



UNIVERSITI SAINS MALAYSIA

Final Examination  
2016/2017 Academic Session

May/June 2017

**JIB 325 – Histology and Anatomy**  
*[Histologi dan Anatomi]*

Duration : 3 hours  
*[Masa : 3 jam]*

Please ensure that this examination paper contains **TEN** printed pages before you proceed.

Answer **FIVE** questions in the answer booklet provided.

Mark for each sub question is given at the end of that sub question.

You may answer **either** in Bahasa Malaysia or English.

In the event of any discrepancies in the exam questions, the English version shall be used.

*Sila pastikan bahawa kertas peperiksaan ini mengandungi **SEPULUH** muka surat yang bercetak sebelum anda memulakan peperiksaan ini.*

*Jawab **LIMA** soalan dalam buku jawapan yang disediakan.*

*Markah untuk setiap subsoalan diperlihatkan di penghujung subsoalan itu.*

*Anda dibenarkan menjawab soalan **sama ada** dalam Bahasa Malaysia atau Bahasa Inggeris.*

*Sekiranya terdapat sebarang percanggahan pada soalan peperiksaan, versi Bahasa Inggeris hendaklah diguna pakai.*

Answer **FIVE** questions.

Jawab **LIMA** soalan.

1. (a) List

- (i) component of connective tissue.
- (ii) bone cells.
- (iii) keratinocytes layers of skin.

*Senaraikan*

- (i) *komponen tisu perantara.*
- (ii) *sel tulang.*
- (iii) *lapisan keratinosit kulit.*

(10 marks/markah)

(b) Using a labeled diagram describe types of cartilage.

*Dengan menggunakan gambar rajah huraikan jenis rawan.*

(10 marks/markah)

2. (a) Refer to Figure 1.

- (i) Name three (3) types of synapses ; AA, BB and CC.
- (ii) State the components of neuron ; DD, EE, FF, GG and HH.

*Rujuk kepada Rajah 1.*

- (i) *Namakan tiga (3) jenis sinap ; AA, BB dan CC.*
- (ii) *Nyatakan komponen neuron ; DD, EE, FF, GG dan HH.*

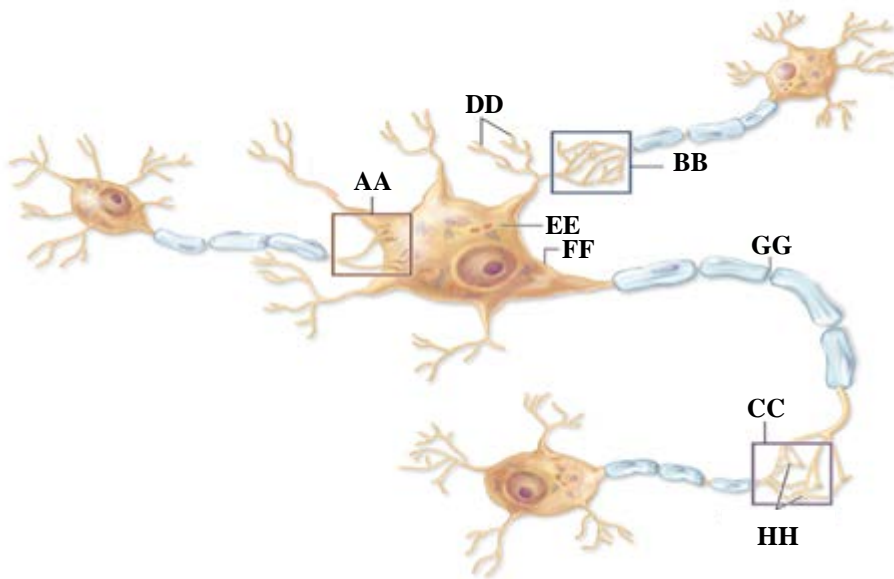


Figure 1

*Rajah 1*

(4 marks/markah)

(b) Refer to Figure 2.

State the components of sarcomere ; JJ, KK, LL, MM, NN, OO and PP.

