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UNIVERSITI SAINS MALAYSIA

Final Examination
2015/2016 Academic Session

May/June 2016

JIB 325 – Histology and Anatomy
[Histologi dan Anatomi]

Duration : 3 hours
[Masa : 3 jam]

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

Answer **ALL** questions from **Section A** in the **OMR** sheet provided.

Answer **ALL** questions from **Section B** and **Section C** in the answer booklet provided.

Mark for each sub question in **Section B** and **Section C** 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.

The whole question booklet must be returned to the invigilators.

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

*Jawab **SEMUA** soalan daripada **Bahagian A** dalam borang **OMR** yang diberikan.*

*Jawab **SEMUA** soalan daripada **Bahagian B** dan **Bahagian C** dalam buku jawapan yang disediakan.*

*Markah untuk setiap subsoalan dalam **Bahagian B** dan **Bahagian C** 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.

Keseluruhan kertas soalan ini mesti diserahkan kepada pengawas peperiksaan.

Section A (20 marks)
Bahagian A (20 markah)

Refer to Figure 1 for questions 1-8 and choose the following answer
 Rujuk kepada Rajah 1 untuk soalan 1-8 dan pilih jawapan berikut

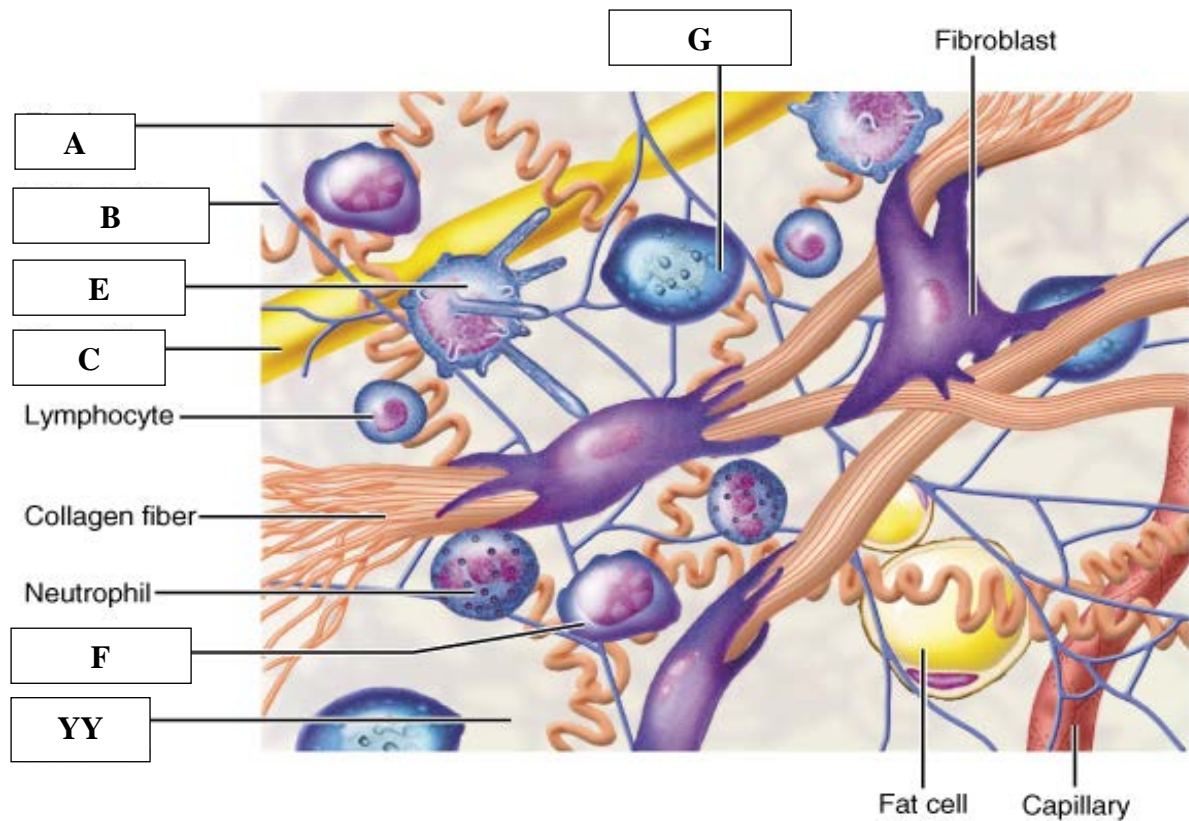


Figure 1 / Rajah 1 : Connective tissue/ Tisu perantara

1. A denotes the

- A. Collagen fiber
- B. Elastic fiber
- C. Reticular fiber
- D. Nerve fiber

A menunjukkan

- A. Gentian kolagen
- B. Gentian elastik
- C. Gentian retikulum
- D. Gentian saraf

2. **B** represents

- A. Elastic fiber
- B. Collagen fiber
- C. Reticular fiber
- D. Nerve fiber

B mewakili

- A. *Gentian kolagen*
- B. *Gentian elastik*
- C. *Gentian retikulum*
- D. *Gentian saraf*

3. **C** is the

- A. Collagen fiber
- B. Elastic fiber
- C. Reticular fiber
- D. Nerve fiber

C adalah

- A. *Gentian kolagen*
- B. *Gentian elastik*
- C. *Gentian retikulum*
- D. *Gentian saraf*

4. The letter **E** is

- A. Fibroblast
- B. Macrophages
- C. Mast cells
- D. Plasma cells

