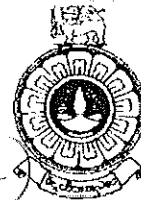


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THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF BASIC SCIENCES
ACADEMIC YEAR 2019/2020 – SEMESTER I



02

BACHELOR OF PHARMACY HONOURS
BSU3431 - HUMAN PHYSIOLOGY – LEVEL 3
CONTINUOUS ASSESSMENT I (NBT I)

DURATION: 1.5 HOURS

DATE: 11th FEBRUARY 2020

TIME: 09.00 AM – 10.30 AM

REGISTRATION NO:

IMPORTANT INSTRUCTIONS/ INFORMATIONS TO CANDIDATES

- This question paper consists of 12 pages with 20 Multiple Choice Questions (Part A) and 04 Structured Essay Questions (Part B).
- Write your Registration Number in the space provided.
- Answer ALL questions.
- **Multiple Choice Questions (Part A):** Indicate answers in the answer sheet provided by placing a cross (X) in **INK** in the relevant cage. (Answers in pencil will **NOT** be marked)
- **Structured Essay Questions (Part B):** Write answers within the space provided.
- Do not remove any page/part of this question paper from the examination hall.
- Mobile phones and any other electronic equipment are **NOT** allowed. Leave them outside.
- Please fill the address sheet. (See last page)

BACHELOR OF PHARMACY HONOURS
BSU3431 - HUMAN PHYSIOLOGY- LEVEL3
CONTINUOUS ASSESSMENT I (NBT I)

REGISTRATION NO:

ANSWER SHEET FOR PART A

Q. No.	(a)	(b)	(c)	(d)
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2				
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REGISTRATION NO:

Part A – Multiple Choice Questions*(20 marks)*

Choose the most suitable / best answer and indicate with a 'X' in the answer sheet provided.

1. Transport of oxygen across the cell membrane occurs by
 - a) osmosis
 - b) endocytosis
 - c) simple diffusion
 - d) active transport

2. Exocytosis
 - a) is a process in which white blood cells destroy bacteria
 - b) involves binding of substance to a carrier molecule
 - c) is the movement of molecules according to a concentration gradient
 - d) is secretion of large molecules from glands

3. Acetylcholine is
 - a) a neurotransmitter
 - b) an enzyme
 - c) a hormone
 - d) an amino acid

4. Which one of the following is correct regarding the resting membrane potential of a nerve cell?
 - a) It has a positive value
 - b) It is the potential, across a neurons membrane at its resting stage
 - c) It has more negative charges in the outside of the cell membrane
 - d) It is actively involved in sending signals

5. Excitatory neurotransmitters
 - a) hyperpolarize the membrane of the postsynaptic cell
 - b) produce an inhibitory postsynaptic potential
 - c) cause sodium ions to diffuse into the postsynaptic cell
 - d) make the interior more negative in the postsynaptic cell

6. Which one of the following is correct regarding nervous tissue?
- a) Myelin sheath decreases the speed of nerve impulses
 - b) Neurons are associated with electrical signalling
 - c) Neurons undergo mitosis
 - d) It doesn't use chemical messengers to transmit signals
7. Universal donor is a person with a blood group of,
- a) B
 - b) A
 - c) O
 - d) AB
8. A cell which lacks a nucleus includes
- a) erythrocyte
 - b) macrophage
 - c) B cell
 - d) neutrophil
9. Intrinsic pathway of blood clotting mechanism is initiated by
- a) factor X
 - b) calcium ions
 - c) fibrinogen
 - d) factor XII
10. Which one of the following is accurate regarding the blood pressure?
- a) It is lowest in the aorta
 - b) Maximum pressure is obtained during ventricular systole
 - c) It is highest in large veins
 - d) It is constant throughout the cardiovascular system
11. Main regulator of the heart rate is
- a) atrioventricular node
 - b) right ventricle
 - c) sinoatrial node
 - d) left atrium

