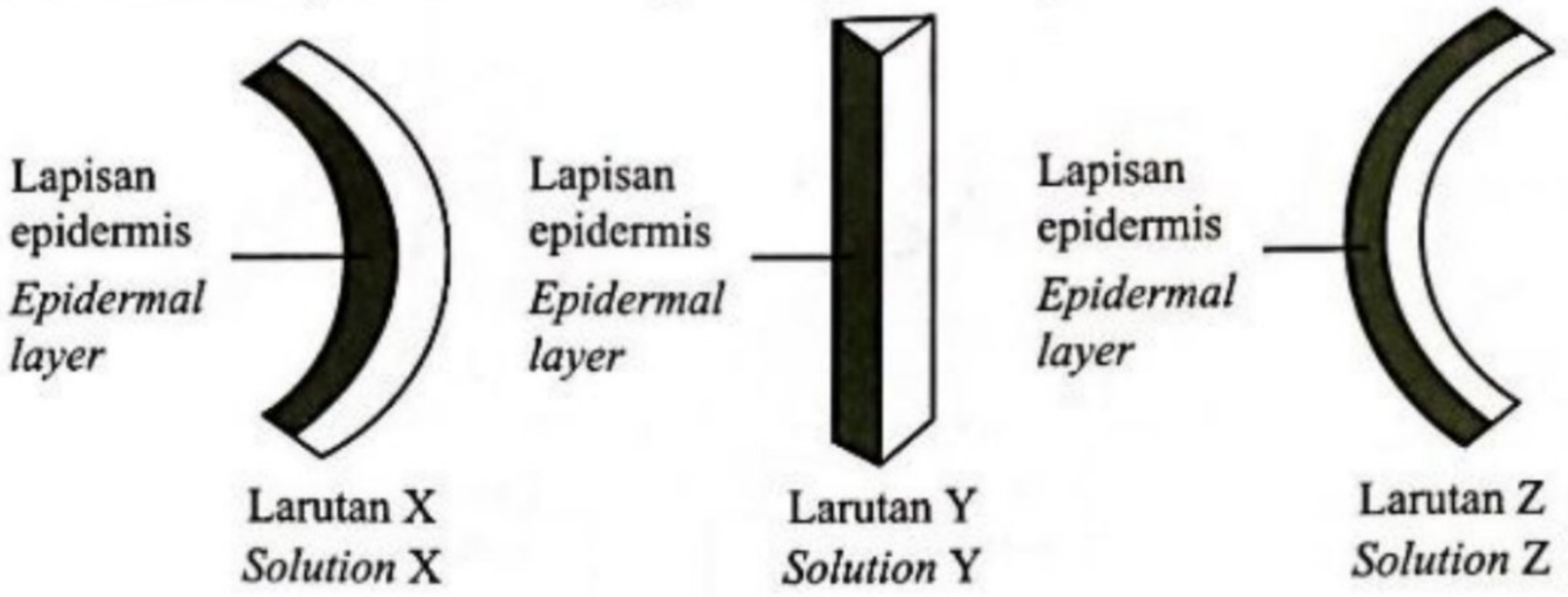
3 Rajah 3.1 menunjukkan pemerhatian jalur sawi yang diletakkan dalam larutan sukrosa yang berlainan kepekatan selepas direndam selama 20 minit.

Diagram 3.1 *shows the observation of mustard green strip placed in different concentrations of sucrose solution after being immersed for* 20 *minutes.*



Rajah 3.1
Diagram 3.1

(*a*) (i) Berdasarkan Rajah 3.1, nyatakan jenis larutan X dan Z.
Based on Diagram 3.1, *state the type of solutions* X *and* Z.

Larutan X : .....
Solution X

Larutan Z : .....
Solution Z

[2 *markah*]
[2 *marks*]