Huruf E ialah

- A. *Fibroblas*
- B. *Makrofaj*
- C. *Sel mast*
- D. *Sel plasma*

5. **F** is the

- A. Fibroblast
- B. Macrophages
- C. Mast cells
- D. Plasma cells

F adalah

- A. *Fibroblas*
- B. *Makrofaj*
- C. *Sel mast*
- D. *Sel plasma*

6. What is **G**?

- A. Fibroblast
- B. Macrophages
- C. Mast cells
- D. Plasma cells

Apakah **G**?

- A. *Fibroblas*
- B. *Makrofaj*
- C. *Sel mast*
- D. *Sel plasma*

7. The following is YY **EXCEPT**

- A. Multiadhesive glycoprotein
- B. Proteoglycans
- C. Glycosaminoglycans
- D. Collagen

Berikut merupakan YY **KECUALI**

- A. *Glikoprotein multilekat*
- B. *Proteoglukan*
- C. *Glikosaminoglukan*
- D. *kolagen*

8. Which of the following statements regarding mast cell is **TRUE**?

- i. Secrete histamine
 - ii. Secrete heparin
 - iii. Histamine dilates blood vessels
 - iv. Heparin inhibits blood clotting
- A. i only
 - B. i dan ii
 - C. i, ii dan iii
 - D. All the above

*Penyataan yang manakah **BENAR** berkenaan sel mast?*

- i. Rembes histamin*
 - ii. Rembes heparin*
 - iii. Histamin mengembangkan pembuluh darah*
 - iv. Heparin merencat pembekuan darah*
- A. i sahaja*
 - B. i dan ii*
 - C. i, ii dan iii*
 - D. Semua di atas*

9. Which of the following is **TRUE** regarding Astrocyte

- i. Fibrous astrocytes –found in white matter of central nervous system
 - ii. Protoplasmic astrocytes –found in grey matter of central nervous system
 - iii. Fibrous astrocytes – found in grey matter of central nervous system
 - iv. Protoplasmic astrocytes –found in white matter of central nervous system
- A. i only
 - B. i dan ii
 - C. i, ii dan iii
 - D. All the above

Manakah berikut **BENAR** berkenaan Astrosit

- i. Astrosit berserat – didapati dalam jirim putih sistem saraf pusat
 - ii. Astrosit protoplasma – didapati dalam jirim kelabu sistem saraf pusat
 - iii. Astrosit berserat – didapati dalam jirim kelabu sistem saraf pusat
 - iv. Astrosit protoplasma – didapati dalam jirim putih sistem saraf pusat
- A. i sahaja
 - B. i dan ii
 - C. i, ii dan iii
 - D. Semua di atas

