

#### 4.1 Pembiakan Seks dan Aseks | Sexual and Asexual Reproduction

SP 4.1.1 Membanding dan membezakan pembiakan seks dan aseks bagi haiwan dan tumbuhan.

A 1 Terdapat dua jenis pembiakan. Lengkapkan tempat kosong. Buku Teks: m.s. 90 **TP1**

*There are two types of reproduction. Fill in the blanks.*

- (a) Pembiakan \_\_\_\_\_ melibatkan dua induk / \_\_\_\_\_ reproduction involves two parents.  
(b) Pembiakan \_\_\_\_\_ melibatkan satu induk / \_\_\_\_\_ reproduction involves one parents.

2 Jadual di bawah menunjukkan jenis pembiakan. / Table below shows types of reproduction.

- Gariskan jawapan yang betul sama ada melibatkan sel pembiakan atau tidak.

*Underline the correct answer whether involves reproductive cells or not.*

- Kelaskan tiga contoh bagi setiap jenis pembiakan. Buku Teks: m.s. 91 **TP1**

*Classify three examples for every type of reproduction.*

| Pembiakan<br><i>Reproduction</i> | Melibatkan sel pembiakan<br><i>Involves reproductive cells</i> | Beri 3 contoh<br><i>Give 3 examples</i> |
|----------------------------------|----------------------------------------------------------------|-----------------------------------------|
| (a) Seks<br><i>Sexual</i>        | Ya / Tidak<br><i>Yes / No</i>                                  |                                         |
| (b) Aseks<br><i>Asexual</i>      | Ya / Tidak<br><i>Yes / No</i>                                  |                                         |

3 Padankan istilah di dalam pembiakan seks dengan huraianya. Buku Teks: m.s. 92 **TP2**

*Match the terms in sexual reproduction and its description.*

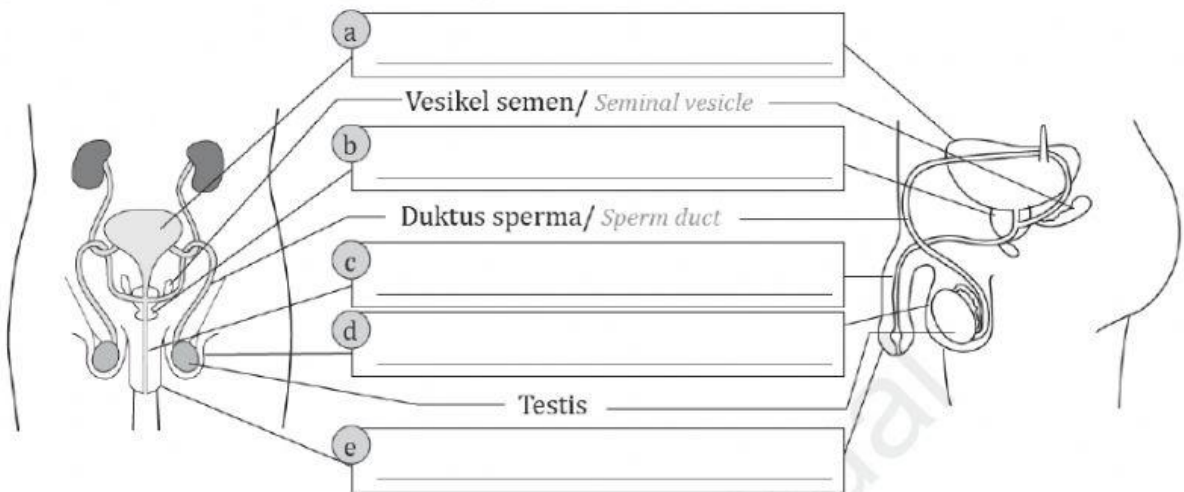
| Istilah/ <i>Terms</i>                                 | Huraian/ <i>Description</i>                                                                                                                |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| a Ovari<br><i>Ovary</i>                               | Ovum dan sperma bercantum.<br><i>Ovum and sperm fused.</i>                                                                                 |
| b Persenyawaan<br><i>Fertilization</i>                | Tempat induk jantan menghasilkan sperma.<br><i>Place where the male parent produce the sperms.</i>                                         |
| c Testis<br><i>Testis</i>                             | Tempat induk betina menghasilkan ovum.<br><i>Place where the female parent produce the ovum.</i>                                           |
| d Persenyawaan luar<br><i>External fertilization</i>  | Nukleus ovum dan nukleus sperma bercantum di dalam badan betina.<br><i>Nucleus of ovum and nucleus of sperma fused in the female body.</i> |
| e Persenyawaan dalam<br><i>Internal fertilization</i> | Nukleus ovum dan nukleus sperma bercantum di dalam air.<br><i>Nucleus of ovum and nucleus of sperma fused in the water.</i>                |