3(*a*)(i)
2

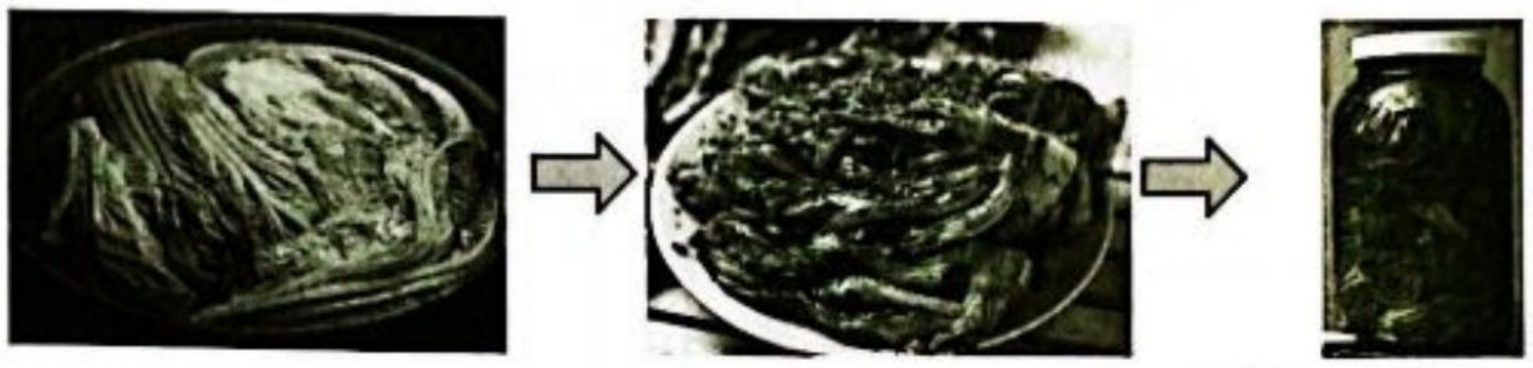
(ii) Lukis dan label satu sel sawi yang direndam dalam larutan Z.
Draw and label a mustard green cell that immersed in solution Z.

[2 *markah*]
[2 *marks*]

3(*a*)(ii)
2

Untuk Kegunaan Pemeriksa

(*b*) Kimchi merupakan makanan tradisional masyarakat Korea dan menjadi ikon Korea di serata dunia.
Rajah 3.2 menunjukkan tiga langkah penyediaan kimchi daripada kubis.
Kimchi is a traditional food of the Korean and has become a Korean icon around the world.
Diagram 3.2 shows the three steps of preparing kimchi from cabbage.



Kubis direndam dalam larutan garam pekat
Cabbage is immersed in concentrated salt solution

Kubis diperap bersama pes cili
Cabbage is marinated with chilli paste

Kimchi disimpan di dalam botol bertutup
Kimchi is kept in a sealed bottle

Rajah 3.2
Diagram 3.2

Terangkan bagaimana langkah pertama berkesan dalam pengawetan kubis.
Explain how the first step is effective in preserving the cabbage.

.....

.....

.....

.....

.....

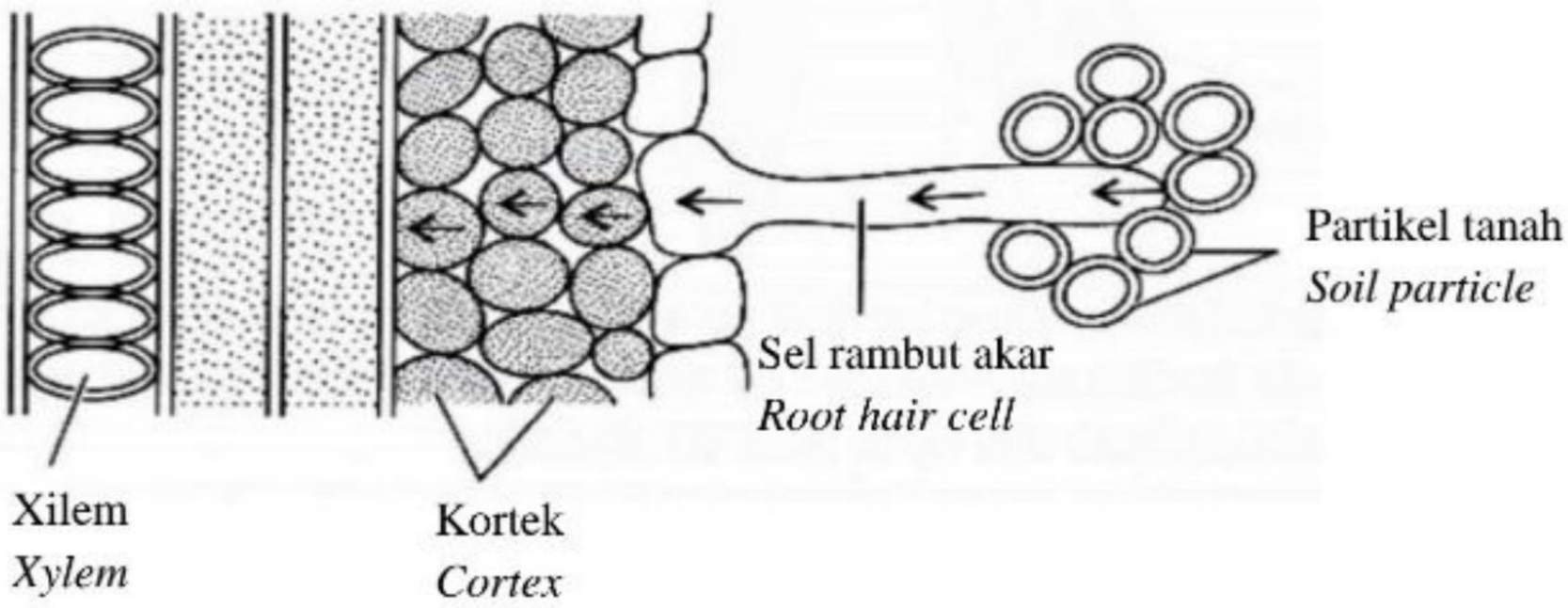
[3 *markah*]
[3 *marks*]