Refer to Figure 2 for questions 10-15 and choose the following answer
 Rujuk kepada Rajah 2 untuk soalan 15-18 dan pilih jawapan berikut

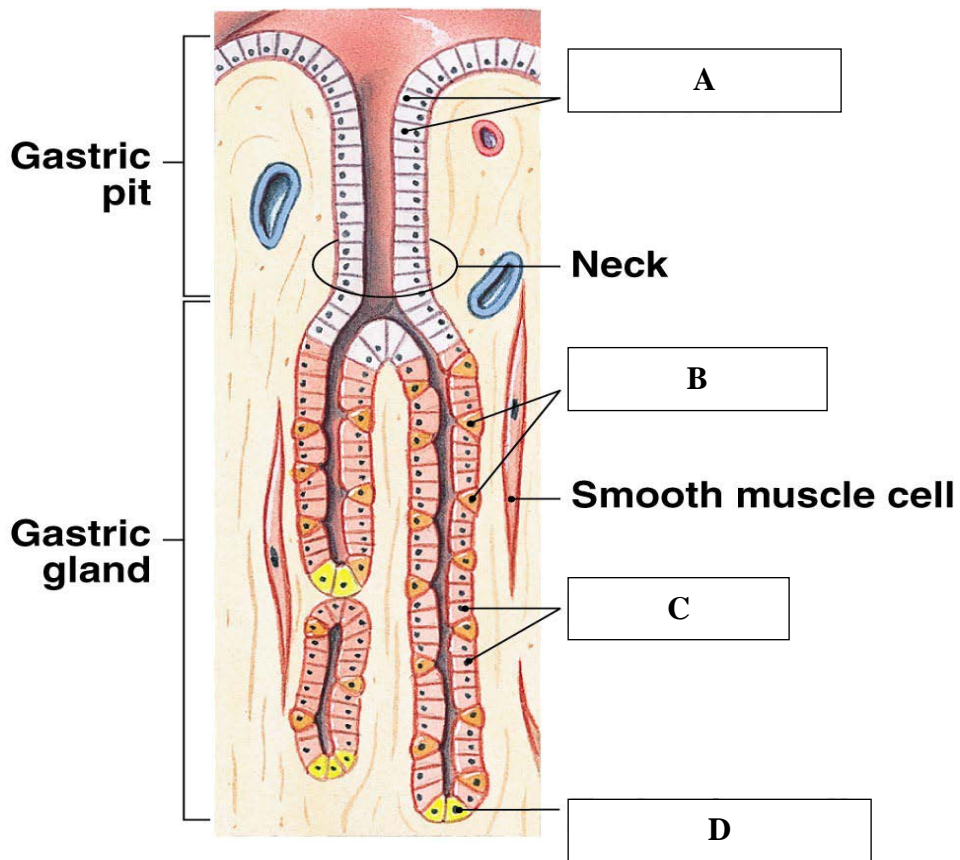


Figure 2 / Rajah 2

10. A is the

- A. Chief cells
- B. Mucous cells
- C. Endocrine cells
- D. Parietal cells

A ialah

- A. *Sel utama*
- B. *Sel mukosa*
- C. *Sel endokrin*
- D. *Sel parietal*

11. What is **B**?

- A. Chief cells
- B. Mucous cells
- C. Endocrine cells
- D. Parietal cells

*Apakah **B**?*

- A. *Sel utama*
- B. *Sel mukosa*
- C. *Sel endokrin*
- D. *Sel parietal*

12. C is the

- A. Chief cells
- B. Mucous cells
- C. Endocrine cells
- D. Parietal cells

C adalah

- A. *Sel utama*
- B. *Sel mukosa*
- C. *Sel endokrin*
- D. *Sel parietal*

13. What is the function of **C**?
- A. Secrete pepsinogen
 - B. Secrete HCl
 - C. Secrete mucus
 - D. Secrete HCl and pepsinogen

Apakah fungsi C?