*Rujuk kepada Rajah 2.*

*Nyatakan komponen sarkomer ; JJ, KK, LL, MM, NN, OO dan PP.*

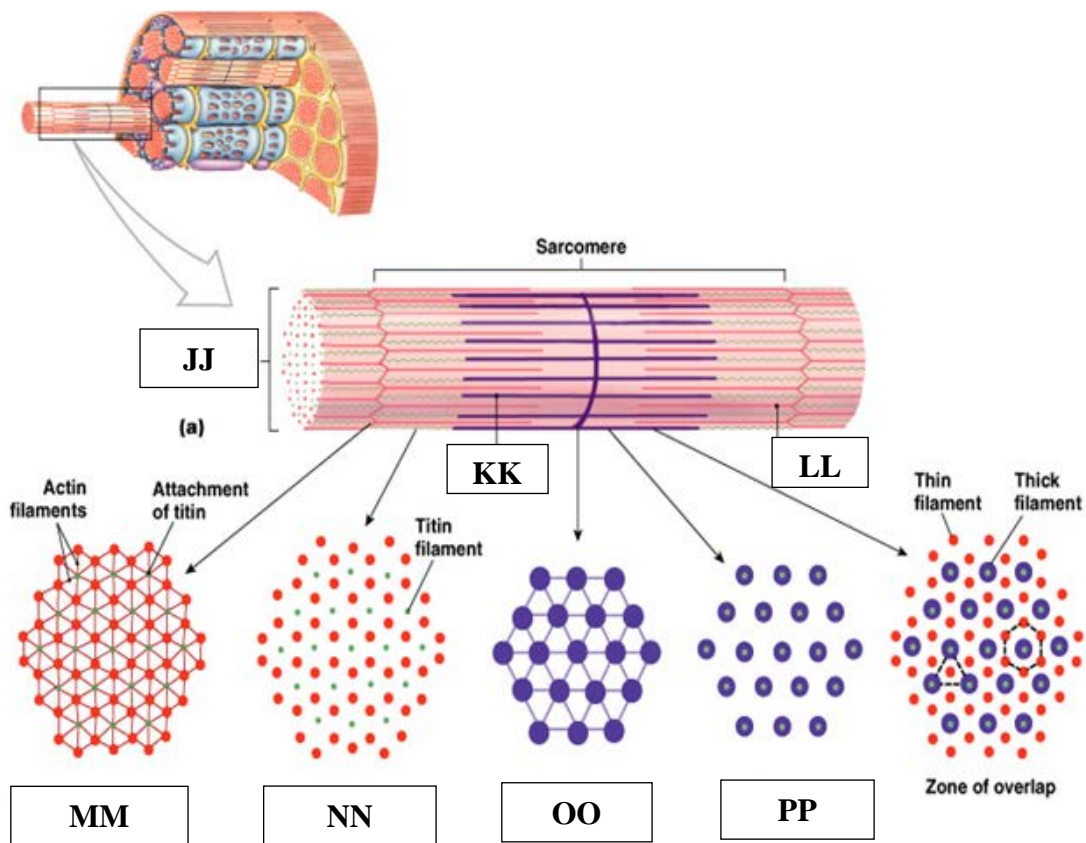


Figure 2

*Rajah 2*

(3 marks/markah)

(c) Draw, label and discuss three (3) types of capillaries.

*Lukis, label dan bincangkan tiga (3) jenis kapilari.*

(10 marks/markah)

(d) Refer to Figure 3.

- (i) Name the cell A, B, C and D.
- (ii) State one function each, for B dan D.

*Rujuk kepada Rajah 3.*

- (i) *Namakan sel A, B, C dan D.*
- (ii) *Nyatakan fungsi bagi setiap satu untuk B dan D.*

(3 marks/markah)