3(*b*)
3

Total
A3
7

For Examiner's Use

3 Rajah 3.1 menunjukkan pergerakan air dari dalam tanah ke salur xilem.
Diagram 3.1 shows the movement of water the from soil to the xylem vessel.



Rajah 3.1 / *Diagram 3.1*

(a) i. Namakan proses yang ditunjukkan dalam Rajah 3.1.
Name the process shown in Diagram 3.1.

.....

[1 markah / *mark*]

3 (a) (i)

1

ii. Terangkan proses di 3 (a) i.
Explain the process in 3 (a) i.

.....

.....

[2 markah / *marks*]

3 (a)(ii)

2

(b) Suatu tumbuhan di beri baja berlebihan. Terangkan kesan baja berlebihan ke atas tumbuhan tersebut.
A plant is given excessive fertiliser. Explain the effect of excessive fertiliser on the plant.

.....

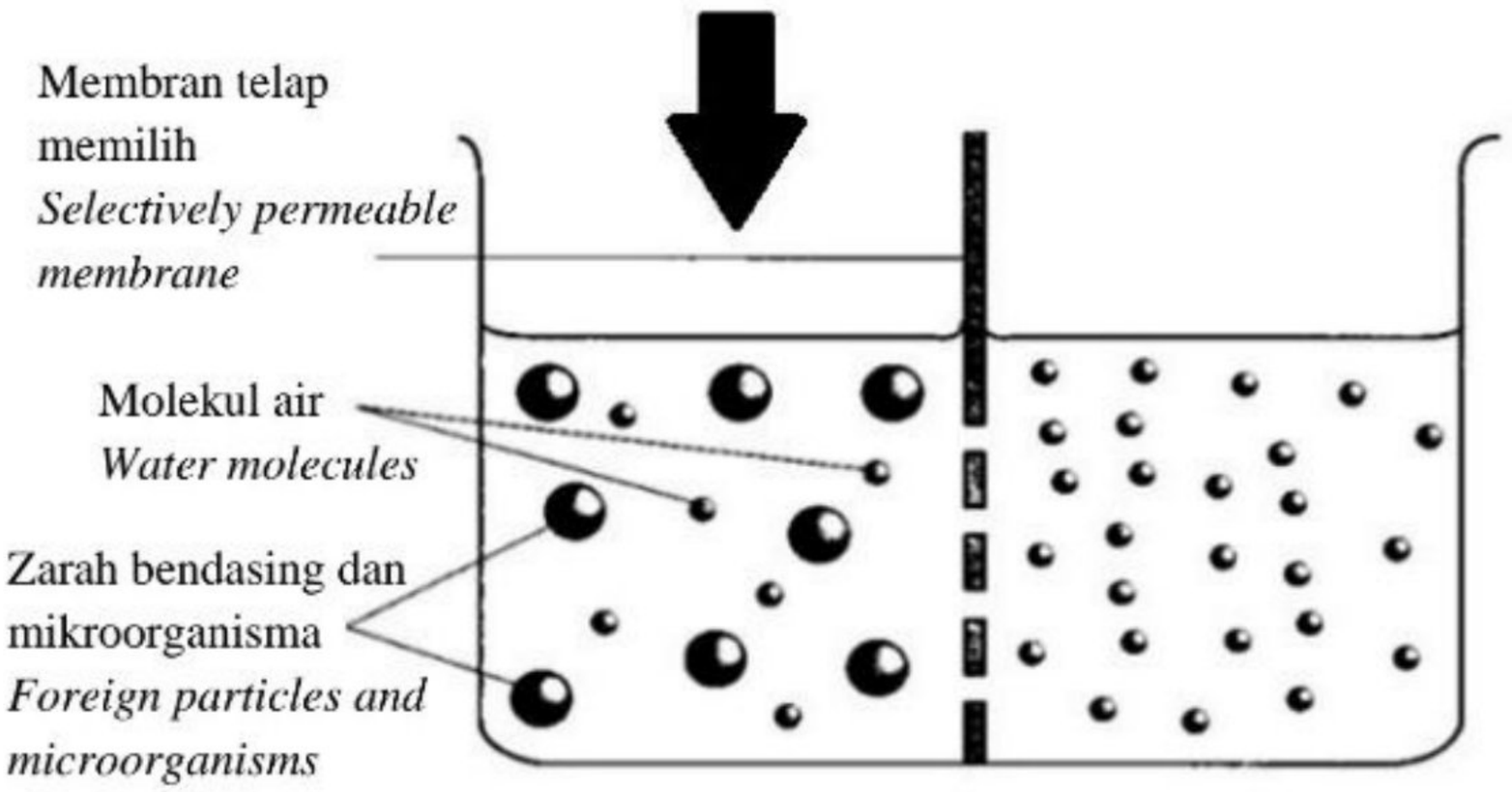
.....