- A. *Rembes pepsinogen*
- B. *Rembes HCl*
- C. *Rembes mukosa*
- D. *Rembes HCl dan pepsinogen*

14. The letter **D** is

- A. Chief cells
- B. Mucous cells
- C. Endocrine cells
- D. Parietal cells

Huruf D ialah

- A. *Sel utama*
- B. *Sel mukosa*
- C. *Sel endokrin*
- D. *Sel parietal*

15. **D** secrete

- A. pepsinogen
- B. HCl
- C. mucus
- D. gastrin

D rembes

- A. *pepsinogen*
- B. *HCl*
- C. *mukosa*
- D. *gastrin*

Refer to Figure 3 for questions 16.
Rujuk kepada Rajah 3 untuk soalan 16.

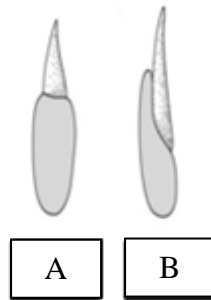


Figure 3 / *Rajah 3*

16. What is **A** and **B**?
- A. Homodont and Thecodont
 - B. Acrodont and Pleurodont
 - C. Pleurodont and Acrodont
 - D. Thecodont and Homodont

Apakah A dan B?

- A. *Homodont dan Tecodont*
- B. *Acrodont dan Pleurodont*
- C. *Pleurodont dan Acrodont*
- D. *Tecodont dan Homodont*

Refer to Figure 4 for questions 17-18. Choose the correct answers from the following options.

Rujuk kepada Rajah 4 untuk soalan 19-21. Pilih jawapan yang betul berdasarkan pilihan yang berikut.

XX	<u>Tarsius</u>	$\frac{2-1-3-3}{1-1-3-3}$	<u>Catarrhines</u>	$\frac{2-1-2-3}{2-1-2-3}$
ZZ	Canines	$\frac{3-1-4-2}{3-1-4-3}$	Felids	$\frac{3-1-3-1}{3-1-2-1}$

Figure 4 / *Rajah 4*

17. What is **XX** in Figure 4?
- A. Bovine
 - B. Primates
 - C. Insectivorous
 - D. Carnivorous

Apakah XX dalam Rajah 4?

- A. *Bovin*
- B. *Primat*
- C. *Insektivor*
- D. *Karnivor*

18. *ZZ in figure 4 is*

- A. *Bovine*
- B. *Primates*
- C. *Insectivorous*
- D. *Carnivorous*

ZZ dalam Rajah 4 adalah

- A. *Bovin*
- B. *Primat*
- C. *Insektivor*
- D. *Karnivor*

Refer to Figure 5 for questions 19 and 20
Rujuk kepada Rajah 5 untuk soalan 19 dan 20

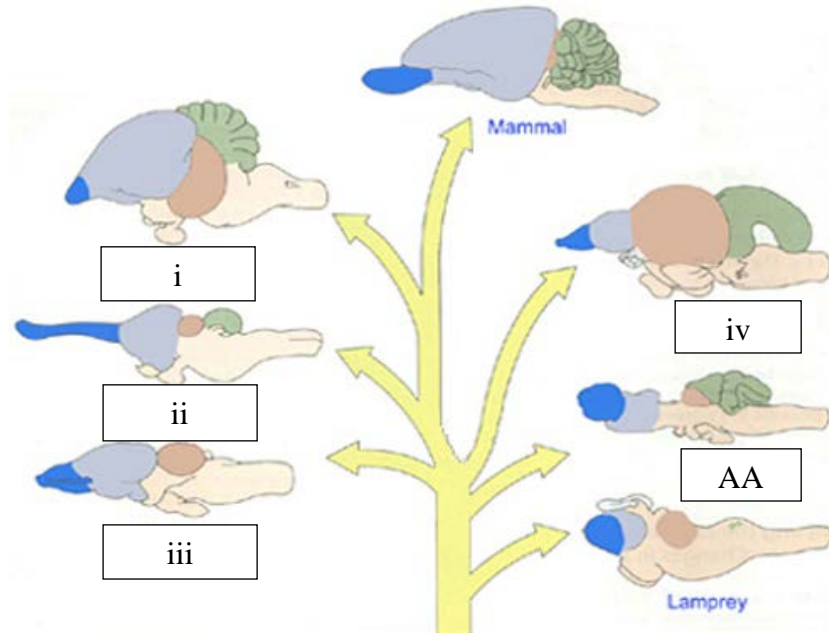


Figure 5 / *Rajah 5*
Craniate brains / Otak kraniat

19. Which is **CORRECT**

- i. Bird
 - ii. Reptile
 - iii. Amphibian
 - iv. Fish
- A. i only
 - B. i and ii
 - C. i, ii and iii
 - D. All the above