B. 1.

- (a) Gariskan jawapan yang betul tentang kepentingan pembiakan. Buku Teks: m.s. 96 - 97 TP3 SP 4.1.3  
*Underline the correct answer about the importance of reproduction.*
- (i) Benda hidup perlu membiak untuk memastikan spesiesnya tidak ( mati / pupus ).  
*Living things need to reproduce to ensure their species do not ( die / extinct ).*
- (ii) Pembiakan dapat menurunkan maklumat ( genetik / jantina ) kepada generasi baharu.  
*Reproduction can transfer information on ( genetic / gender ) to the new generation.*
- (b) Manusia sepatutnya bersyukur di atas kebolehan membiak. Gariskan jawapan yang betul bagi pernyataan berikut. Buku Teks: m.s. 96 - 97 TP3 SP 4.1.3  
*Human should be grateful on the ability to reproduce. Underline the correct answer for the following statements.*

|       |                                                                                                          |                                                               |
|-------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| (i)   | Kes pembuangan bayi yang semakin meningkat.<br><i>Baby dumping cases increasing tremendously.</i>        | Bersyukur / Tidak bersyukur<br><i>Grateful / Not grateful</i> |
| (ii)  | Pasangan itu bahagia dengan 10 orang anak mereka.<br><i>The couple was happy with their 10 children.</i> | Bersyukur / Tidak bersyukur<br><i>Grateful / Not grateful</i> |
| (iii) | Perempuan tua itu dijaga oleh anak tunggalnya.<br><i>The old lady was cared by her only child.</i>       | Bersyukur / Tidak bersyukur<br><i>Grateful / Not grateful</i> |

- C 1 Rajah di bawah menunjukkan struktur pembiakan lelaki. Tuliskan label yang betul. Buku Teks: m.s. 98  
*Diagram below shows the structure of the male reproduction. Write the correct label.* TP1



2 Lengkapkan jadual di bawah dengan struktur yang betul mengikut fungsinya.

Buku Teks: m.s. 98

TP2

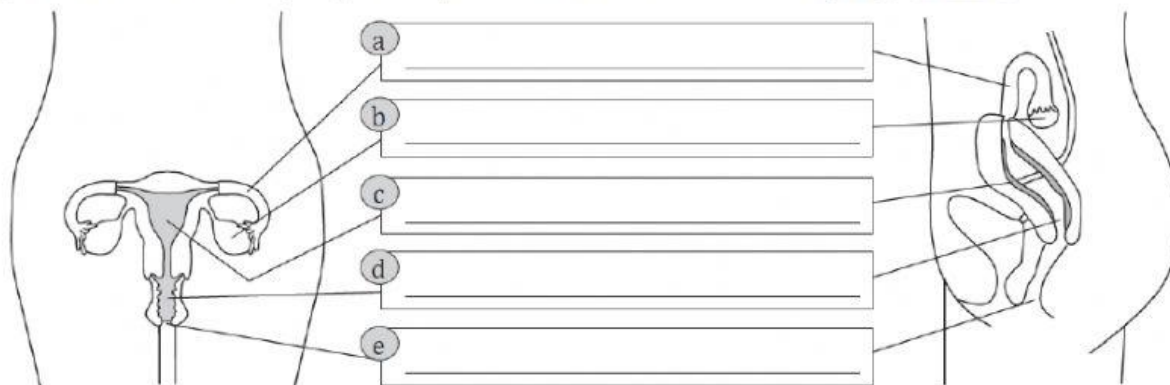
Complete the table below with the correct structure with its function.

