THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF BASIC SCIENCES
ACADEMIC YEAR 2018/2019 – SEMESTER I

BACHELOR OF PHARMACY HONOURS
NSD1201 – HUMAN ANATOMY AND PHYSIOLOGY – LEVEL 3
FINAL EXAMINATION
DURATION: THREE HOURS

DATE: 5th MARCH 2019 TIME: 09.30 AM – 12.30 PM

Part B –Structured Essay Questions

(40 marks)

Write answers in the space provided.

1)

1.1 Complete the following table giving the hormone and its main function. First row has already been completed. (3 marks)

Hormone	Main function
Progesterone	Maintenance of secretary phase of the endometrium during menstrual cycle
Parathyroid hormone	.....
Oxytocin	.....
.....	Regulation of basal metabolic rate

1.2 State one difference between simple diffusion and osmosis. (2 marks)

.....
.....
.....
.....
.....
.....
.....
.....

1.3 Give the definition of the term "homeostasis". (1 mark)

.....
.....
.....
.....

1.4 List the main types of tissues in the human body. **(2 marks)**

.....
.....
.....
.....
.....
.....

1.5 Outline the body fluid compartments in a healthy adult. **(2 marks)**

.....
.....
.....
.....
.....
.....

2)

2.1 Draw a labelled diagram showing the main lobes of the cerebral cortex. **(2 marks)**

2.2 List four factors that affect diffusion of gases at the alveolocapillary membrane.

(2 marks)

.....
.....
.....
.....
.....
.....
.....

2.3 Draw a clearly labelled diagram that shows the main chambers and the valves of the heart.

(2 marks)

2.4 Draw a clearly labelled diagram showing the parts of the nephron. **(2 marks)**

2.5 List four (04) functions of the kidney. **(2 marks)**

.....
.....
.....
.....
.....

3)

3.1 Briefly describe the functional layers in the wall of the gastrointestinal tract. **(3 marks)**

.....
.....
.....
.....
.....
.....

3.2 Briefly explain the mechanism of acid secretion in the stomach. **(2 marks)**

.....
.....
.....
.....
.....
.....
.....

3.3 List the main functions of the liver. **(3 marks)**

.....
.....
.....
.....
.....
.....
.....
.....

3.4 List the main functions of the hypothalamus. **(2 marks)**

.....
.....
.....
.....
.....
.....
.....
.....

4)

4.1 Draw a labelled diagram showing the parts of the male reproductive system. **(2 marks)**

4.2 Briefly explain the actions of luteinizing hormone (LH) in the female reproductive system. **(2 marks)**

.....
.....
.....
.....
.....
.....
.....

4.3 Briefly describe the structure of a chromosome. **(3 marks)**

.....
.....
.....
.....
.....
.....
.....

4.4 Briefly explain the basis of using β-hCG in diagnosis of pregnancy. (3 marks)

.....
.....
.....
.....
.....
.....
.....
.....
.....

INDEX NO: .....

Part C –Essay Questions

(30 marks)

Answer only two (02) questions out of three (03) questions. Write answers in separate sheets.

(1) Describe the structure and functions of following organelles in a typical mammalian cell.

A. Mitochondrion
B. Lysosome
C. Ribosome **[*15 marks*]**

(2) Explain the role of pancreas in digestion, absorption and metabolism of carbohydrates.

[*15 marks*]

(3) Explain the basis for the following,

A. Use of Warfarin as an anti coagulant. **[5 marks]**
B. Use of Beta (β) blockers in hypertension. **[5 marks]**
C. Use of Streptokinase in myocardial infarction. **[5 marks]**

End-

1.4 List the main types of tissues in the human body. **(2 marks)**

.....
.....
.....
.....
.....
.....

1.5 Outline the body fluid compartments in a healthy adult. **(2 marks)**

.....
.....
.....
.....
.....
.....

2)

2.1 Draw a labelled diagram showing the main lobes of the cerebral cortex. **(2 marks)**

2.2 List four factors that affect diffusion of gases at the alveolocapillary membrane.

(2 marks)

.....
.....
.....
.....
.....
.....
.....

2.3 Draw a clearly labelled diagram that shows the main chambers and the valves of the heart.

(2 marks)

2.4 Draw a clearly labelled diagram showing the parts of the nephron. **(2 marks)**

2.5 List four (04) functions of the kidney. **(2 marks)**

.....
.....
.....
.....
.....

3)

3.1 Briefly describe the functional layers in the wall of the gastrointestinal tract. **(3 marks)**

.....
.....
.....
.....
.....
.....

3.2 Briefly explain the mechanism of acid secretion in the stomach. **(2 marks)**

.....
.....
.....
.....
.....
.....
.....

3.3 List the main functions of the liver. **(3 marks)**

.....
.....
.....
.....
.....
.....
.....
.....

3.4 List the main functions of the hypothalamus. **(2 marks)**

.....
.....
.....
.....
.....
.....
.....
.....

4)

4.1 Draw a labelled diagram showing the parts of the male reproductive system. **(2 marks)**

4.2 Briefly explain the actions of luteinizing hormone (LH) in the female reproductive system. **(2 marks)**

.....
.....
.....
.....
.....
.....
.....

4.3 Briefly describe the structure of a chromosome. **(3 marks)**

.....
.....
.....
.....
.....
.....
.....

4.4 Briefly explain the basis of using β hCG in diagnosis of pregnancy. (3 marks)

.....
.....
.....
.....
.....
.....
.....

.....
.....

INDEX NO: .....

Part C –Essay Questions

(30 marks)

Answer only two (02) questions out of three (03) questions. Write answers in separate sheets.

(1) Describe the structure and functions of following organelles in a typical mammalian cell.

A. Mitochondrion
B. Lysosome
C. Ribosome [*15 marks*]

(2) Explain the role of pancreas in digestion, absorption and metabolism of carbohydrates. [*15 marks*]

(3) Explain the basis for the following,

A. Use of Warfarin as an anti coagulant. **[5 marks]**
B. Use of Beta (β) blockers in hypertension. **[5 marks]**
C. Use of Streptokinase in myocardial infarction. **[5 marks]**

End-