*Yang manakah **BETUL***

- i. Burung
 - ii. Reptilia
 - iii. Amfibia
 - iv. Ikan
- A. *i sahaja*
 - B. *i dan ii*
 - C. *i, ii dan iii*
 - D. *Semua di atas*

20. What is AA in Figure 5?

- A. Shark
- B. Lamprey
- C. Mammal
- D. Rodent

Apakah AA dalam Rajah 5?

- A. *Yu*
- B. *Lamprei*
- C. *Mamalia*
- D. *Roden*

Section B - Answer all questions (40 marks)
Bahagian B - Jawab semua soalan (40 markah)

1. Referring to the Figure 6, name the components of chicken and pig gastro intestinal tract ;

Merujuk kepada Rajah 6, namakan komponen gasro usus ayam dan khinzir;

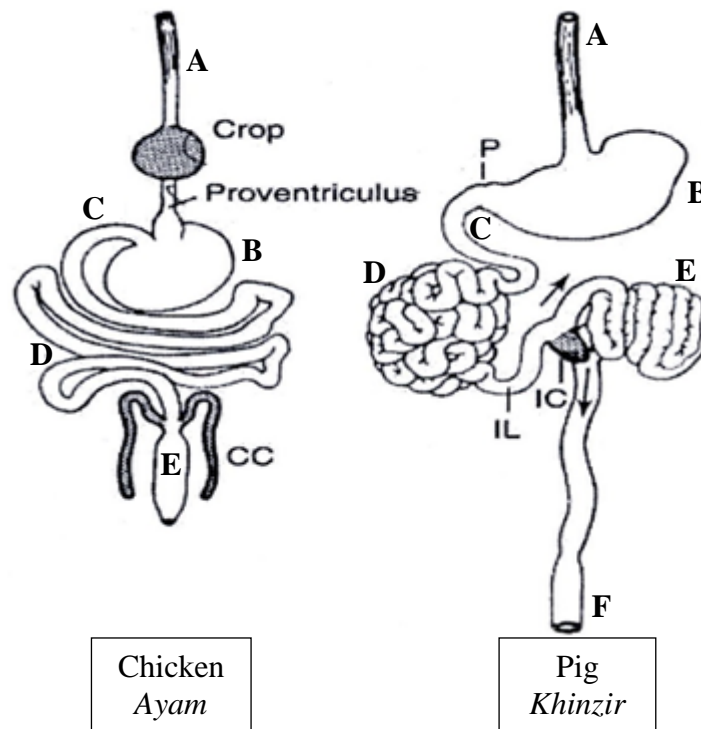


Figure 6 / Rajah 6

(5 marks/ markah)

2. Referring to Figure 7, name the component of non-crocodilian reptile heart
Merujuk kepada Rajah 7, namakan komponen jantung reptilia bukan buaya

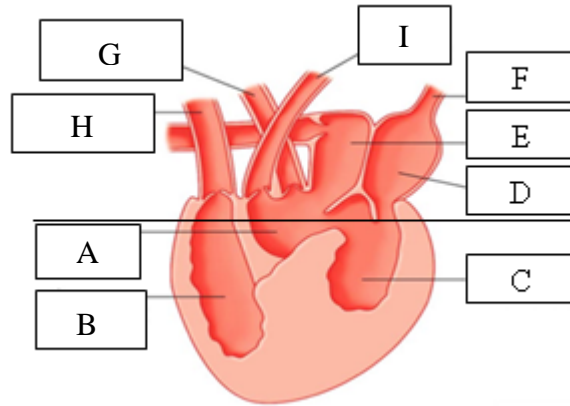


Figure 7 / Rajah 7

(5 marks/ markah)