|                                         |                                            |                       |                                    |
|-----------------------------------------|--------------------------------------------|-----------------------|------------------------------------|
| Testis<br><i>Testis</i>                 | Uretra<br><i>Urethra</i>                   | Ovari<br><i>Ovary</i> | Skrotum<br><i>Scrotum</i>          |
| Vesikel semen<br><i>Seminal vesicle</i> | Kelenjar prostat<br><i>Prostate glands</i> | Zakar<br><i>Penis</i> | Duktus sperma<br><i>Sperm duct</i> |

|     | Fungsi/ Function                                                                                                                           | Struktur/ Structure |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| (a) | Memegang dan melindungi testis<br><i>Holds and protects the testes</i>                                                                     |                     |
| (b) | Memindahkan sperma ke dalam faraj perempuan semasa persetubuhan<br><i>Transfers sperms into the vagina of the female during copulation</i> |                     |
| (c) | Menghasilkan gamet jantan (sperma) dan hormon seks jantan<br><i>Produces male gametes (sperms) and male sex hormones</i>                   |                     |
| (d) | Menghasilkan cecair yang berkhasiat dan melindungi sel sperma<br><i>Secrete fluid which contains nutrients and protects sperm cell</i>     |                     |
| (e) | Memindahkan sperma dari testis ke uretra di dalam badan<br><i>Transports sperms from the testis to the urethra inside the body</i>         |                     |
| (f) | Salur untuk mengeluarkan sperma dan air kencing keluar dari badan<br><i>A channel to discharge sperms and urine from the body</i>          |                     |
| (g) | Merembeskan bendalir yang mengandungi nutrien untuk sperma<br><i>Secretes nutritional fluid for the sperms</i>                             |                     |

- 3 Rajah di bawah menunjukkan struktur pembiakan perempuan. Tuliskan label yang betul. Buku Teks: m.s. 99

Diagram shows the structure of the female reproduction. Write the correct label. TP1 SP 4.2.1



- 4 Lengkapkan jadual di bawah dengan fungsinya yang betul. TP2 SP 4.2.1

Complete the table below with the correct functions. Buku Teks: m.s. 99

| Struktur/ Structure                | Fungsi/ Function                                                                                                               |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| (a) Tiub Falopio<br>Fallopian tube | Tempat _____ antara sperma dan ovum berlaku<br>Place where _____ between sperm and ovum occurs                                 |
| (b) Ovari<br>Ovary                 | Menghasilkan gamet _____ dan hormon seks wanita<br>Produces _____ gamete and female sex hormones                               |
| (c) Uterus                         | Tempat _____ berkembang dan membesar<br>Place where the _____ develops and grows                                               |
| (d) Serviks<br>Cervix              | Mengeluarkan _____ untuk memudahkan sperma berenang ke dalam uterus<br>Produces _____ to enable sperms to swim into the uterus |

**F 1** Nyatakan BETUL atau PALSU bagi setiap pernyataan di bawah. Buku Teks: m.s. 104

State TRUE or FALSE for each statement below. TP1 SP 4.3.1

|     |                                                                                                                                                                      |  |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| (a) | Pengovulan berlaku semasa fasa subur<br><i>Ovulation occurs during fertile phase</i>                                                                                 |  |
| (b) | Kitar haid dikawal oleh otak dan sistem endokrin<br><i>Menstrual cycle is control by brain and the endocrine system</i>                                              |  |
| (c) | Perempuan normal mengalami kitar haid selama 30 hari tetap<br><i>A normal woman's menstrual cycle is 30 days exactly</i>                                             |  |
| (d) | Haid adalah luluhan lapisan dinding uterus, salur darah dan ovum yang mati<br><i>Menstruation is the discharge of the uterus lining, blood vessels and dead ovum</i> |  |

**2** (a) Rajah di bawah menunjukkan kitaran haid. Lengkapkan ruang kosong di bawah. Buku Teks: m.s. 105

Diagram shows the menstrual cycle. Complete the empty spaces below. TP2 SP 4.3.2



(b) Lengkapkan jadual di bawah proses yang berlaku dalam setiap fasa. Buku Teks: m.s. 105 TP2

Complete the table below the process that occurs in each phase.