[2 markah / *marks*]

3 (b)

2

(c) Proses penyahgaraman adalah satu proses untuk menghasilkan air tawar dari air laut.
Rajah 3.2 menunjukkan proses penyahgaraman untuk mendapatkan air tawar yang tulen dari air laut.
Desalination process is a process to produce fresh water from sea water.
Diagram 3.2 shows desalination to obtain fresh water from the sea water.



Rajah 3.2 / *Diagram 3.2*

Berdasarkan Rajah 3.2, terangkan proses tersebut.
Based on Diagram 3.2, explain the process.

.....

.....

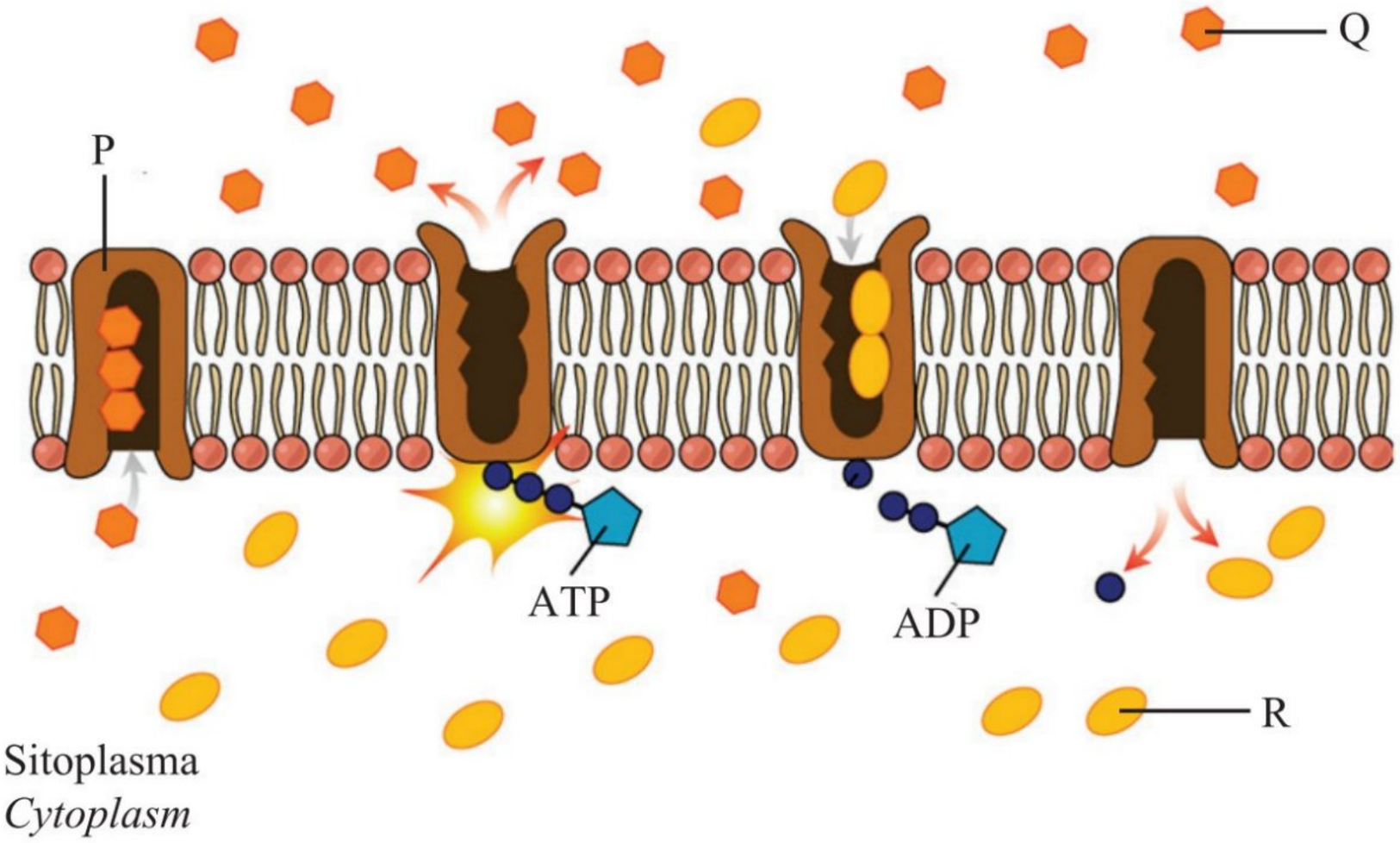
.....

