

UNIVERSITY OF BOLTON
SCHOOL OF HEALTH AND HUMAN SCIENCES
BSc (HONS) ADULT NURSING
SEMESTER ONE EXAMINATION 2018/2019
INTRODUCTION TO HUMAN ANATOMY AND
PHYSIOLOGY
MODULE NO: HLT4082

Date: Wednesday 31 October 2018

Time: 1.00 pm

INSTRUCTIONS TO CANDIDATES:

There are 50 questions on this paper.

Answer 50 questions.

Maximum marks 64.5

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

Introduction (6 marks total)

1. Which of the following sentences best describes the term anatomy?
- a) The study of the structure of the body
 - b) The study of how the parts of the body function, and the ways in which they co-operate together to maintain life and health of the individual
 - c) A self-regulating process necessary to maintain the normal state of the body's environment, despite changes in the environment outside the body
 - d) The study of abnormalities and how they affect body functions, often causing illness

1 mark

2. Which of the following sentences best describes the term homeostasis?
- a) The study of the structure of the body and the physical relationships involved between the body parts
 - b) The study of how the parts of the body work, and the ways in which they co-operate together to maintain life and health of the individual
 - c) A self-regulating process necessary to maintain the normal state of the body's environment, despite changes in the environment outside the body
 - d) The study of abnormalities and how they affect body functions, often causing illness

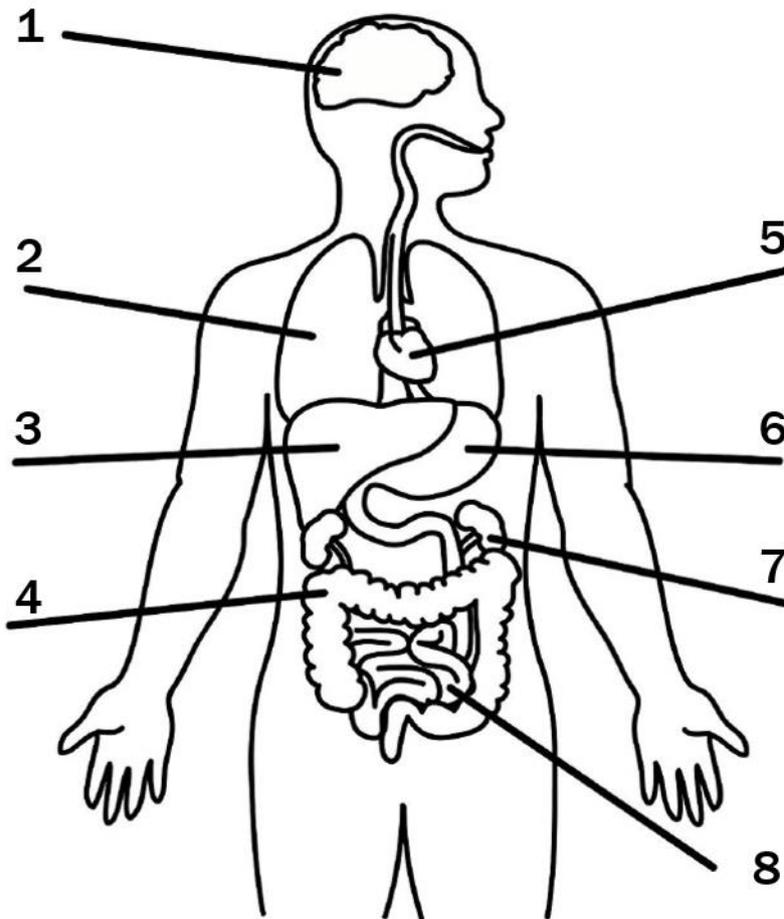
1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

3. Using the answer booklet provided, please label the following diagram.

(0.5 marks for each correct answer)



Total 4 marks

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

The Cell (marks 6 total)

4. Which of the 2 functions below are functions of a human cell?

- a) Ultrafiltration
- b) Sensitivity
- c) Photosynthesis
- d) Metabolism

2 marks

5. What is the main function of a centrosome?

- a) The centrosome is the energy producing site of the cell
- b) The centrosome transports protein, modifies drugs and synthesises lipids and steroids
- c) The centrosome contains genetic information
- d) The centrosome contains centrioles responsible for cellular division

1 mark

6. What is the main function of the golgi apparatus?

- a) It contains chromosomes and is the cells control centre
- b) Storage of glycogen
- b) Supports organelles
- c) Packages proteins for secretion

1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

7. Of the 4 examples given below, which 2 are functions of endoplasmic reticulum?
(1 mark for each correct answer)
- a) Protein transportation
 - b) Synthesis of lipids
 - c) Packages proteins for secretion
 - d) Storage of genetic information

Total 2 marks

The integumentary system and tissues (5 marks total)

8. The integumentary system consists of which 3 of the following?
- a) Skin, hair and eyes
 - b) Skin, hair and nails
 - c) Skin, eyes and nails
 - d) Eyes, hair and nails