|       |                                       |                                                                                                                                            |
|-------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| (i)   | Fasa haid<br><i>Menstrual phase</i>   | Lapisan dinding uterus _____ dan disingkirkan sebagai _____.<br><i>The uterine lining _____ and discharged as _____.</i>                   |
| (ii)  | Fasa pemulihan<br><i>Repair phase</i> | Lapisan uterus dibina semula dan _____.<br><i>Uterine lining start to rebuild and _____.</i>                                               |
| (iii) | Fasa subur<br><i>Fertile phase</i>    | Ovari membebaskan _____, jika ada sperma, _____ mungkin berlaku.<br><i>Ovary release the _____, if sperms present, _____ might happen.</i> |

**3** Bagaimanakah hendak menjaga kebersihan diri ketika mengalami haid? Buku Teks: m.s. 106 TP3

How to keep personal hygiene during menstruation? SP 4.3.3

Semasa haid, seorang perempuan perlu menukar tuala wanita \_\_\_\_\_ kali sehari untuk menghindari jangkitan \_\_\_\_\_ dan virus. Dan perlu \_\_\_\_\_ dengan kerap untuk menjaga kebersihan badan.

*During menstruation, a girl needs to change her sanitary pad \_\_\_\_\_ times a day to avoid \_\_\_\_\_ or virus infection. And need to \_\_\_\_\_ frequently to ensure cleanliness of the body.*

**G 1 (a)** Labelkan gambar rajah dengan menggunakan perkataan yang diberikan di bawah. Buku Teks: m.s. 108 - 110

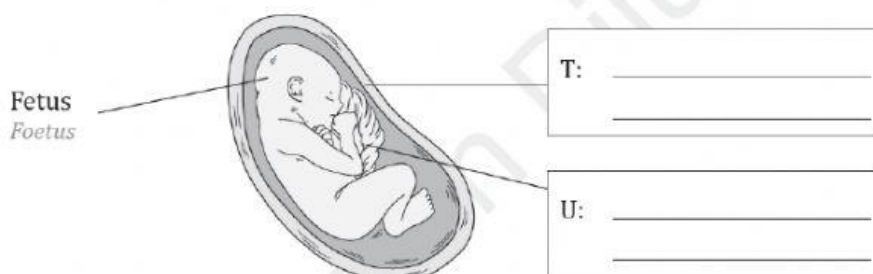
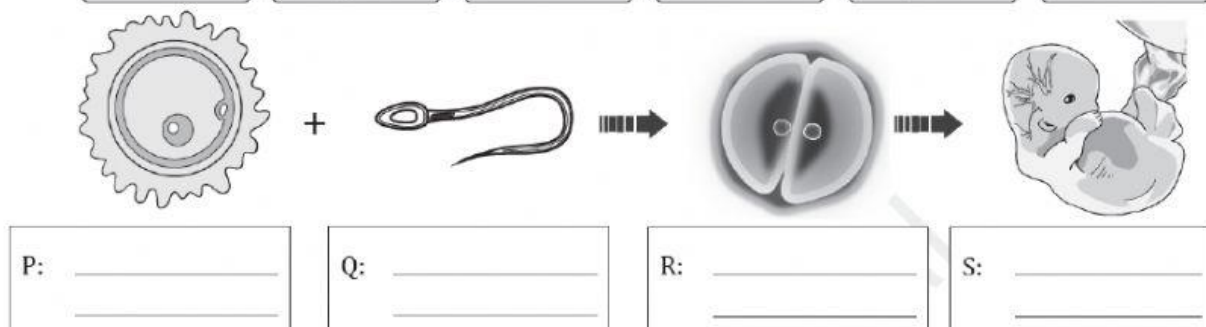
Label the pictures with the words given in the box below.

Buku Teks: m.s. 106

TP1

SP 4.4.1

|                         |                        |                             |                                     |                         |                     |
|-------------------------|------------------------|-----------------------------|-------------------------------------|-------------------------|---------------------|
| Embrio<br><i>Embryo</i> | Zigot<br><i>Zygote</i> | Plasenta<br><i>Placenta</i> | Tali pusat<br><i>Umbilical cord</i> | Sperma<br><i>Sperma</i> | Ovum<br><i>Ovum</i> |
|-------------------------|------------------------|-----------------------------|-------------------------------------|-------------------------|---------------------|



**2** Padankan kepentingan plasenta dan tali pusat. Buku Teks: m.s. 108 - 110

SP 4.4.2

TP2

Fill the importance of placenta and the umbilical cord.

a Plasenta  
*Placenta*

b Tali pusat  
*Umbilical cord*

Tiub yang menyambung fetus ke plasenta.  
*Tube that connects foetus to the placenta.*

Mengeluarkan bahan kumuh dan karbon dioksida dari fetus.  
*Eliminate waste substance and carbon dioxide from foetus.*

Membekalkan nutrien, oksigen dan antibodi dari ibu ke fetus.  
*Provide nutrients, oxygen and antibodies from mother to foetus.*

**H 1** Rajah di bawah menunjukkan proses perkembangan zigot. Buku Teks: m.s. 108 – 109 TP1

Diagram below shows the development process of a zygote.



