagian<br>Sub mark | Markah<br>Penuh<br>Full marks |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------|
| (c)                | <b>M1</b> Magnitud daya tarikan besar<br><i>Bigger magnitude of pulling force</i>                                                                                                                                                                    | 1                              | <b>10</b>                     |
|                    | <b>M2</b> Daya paduan besar<br><i>Bigger resultant force</i>                                                                                                                                                                                         | 1                              |                               |
|                    | <b>M3</b> Sudut kecil<br><i>Small angle between forces</i>                                                                                                                                                                                           | 1                              |                               |
|                    | <b>M4</b> Daya paduan meningkat<br><i>Resultant forces increase</i>                                                                                                                                                                                  | 1                              |                               |
|                    | <b>M5</b> Dengan penggelek<br><i>With roller</i>                                                                                                                                                                                                     | 1                              |                               |
|                    | <b>M6</b> Mengurangkan geseran<br><i>Reduce friction</i>                                                                                                                                                                                             | 1                              |                               |
|                    | <b>M7</b> Menarik dari depan<br><i>Pull from the front</i>                                                                                                                                                                                           | 1                              |                               |
|                    | <b>M8</b> Mengurangkan daya komponen menegak ke bawah supaya geseran dapat dikurangkan<br><i>Reduce the vertical component of force going down which reduces the frictions</i>                                                                       | 1                              |                               |
|                    | <b>M9</b> Kaedah B<br><i>Method B</i>                                                                                                                                                                                                                | 1                              |                               |
|                    | <b>M10</b> Gunakan magnitud daya besar, sudut antara daya kecil, menggunakan penggelek dan kotak ditarik dari depan<br><i>Use big magnitude of force, the angle between the force is small, it uses rollers and the box is pulled from the front</i> | 1                              |                               |
|                    |                                                                                                                                                                                                                                                      |                                | <b>20</b>                     |

| Soalan<br>Question | Skema Pemarkahan<br>Marking Scheme                                                                                                                                                                                                                                                                                                                                    | Markah<br>Bahagian<br>Sub mark | Markah<br>Penuh<br>Full marks |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------|
| 11 (a)             | Nukleus helium // ${}^4_2\text{He}$<br><i>Helium nuclei // <math>{}^4_2\text{He}</math></i>                                                                                                                                                                                                                                                                           | 1                              | 1                             |
| (b) (i)            | Jisim zarah alfa lebih besar<br><i>Mass of alpha particles is bigger</i><br>Kelajuan zarah beta lebih tinggi<br><i>Speed of beta particles is higher</i><br>Julat di dalam udara bagi zarah beta lebih besar<br><i>The range in the air for beta is bigger</i>                                                                                                        | 1<br>1<br>1                    | 3                             |
| (ii)               | Semakin kecil jisim zarah-zarah, semakin besar julat dalam udara bagi zarah-zarah dan sinar.<br><i>The smaller the mass of particles, the bigger the range in air of particles and ray.</i><br>Semakin tinggi kelajuan, semakin tinggi kuasa penembusan zarah-zarah dan sinar.<br><i>The higher the speed, the higher the penetrating power of particles and ray.</i> | 1<br>1                         | 2                             |
| (c) (i)            | ${}^{238}_{92}\text{U} \rightarrow {}^{234}_{90}\text{Th} + {}^4_2\text{He}$<br>${}^{234}_{92}\text{Th}$<br>${}^4_2\text{He}$                                                                                                                                                                                                                                         | 1<br>1                         |                               |
| (ii)               | Bilangan proton berkurang sebanyak 2<br><i>Number of proton decreases by 2</i><br>Bilangan neutron berkurang sebanyak 2<br><i>Number of neutron decreases by 2</i>                                                                                                                                                                                                    | 1<br>1                         | 4                             |

| Soalan<br>Question | Skema Pemarkahan<br>Marking Scheme                                                                                                                                                              | Markah<br>Bahagian<br>Sub mark | Markah<br>Penuh<br>Full marks |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------|
| (d)                | <b>M1</b> Jenis tindak balas nuklear ialah pembelahan nukleus<br><i>Type of nuclear reaction is nuclear fission</i>                                                                             | 1                              | <b>10</b>                     |
|                    | <b>M2</b> Boleh menghasilkan neutron yang boleh cetuskan tindak balas berantai<br><i>Can produce neutrons to spark chain reaction</i>                                                           | 1                              |                               |
|                    | <b>M3</b> Bahan untuk moderator ialah grafit<br><i>Material for the moderator is graphite</i>                                                                                                   | 1                              |                               |
|                    | <b>M4</b> Boleh memperlambatkan neutron yang laju<br><i>Can slow down the fast neutrons</i>                                                                                                     | 1                              |                               |
|                    | <b>M5</b> Bahan untuk rod pengawal ialah boron atau cadmium<br><i>Material for the control rod is boron or cadmium</i>                                                                          | 1                              |                               |
|                    | <b>M6</b> Boleh menyerap sebahagian neutron, oleh itu mengurangkan kadar tindak balas pembelahan nukleus<br><i>Can absorb some of the neutrons, so reduced the rate of the fission reaction</i> | 1                              |                               |
|                    | <b>M7</b> Bahan untuk penyejuk ialah air<br><i>Material of the coolant is water</i>                                                                                                             | 1                              |                               |
|                    | <b>M8</b> Air mempunyai muatan haba tentu yang tinggi, oleh itu dapat menyerap haba dengan banyak<br><i>Water has high specific heat capacity so it can absorb more heat</i>                    | 1                              |                               |
|                    | <b>M9</b> Perisai konkrit yang tebal<br><i>Thick concrete shield</i>                                                                                                                            | 1                              |                               |
|                    | <b>M10</b> Mengelakkan kebocoran sinaran daripada reaktor<br><i>Prevent leakage of radiation from the reactor core</i>                                                                          | 1                              |                               |
|                    |                                                                                                                                                                                                 |                                | <b>20</b>                     |