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**THE OPEN UNIVERSITY OF SRI LANKA**  
**FACULTY OF HEALTH SCIENCES**  
**DEPARTMENT OF BASIC SCIENCES**  
**ACADEMIC YEAR 2019/2020 – SEMESTER I**

**BACHELOR OF PHARMACY HONOURS**  
**BSU 3431 - HUMAN PHYSIOLOGY – LEVEL 3**  
**FINAL EXAMINATION**  
**DURATION: THREE HOURS**

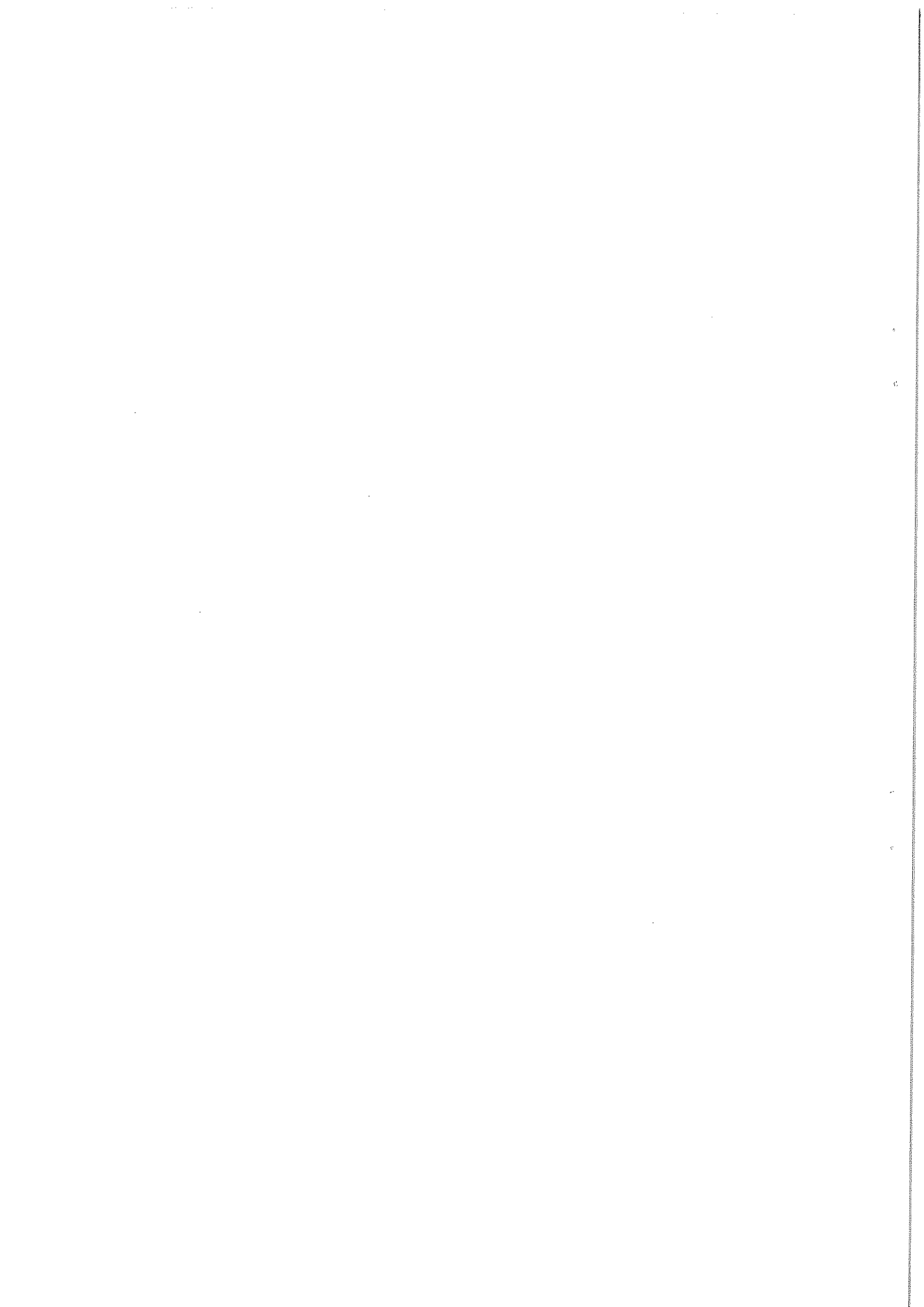
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DATE: 24<sup>th</sup> September 2020

TIME: 09.30 A.M-12.30 P.M

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INDEX NO: .....

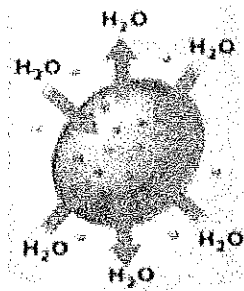


**Part B – Structured Essay Questions**

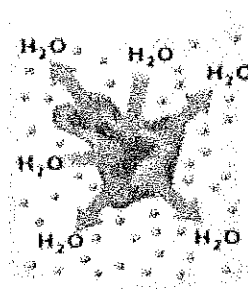
*(40 marks)*

Write answers in the space provided.

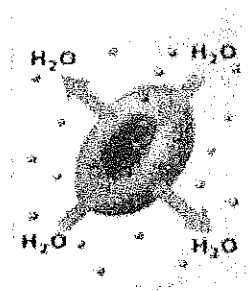
1. a) Three red blood cells are kept in following beakers containing different solute concentrations. What is the tonicity of the solution in each beaker? (Select your answer from **hypertonic, hypotonic and isotonic**). (6 marks)



A



B



C

A.....