[2 markah/ *marks*]

3 (c) 2

Total A3 7

3 Rajah 3.1 menunjukkan pergerakan bahan merentasi membran plasma.
Diagram 3.1 *shows the movement of substances across the plasma membrane.*



Rajah 3.1
Diagram 3.1

(*a*) (i) Namakan struktur P.
Name structure P.

3(*a*)(i) 1

.....

[1 *markah*]
[1 *mark*]

(ii) Namakan jenis pengangkutan yang ditunjukkan dalam Rajah 3.1.
Name the type of transport shown in Diagram 3.1.

3(*a*)(ii) 1

.....

[1 *markah*]
[1 *mark*]

Untuk Kegunaan Pemeriksa

(*b*) Q dan R adalah ion yang terlibat dalam pam natrium-kalium.
Terangkan pengangkutan ion Q merentasi membran plasma tersebut.

Q *and* R *are ions that involved in the sodium-potassium pump.*
Explain the transport of ion Q *across the plasma membrane.*

.....

.....

.....

.....

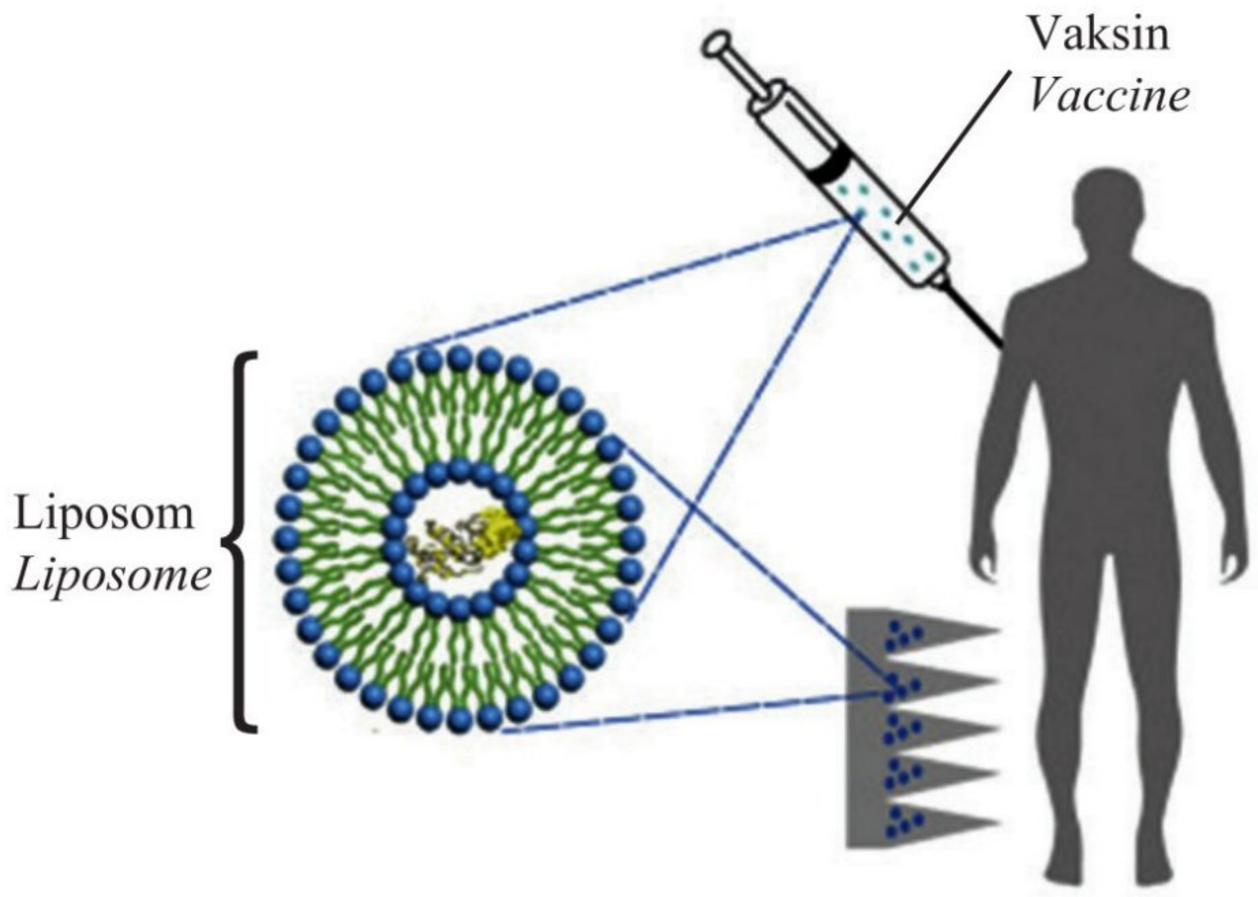
.....