- (a) Susun huruf di atas mengikut urutan yang betul bagi proses perkembangan zigot ke bayi. TP1

Arrange the letters in the correct order for the development of zygote to a baby.

→  →  →

- (b) Namakan peringkat R dan S. / Name stage R and S. TP1

R: \_\_\_\_\_

S: \_\_\_\_\_

- (c) Namakan bendalir yang terdapat dalam peringkat R dan nyatakan fungsinya. TP3

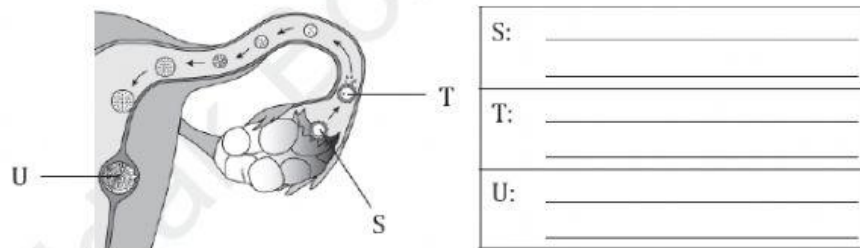
Name the fluid in the R stage and state its importance.

Bendalir R/ Liquid R : \_\_\_\_\_

Fungsi/ Function : Menyerap \_\_\_\_\_ dan mencegah fetus daripada \_\_\_\_\_  
Absorb \_\_\_\_\_ and protects the foetus from \_\_\_\_\_

**2** Rajah di bawah menunjukkan proses persenyawaan dan penempelan embrio. Buku Teks: m.s. 108 – 109 TP3

Diagram below shows the fertilization and implantation of the embryo.



S: \_\_\_\_\_  
T: \_\_\_\_\_  
U: \_\_\_\_\_

- (a) Namakan proses berikut dan lengkapkan pernyataan di bawah.

Name the following processes and complete the statement below:

embrio/ embryo

kehamilan/ pregnancy

penempelan/ implantation

persenyawaan/ fertilization

fetus/ foetus

- (b) Zigot terbentuk selepas \_\_\_\_\_ dan membahagi menjadi \_\_\_\_\_. Embrio menjalani \_\_\_\_\_ pada dinding uterus dan membesar menjadi \_\_\_\_\_. Proses ini dipanggil \_\_\_\_\_.

Zygote is formed after \_\_\_\_\_ and will divide to become \_\_\_\_\_. Embryo undergo \_\_\_\_\_ on the uterus wall and become bigger becoming a \_\_\_\_\_. This process is called \_\_\_\_\_.

- I 1 (a)** Lengkapi pernyataan di bawah tentang pengambilan nutrien untuk wanita hamil. Buku Teks: m.s. 111  
*Complete the statement below about nutritional requirement for pregnant woman. TP2 SP 4.5.1*  
 Perkembangan fetus bergantung kepada \_\_\_\_\_ yang diterima dari ibunya. Oleh itu, wanita yang hamil perlu mendapatkan makanan yang \_\_\_\_\_ dan \_\_\_\_\_ yang seimbang.  
*Development of foetus depends on the \_\_\_\_\_ received from the mother. So, a pregnant woman need to receive \_\_\_\_\_ food and a balanced \_\_\_\_\_.*