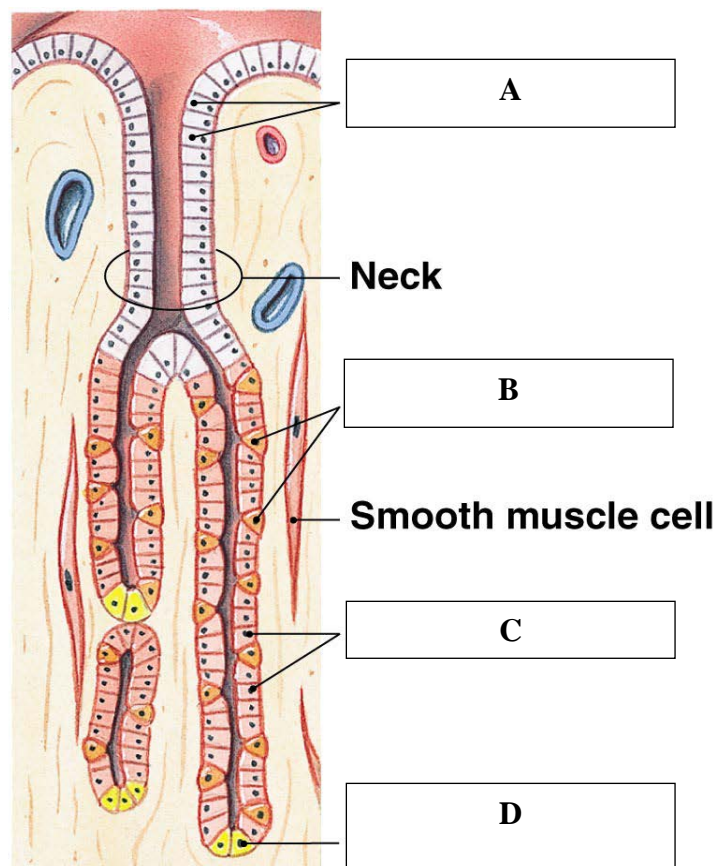


Figure 3

*Rajah 3*

3. Discuss the histology of nephron.  
*Bincangkan histologi nefron.*  
(20 marks/markah)
4. Discuss the histology of pituitary glands.  
*Bincangkan histologi kelenjar pituitari.*  
(20 marks/markah)
5. (a) Write notes on the anatomy of a ruminant stomach.  
*Tulis nota anatomi perut ruminan.*  
(10 marks/markah)
- (b) Compare and contrast the anatomical structure of reptile and amphibian heart.  
*Banding dan bezakan struktur anatomi jantung reptilia dan amfibia.*  
(10 marks/markah)

6. (a) Refer to Figure 4.

Name the the lung anatomical structure of birds ; i, ii, iii, iv, v and vi.

*Rujuk kepada Rajah 4.*

*Namakan struktur anatomi paru-paru burung ; i, ii, iii, iv, v dan vi.*

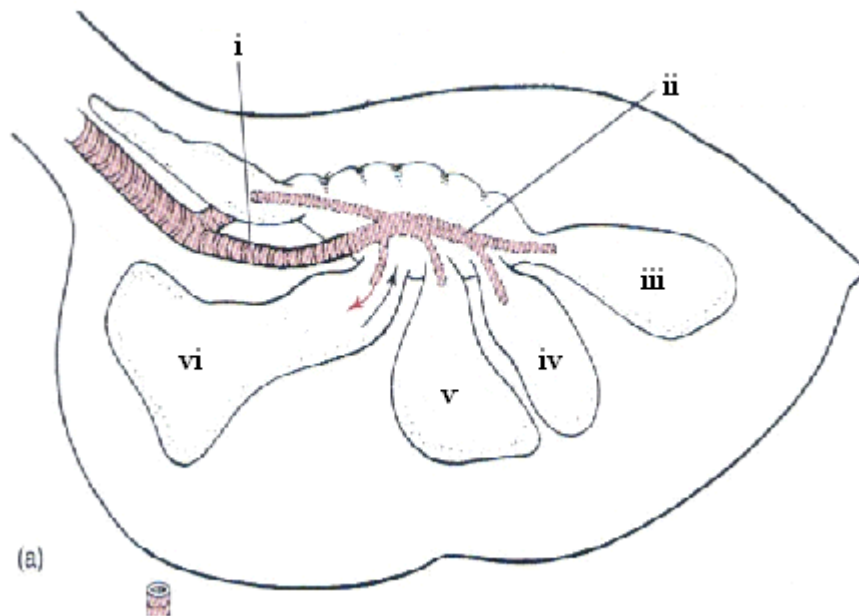


Figure 4

*Rajah 4*

(3 marks/markah)

(b) Refer to Figure 5.

Choose the answers for 1, 2, 3, 4, 5 and 6 from the box below.

*Rujuk kepada Rajah 5.*

*Pilih jawapan untuk 1, 2, 3, 4, 5 dan 6 daripada kotak di bawah.*

Bird / *Burung*  
Reptile / *Reptilia*  
Amphibian / *Amfibia*  
Fish / *Ikan*  
Shark / *Yu*  
Lamprey / *Lamprei*