.....

[3 *markah*]
[3 *marks*]

3(*b*)
3

(*c*) Rajah 3.2 menunjukkan aplikasi liposom dalam bidang farmasi.
Diagram 3.2 *shows the application of liposome in the field of pharmacy.*



Rajah 3.2
Diagram 3.2

Terangkan kelebihan menggunakan liposom dalam pemberian vaksin yang berkesan kepada individu tersebut.
Explain the advantage of using liposome in the effective administration of vaccine to the individual.

.....

.....

.....

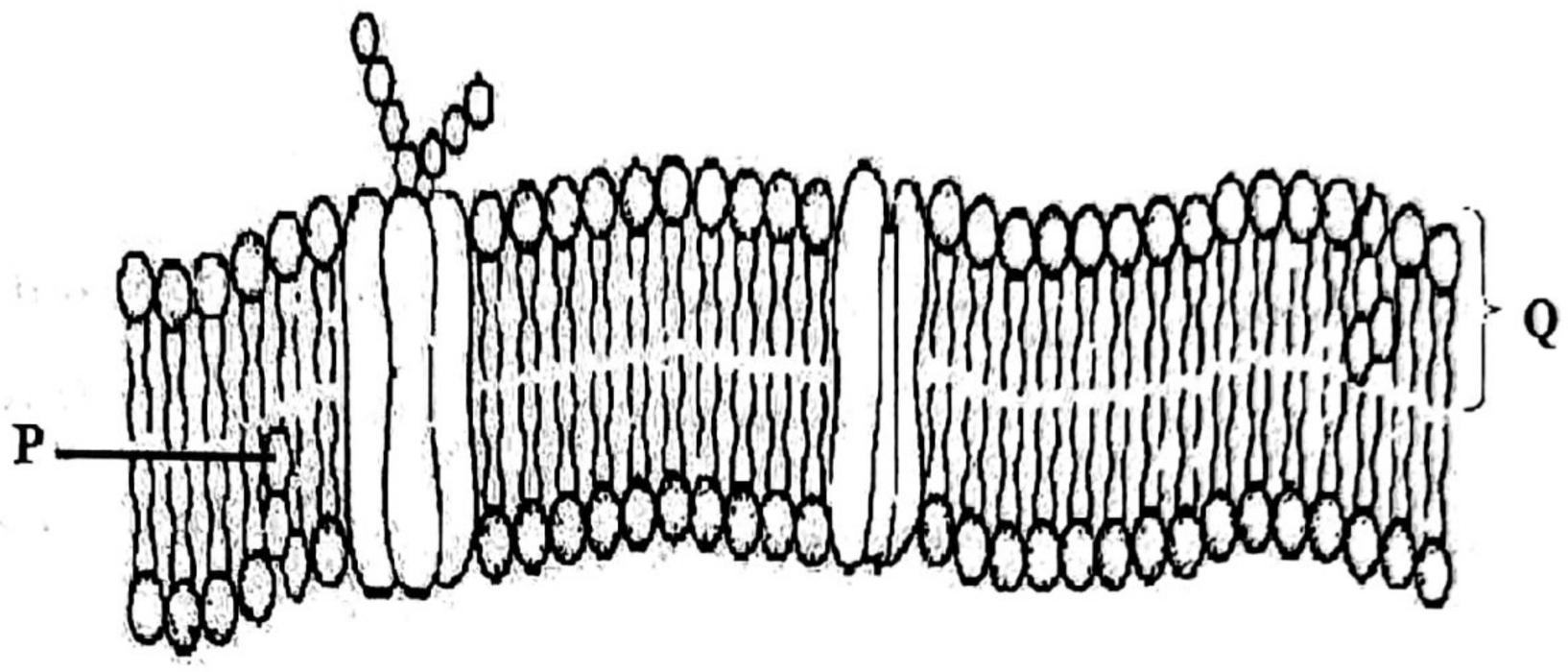
.....

[2 *markah*]
[2 *marks*]

3(*c*)
2

For Examiner's Use

2. Rajah 2 menunjukkan struktur membran plasma. Protein dan lipid merupakan komponen utama yang membentuk membran plasma.
Diagram 2 shows the structure of the plasma membrane. Proteins and lipids are the main components that make up the plasma membrane.



Rajah 2 / *Diagram 2*

(a) Berdasarkan Rajah 2, nyatakan struktur berlabel P dan Q
Based on Diagram 2, state the structure labeled P and Q.

2(a)

P : .....

Q : .....