B.....

C.....

- b) What are the **two (02)** forces governing the tissue fluid exchange at capillary bed? (2 marks)

I.....

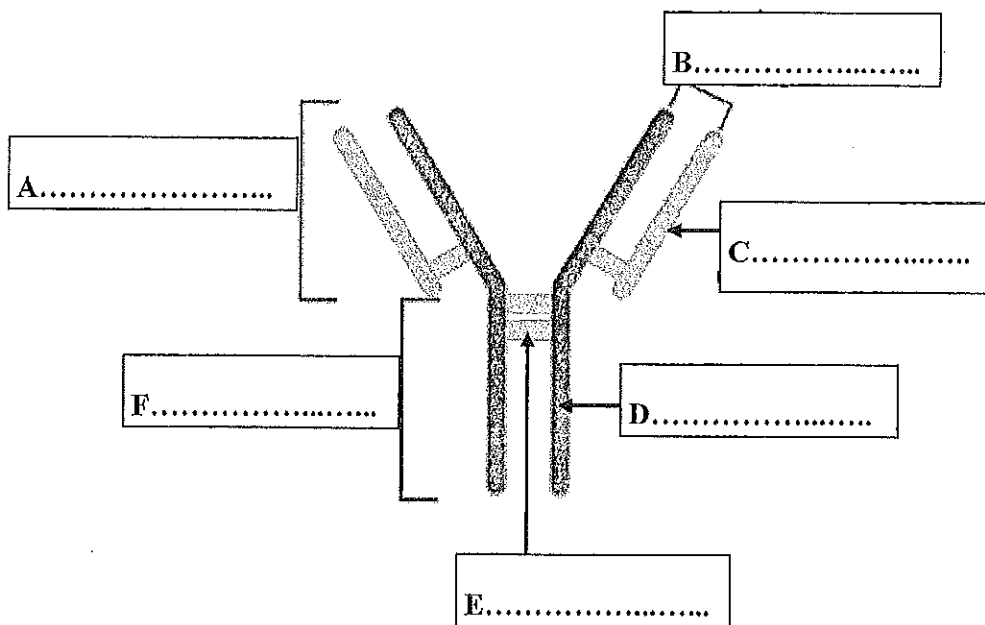
II.....

c) Comment on the speed of conduction in following nerve types. (Answer options are given in the bracket). (2 marks)

I. Myelinated nerves (slow/ faster)

II. Non-myelinated nerves (slow/faster)

2. a) The structure of an immunoglobulin molecule is shown below. Identify the parts, A-F. (6 marks)



b) Name the cell type of the immune system that is responsible for secreting immunoglobulins. (1 marks)

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c) List **three (03)** functions of cerebrospinal fluid. (3 marks)

I. ....

.....

II. ....

.....

III. ....

.....



3. a) Define cardiac output. (1 mark)

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



b) Name the **three (03)** phases of cardiac cycle (3 marks)

I.....

II.....

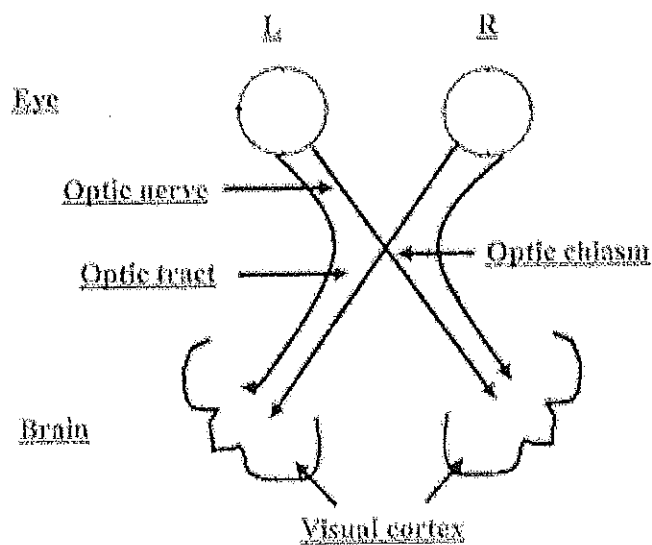
III.....

c) Following diagram shows the visual defects produced by lesions (A and B) in the visual pathway.

Site of lesion	Left Eye	Right Eye	Visual Defect
A			Total blindness of the right eye
B			Bitemporal hemianopia

Identify the correct place of the lesion in the visual pathway shown below.

(3 marks)



d) Name the parts of the ear responsible for following functions. (3 marks)

I. Hearing .....

II. Balance.....

4. a) List **three (03)** functions of kidney. (3 marks)

I. ....

II. ....

III. ....

b) Mention a function of each of the following parts of male reproductive system.

(3 marks)

I. Seminiferous tubules - .....

II. Seminal vesicles - .....

III. Epididymis - .....

c) Mention a function of each of the following hormones in the female reproductive system. (4 marks)

I. Oestrogen - .....

II. Follicle stimulating hormone (FSH) - .....

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## Part C – Essay Questions

(30 marks)

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**Answer all questions.**

**Write answers in the books provided.**

1. Outline the physiological basis of
  - a) Hyperglycaemia in pancreatitis. (5 marks)
  - b) Fat malabsorption in obstruction of the common bile duct. (5 marks)
  - c) Occurrence of oedema in nephrotic syndrome (albuminuria). (5 marks)
  
2. Briefly outline the following processes.
  - a) The chemical digestion in the stomach (7 marks)
  - b) Digestion and absorption in the small intestine (8 marks)

5/2/20