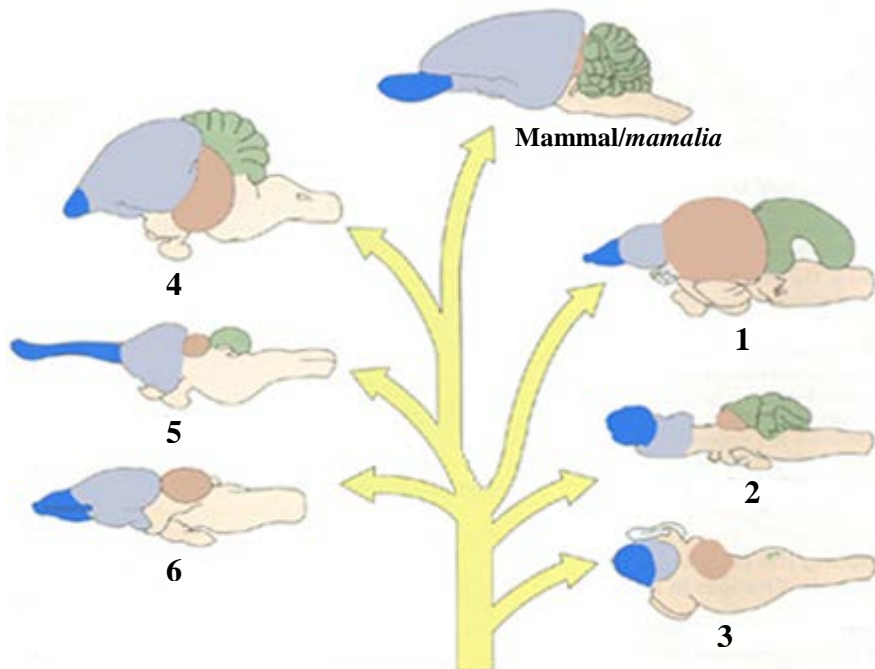


Figure 5

*Rajah 5*

(3 marks/markah)



- (c) (i) Refer to Figure 6.  
Name the components of the gastrointestinal tract.  
A ; 1, 2 and 4.  
B ; 1 , 2 , 3, 5, 6 and 8.  
C ; 1, 2, 3, 5 and 6.  
D ; 1, 2, 3, 5, 6 and 8.

*Rujuk kepada Rajah 6.*

*Namakan komponen saluran gastro usus.*

*A ; 1, 2 dan 4.*

*B ; 1, 2 , 3, 5, 6 dan 8.*

*C ; 1, 2, 3, 5 dan 6.*

*D ; 1, 2, 3, 5, 6 and 8.*

(10 marks/markah)

- (ii) Refer to Figure 6.  
Choose the answers for A, B, C, and D from the box below.

*Rujuk kepada Rajah 6.*

*Pilih jawapan untuk A, B, C, dan D daripada kotak di bawah.*

Chicken / Ayam

Pig / Khinzir

Turtle / Penyu

Shark / Yu

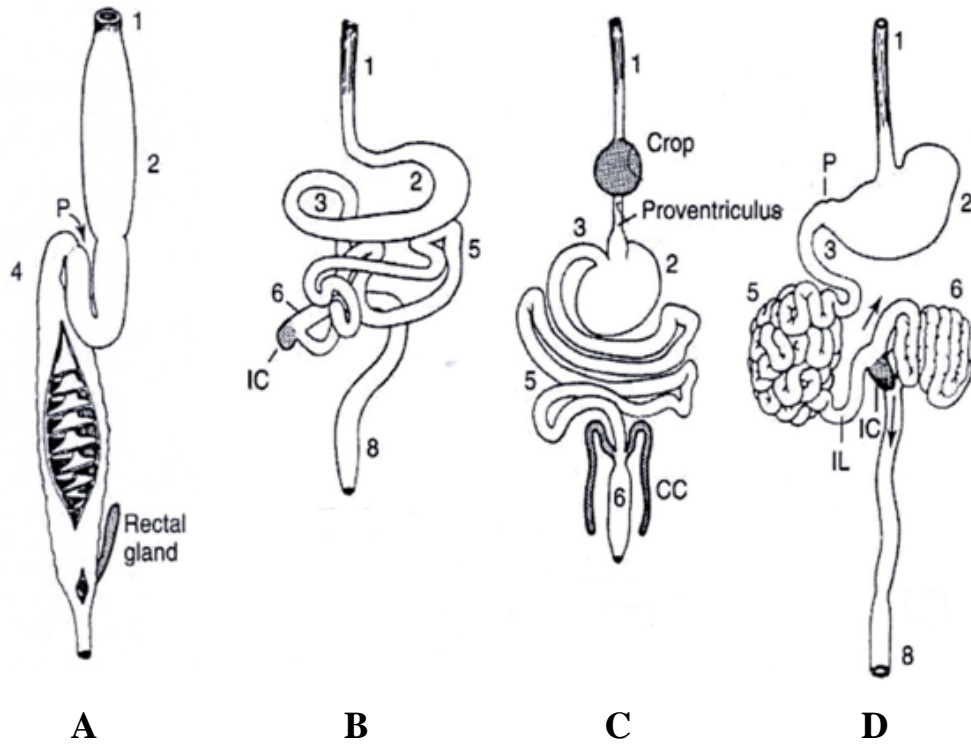


Figure 6 / Rajah 6

(4 marks/markah)