[2 markah/*marks*]

(b) P adalah komponen organik dalam sel hidup.
Jika membran plasma mempunyai kurang molekul P, terangkan kesannya terhadap sifat membran plasma tersebut.
P is an organic component in living cells.
If the plasma membrane has less molecule P, explain its effect on the characteristics of the plasma membrane

2(b)

.....

.....

.....

.....

[2 markah/*marks*]

For Examiner's Use

(c) Sejenis bahan kimia telah merencatkan proses respirasi di dalam sel-sel akar rambut tumbuhan.
Terangkan kesan ke atas pengangkutan ion mineral ke dalam sel-sel akar rambut itu.

A chemical substance inhibits the respiration process in the root hair cells of the plant. Explain the effect to the transport of mineral ions into the root hair cells.

.....

.....

.....

.....

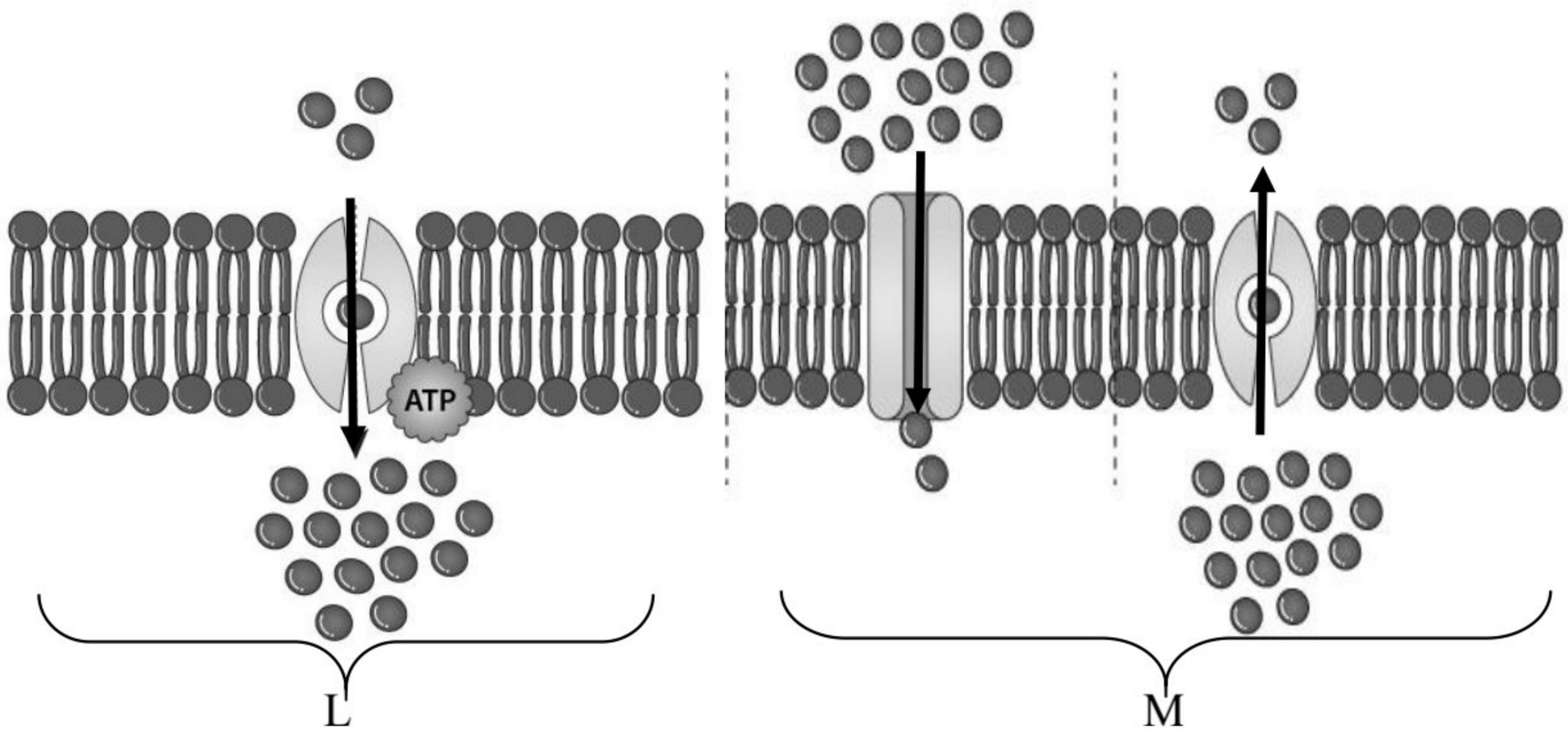
[2 markah/*marks*]

2(c) 2

Total 6

4. Rajah 4 menunjukkan proses pergerakan bahan merentas membran plasma.

Diagram 4 *shows a process of movement of substances across the plasma membrane.*



Rajah 4

Diagram 4

4(a)(i)

(a)(i) Berdasarkan Rajah 4, namakan jenis pergerakan tersebut.