- (b)** Puan Lina hamil 4 bulan. Labelkan kelas makanan berdasarkan fungsinya yang diperlukan oleh Puan Lina. Buku Teks: m.s. 112 TP2 SP 4.5.1  
*Mrs Lina is 4 months pregnant. Label the class of food based on its function which is needed by Mrs Lina.*

|                           |                                                       |                                    |                                 |                               |
|---------------------------|-------------------------------------------------------|------------------------------------|---------------------------------|-------------------------------|
| Protein<br><i>Protein</i> | Kalsium dan Fosforus<br><i>Calcium and Phosphorus</i> | Karbohidrat<br><i>Carbohydrate</i> | Asid folik<br><i>Folic acid</i> | Vitamin C<br><i>Vitamin C</i> |
|---------------------------|-------------------------------------------------------|------------------------------------|---------------------------------|-------------------------------|

|       |                                                                                                                                      |  |
|-------|--------------------------------------------------------------------------------------------------------------------------------------|--|
| (i)   | Membekalkan tenaga harian kepada wanita hamil.<br><i>Provide daily energy to pregnant woman.</i>                                     |  |
| (ii)  | Pertumbuhan sel-sel baharu fetus.<br><i>Growth of foetus new cells.</i>                                                              |  |
| (iii) | Pembentukan tulang fetus serta tulang dan gigi ibu terjaga.<br><i>Foetus bones formation and caring of mother's bones and teeth.</i> |  |
| (iv)  | Untuk memastikan kulit ibu dan fetus sihat.<br><i>To ensure skin of mother and foetus are healthy.</i>                               |  |
| (v)   | Untuk perkembangan sistem saraf fetus yang sempurna.<br><i>Important for the nervous system development of the foetus.</i>           |  |

- 2** Wanita hamil perlu menjaga kesihatannya dengan baik untuk melahirkan bayi yang sihat. Nyatakan BETUL atau PALSU bagi setiap pernyataan di bawah. Buku Teks: m.s. 113 TP1 SP 4.5.2 SP 4.5.3

*A pregnant woman must take good care of her health to deliver a healthy baby. State TRUE or FALSE for each statement below.*

|     |                                                                                                                                                                               |  |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| (a) | Bayi di dalam perut ibu mempunyai hak untuk dilahirkan sihat.<br><i>Baby in the mother's womb has the right to be born healthy.</i>                                           |  |
| (b) | Bayi yang baru lahir hanya memerlukan susu formula untuk membesar.<br><i>A newborn baby just need the formula milk to grow.</i>                                               |  |
| (c) | Susu ibu mempunyai antibodi yang dapat melindungi bayi daripada sesetengah penyakit.<br><i>Breast milk contains antibodies that can protect a baby from certain diseases.</i> |  |
| (d) | Wanita hamil tidak boleh merokok, minum alkohol atau mengambil dadah.<br><i>Pregnant woman must not smoke, drink alcohol, or consume drugs.</i>                               |  |

**J 1** Padankan istilah berikut dengan penerangan yang betul. Buku Teks: m.s. 116

Match the following terms with the correct explanation. **TP1**

| Istilah/ Terms                                            | Penerangan/ Explanation                                                 |
|-----------------------------------------------------------|-------------------------------------------------------------------------|
| a Kemandulan<br>Infertility                               | Uterus tidak normal<br>Abnormal uterus                                  |
| b Punca lelaki mandul<br>Cause of sterility in males      | Kualiti sperma rendah<br>Low quality sperms                             |
| c Punca perempuan mandul<br>Cause of sterility in females | Ketidakupayaan untuk melahirkan anak<br>Inability to produce offsprings |
|                                                           | Mati pucuk<br>Impotent                                                  |
|                                                           | Tiub Falopio tersumbat<br>Blockage in the Fallopian tubes               |

**2** Isikan kaedah untuk mengatasi kemandulan di dalam jadual di bawah. Buku Teks: m.s. 116

Fill in the method to overcome infertility in the table below. **TP2**

|     | Masalah/ Problem                                                                                                              | Kaedah/ Method |
|-----|-------------------------------------------------------------------------------------------------------------------------------|----------------|
| (a) | Ketidaksimbangan hormon.<br>Hormone imbalanced.                                                                               |                |
| (b) | Tiub Falopio tersumbat.<br>Blockage in the Fallopian tube.                                                                    |                |
| (c) | Tiub Falopio rosak, ovum dan sperma tidak dapat disenyawakan.<br>Damaged Fallopian tube, ovum and sperm cannot be fertilized. |                |
| (d) | Saluran duktus sperma tersumbat.<br>Blockage in the sperm duct                                                                |                |