3. Referring to Figure 8:

- (a) State the components of nephron ;
 A, B, C, D, E, F, G, H and I

(5 marks)

- (b) State the types and draw a labelled diagram of the types of epithelium for the following components :
 D, E, F, G and H

(25 marks)

Merujuk kepada Rajah 8 :

- (a) *Nyatakan komponen nefron ;
 A, B, C, D, E, F, G, H, I, J, dan K*

(5 markah)

- (b) *Nyatakan jenis dan lukis gambar rajah berlabel jenis epithelium bagi komponen berikut :*

D, E, F, G dan H

(25 markah)

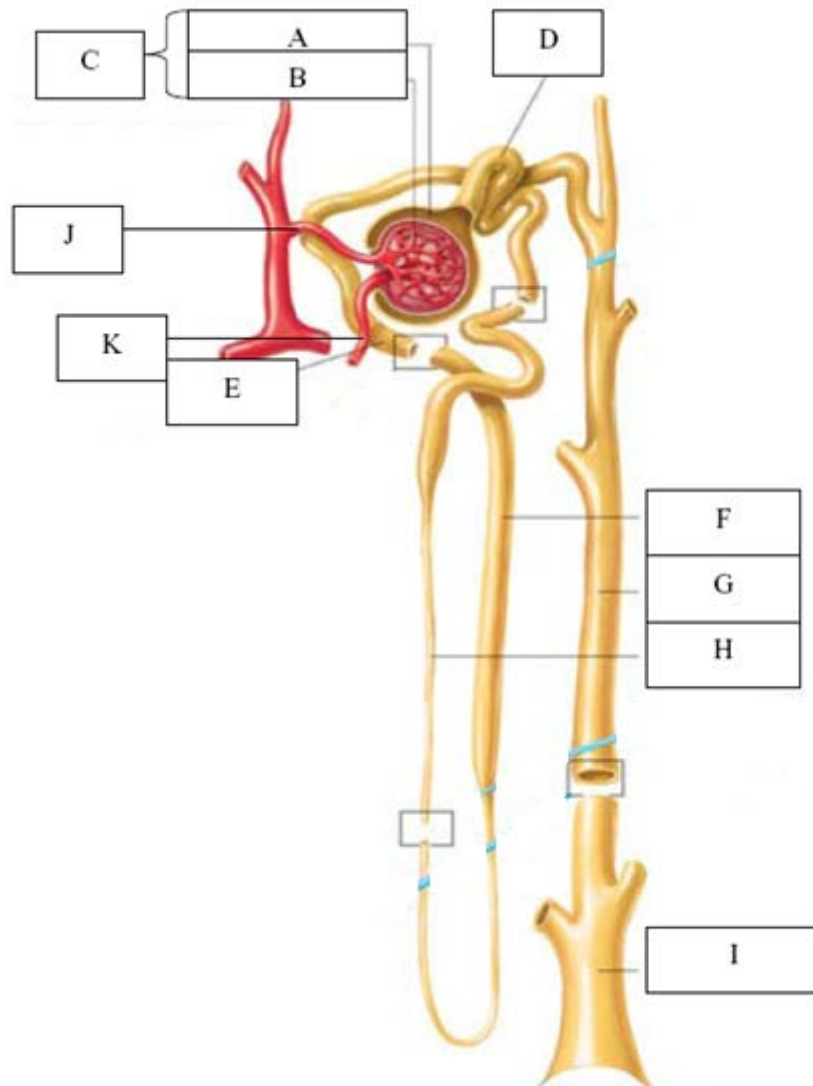


Figure 8 / Rajah 8

Section C - Answer All questions (40 marks)

Bahagian C - Jawab semua soalan (40 markah)

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

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

(15 marks/ markah)

2. With the aid of a diagram, discuss the histology of pituitary and adrenal glands.

Dengan bantuan gambar rajah, bincangkan histologi kelenjar pituitari dan adrenal.

(15 marks/ markah)

3. Write notes on the anatomy of stomach ruminant.

Tulis nota tentang anatomi perut ruminan.

(10 marks/ markah)