12. The 2nd heart sound is produced by the
- a) closure of tricuspid valve
 - b) closure of bicuspid valve
 - c) closure of all the valves in the heart
 - d) closure of semilunar valves
13. A component of specific immunity includes
- a) mucus membranes
 - b) B cells
 - c) macrophages
 - d) skin
14. Immunoglobulins (antibodies)
- a) are protein molecules
 - b) are produced by T cells
 - c) have three heavy chains
 - d) are 'H' shaped
15. HIV virus infects a cell in the immune system called
- a) helper T cells
 - b) neutrophils
 - c) macrophages
 - d) B cells
16. A major immunoglobulin found in the saliva is
- a) Ig D
 - b) Ig M
 - c) Ig A
 - d) Ig E
17. An example of active immunity includes
- a) transfer of a mother's antibodies to the baby through the placenta
 - b) BCG vaccination
 - c) injecting anti venom in snake bites
 - d) a new - born baby getting antibodies through breast milk

18. The main function of the lung surfactants is to
- a) transport oxygen
 - b) reduce alveolar surface tension
 - c) facilitate alveoli to collapse
 - d) reduce lung compliance
19. A disease condition associates with lung surfactants is
- a) pneumonia
 - b) tuberculosis
 - c) new – born respiratory distress syndrome
 - d) bronchitis
20. Which one of the following is correct regarding the mechanism of inspiration?
- a) The lungs expand to increase its volume
 - b) Intra alveolar pressure is greater than the atmospheric pressure
 - c) Intercostal muscles relax to raise the ribs
 - d) The diaphragm relaxes by flattening its shape

(80 marks)

Write answers in the space provided.

1. a) What is meant by neuromuscular junction? (2 marks)

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- b) Briefly describe the events involved in excitation – contraction coupling of skeletal muscle. (10 marks)

[illegible]

c) Compare **four (04)** features of skeletal and smooth muscles.

(8 marks)

Skeletal Muscle	Smooth Muscle
i.	
ii.	
iii.	
iv.	

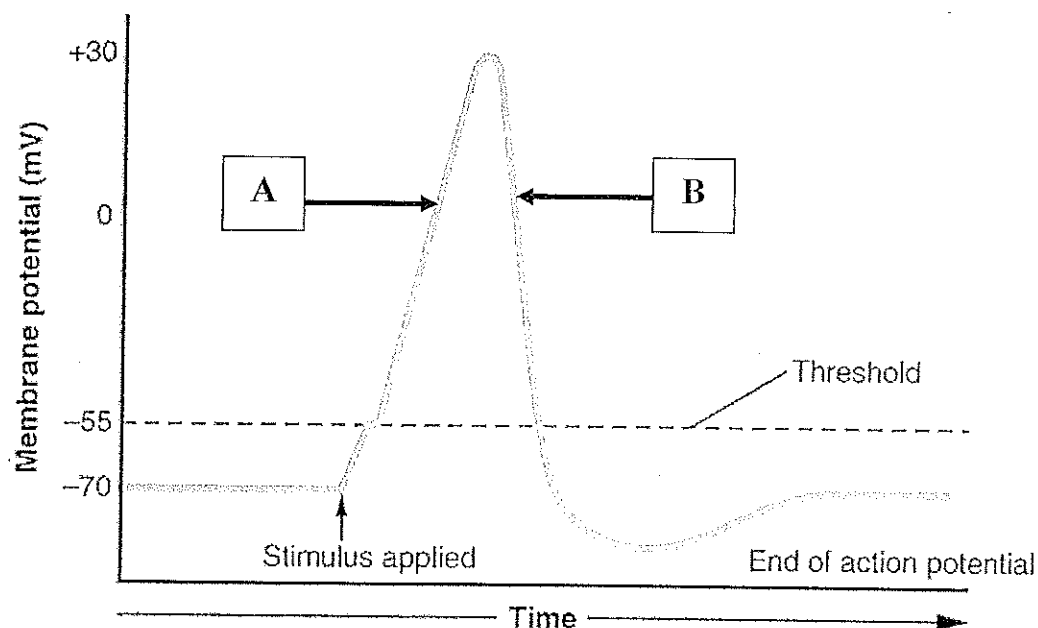
2. a) Name the **two (02)** main types of cells found in the nervous tissue.

(4 marks)

i.

ii.

b) Following graph shows the different phases of the action potential of a neuron.



i. Identify the phases A and B.