Based on Diagram 4, *name the type of movement.*

L: .....

M: .....

[2 markah]
[2 *marks*]

4(a)(ii)

(ii) Nyatakan satu contoh bahan yang dapat merentasi membran plasma pada M.

State one example of substance that able to move across plasma membrane at M.

.....

[1 markah]
[1 *mark*]

(b) Bezakan kedua-dua proses L dan M.

Differentiate both processes L and M.

L	M

[2 markah]
[2 *marks*]

4(b)
2

(c) Setelah bermain futsal, anda berasa dahaga dan menyedari kehilangan air dan elektrolit seperti kalium dan natrium melalui perpeluhan. Cadang dan terangkan strategi untuk menggantikan kehilangan kedua-dua bahan tersebut.

After playing futsal, you felt thirsty and realised that lost of water and electrolytes such as potassium and sodium through perspiration. Suggest and explain strategy to recover the lost of those substances.

.....

.....

.....

[2 markah]
[2 *marks*]

4(c)
2

Total
A4
7

3 Bahan-bahan berikut diperlukan oleh sel badan bagi menjalankan proses metabolisme.
The following substances are required by body cells to carry out the process of metabolism.

- Oksigen
  Oxygen
- Asid amino
  Amino acids
- Glukosa
  Glucose

(*a*) (i) Terangkan bagaimana oksigen diangkut ke dalam sel.
Explain how oxygen is transported into the cell.

.....

.....

.....

[2 *markah*]
[2 *marks*]

3(*a*)(i) 2

(ii) Glukosa dan asid amino memasuki sel melalui tapak spesifik pada protein yang terdapat pada membran plasma.
Terangkan mengapa.

Glucose and amino acids enter the cell through specific sites at protein in the plasma membrane.
Explain why.

.....

.....

.....

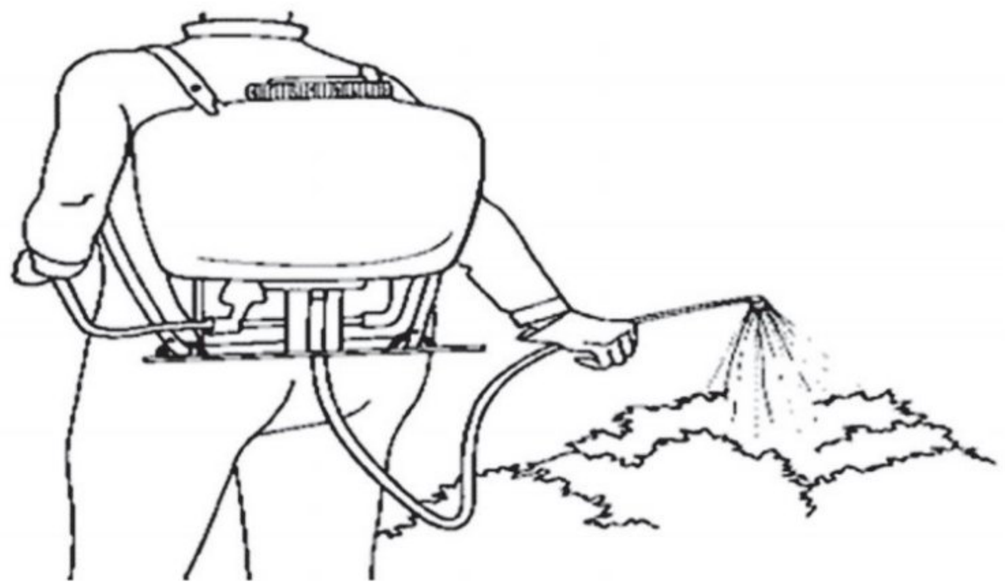
[2 *markah*]
[2 *marks*]

3(*a*)(ii) 2

Untuk Kegunaan Pemeriksa

(*b*) Rajah 3 menunjukkan sejenis herbisid yang disembur ke atas rumpai untuk mengawal populasi tumbuhan itu. Herbisid itu menyebabkan protein dan enzim ATPase di dalam sel rumpai ternyahasli.

Diagram 3 *shows a type of herbicide that was sprayed on the weed to control their population. The herbicide causes the proteins and ATPase enzyme in the cell of the weed to denature.*



Rajah 3
Diagram 3

Terangkan kesan herbisid tersebut ke atas pengangkutan ion kalium dalam rumpai tersebut.

Explain the effect of the herbicide on the transport of potassium ions in the weed.

.....

.....

.....

.....

.....

[3 *markah*]
[3 *marks*]

3(*b*)
3

Total
A3
7