(4 marks)

A -

B -

ii. Name the main event that occurs during the phase A and B.

(4 marks)

A -

B -

c) List the events that occur at a chemical synapse when information is transmitted from a presynaptic neuron to post synaptic neuron.

(8 marks)

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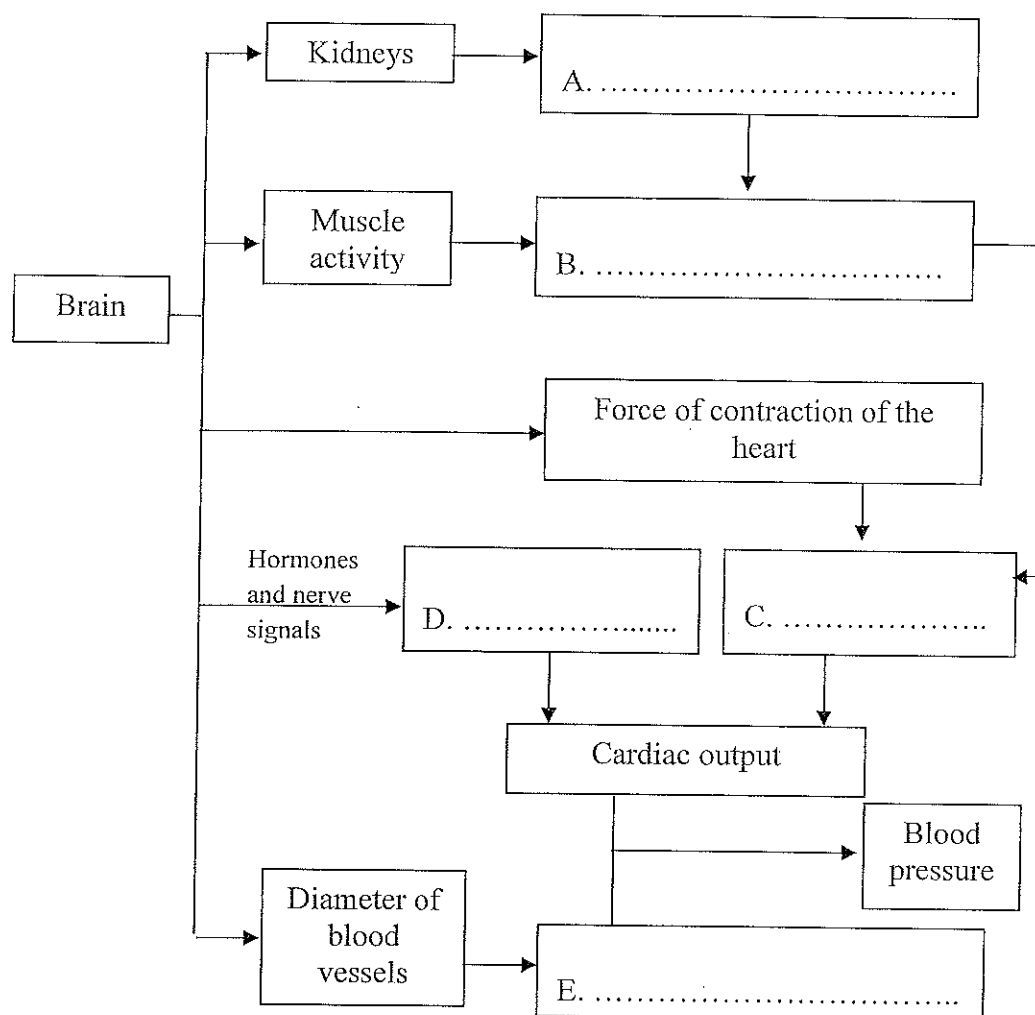
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3. a) The following flow chart indicates the factors which influence the blood pressure.

Identify the factors named as A, B, C, D and E.

(10 marks)



b) Following blood pressure readings were observed in a normal healthy adult.

Systolic pressure 120 mmHg

Diastolic pressure 90 mmHg

i. Calculate the pulse pressure.

(5 marks)

ii. Calculate the Mean Arterial Pressure.

(5 marks)

(5 marks)

ii.

Reg. No:.....

Name:.....

Address:

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