1 mark

9. Which of the examples below is NOT a function of the skin?
- a) Protection
 - b) The manufacture of proteins
 - c) Sensation
 - d) Absorption

1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

10. The main function of melanin is to:

- a) Protect the skin from UV rays
- b) Help wound healing
- c) Eliminate waste materials
- d) Retain body fluids

1 mark

11. Which sentence best describes epithelial tissue

- a) A sheet of cells that covers or lines body surface (i.e. skin), or lines the walls of organs within body cavities
- b) The most abundant tissue in the body. Cartilage, bone and blood are all examples of epithelial tissue
- c) It is tissue that contains long, muscular fibres.
- d) It is the main tissue component of the two parts of the nervous system

1 mark

12. Which sentence best describes connective tissue

- a) A sheet of cells that covers or lines body surface (i.e. skin), or lines the walls of organs within body cavities
- b) The most abundant tissue in the body. Cartilage, bone and blood are all examples of connective tissue
- c) It is tissue that contains long, muscular fibres
- d) It is the main tissue component of the two parts of the nervous system

1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

The Skeletal System (5 marks)

13. Which of the following would NOT be found within the structure of a bone?

- a) Marrow
- b) Periosteum
- c) Enzymes
- d) Compact bone

1 mark

14. The tibia is located where in the human body?

- a) The lower part of the leg
- b) The lower part of the arm
- c) The foot
- d) The thorax

1 mark

15. An example of an irregular bone is:

- a) The sternum
- b) The ulna
- c) The vertebra
- d) Tarsal

1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

16. Which of the sentences below best describes compact bone?
- a) Compact bone provides a protective shell to spongy bone
 - b) Compact bone is a network of irregularly-shaped sheets and spikes of bone (trabeculae) that contains red bone marrow
 - c) Compact bone is the central cavity of bone shafts where red bone marrow and/or yellow bone marrow (adipose tissue) is stored
 - d) Compact bone is fibrous bands of collagenous connective tissue
17. Which part of the vertebra are the ribs attached to?
- a) Cervical
 - b) Thoracic
 - c) Lumbar
 - d) Sacral

1 mark

1 mark

The muscular system (4 marks)

18. Which of the sentences below identifies the different types of muscle in the body?
- a) Cardiac muscle , smooth muscle, skeletal muscle
 - b) Reproductive muscle, smooth muscle, skeletal muscle
 - c) Tendons, smooth muscle, skeletal muscle
 - d) Ligaments, tendons, smooth muscle

1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

19. Which of the explanations below best describes smooth muscle?

- a) Has spindle shaped cells with a single nucleus and acts involuntarily
- b) Has striations, branching cells and acts involuntary
- c) Has striations, is normally attached to tendons and acts voluntarily
- d) Is multi-nucleated, has spindle shaped cells and acts voluntarily

1 mark

20. Which of the following is NOT a type of muscle

- a) Skeletal
- b) Nervous
- c) Cardiac
- d) Smooth

1 mark

21. Smooth muscle is found in:

- a) The limbs
- b) The heart
- c) The viscera
- d) The spinal cord

1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

The Respiratory System (5 marks)

22. Which of the following sentences best describes external respiration?
- a) External respiration is the diffusion of oxygen from the lungs into blood and the diffusion of carbon dioxide from blood into the lungs
 - b) External respiration is the diffusion of oxygen from the blood into tissue cells and diffusion of carbon dioxide in the opposite direction.
 - c) External respiration is the movement of air in and out of the lungs
 - d) External respiration is the normal breathing pattern of a healthy person

1 mark

23. Pulmonary ventilation is:
- a) The exchange of oxygen for carbon dioxide within the lungs
 - b) The movement of air in and out of the lungs
 - c) The transport of oxygen to the tissues within the body
 - d) The rate at which a person breathes

1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

24. Of the 4 functions below, which 2 are functions of the respiratory system?

- a) Regulation of pH
- b) Defence against infection
- c) Thermoregulation
- d) Production of sebum

2 marks

25. Of the 4 functions listed below, which 2 are functions of the nasal cavity?

- a) Sense of smell
- b) Warms air entering the body
- c) External respiration
- d) Internal respiration

1 mark

The Cardiovascular System (4 marks total)

26. The cardiovascular system is comprised of which of the following components?

- a) Blood, blood vessels, heart and lymphatic system
- b) Blood, blood vessels, heart and lungs
- c) Bone, blood vessels heart and lungs
- d) Blood, blood vessels, lungs and lymphatic system

1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

27. Which of the following is not a muscle layer of the heart?

- a) Myocardium
- b) Pericardium
- c) Endocardium
- d) Mediastinum

1 mark

28. The bicuspid valve is located where in the heart?

- a) Between the left atrium and left ventricle
- b) Between the right atrium and right ventricle
- c) At the entrance to the aorta
- d) At the entrance to the pulmonary vein

1 mark

29. Which sentence best describes a vein?

- a) They take blood away from the heart, they work under high pressure and carry oxygenated blood
- b) They take blood to the heart, they work under high pressure and carry oxygenated blood
- c) They have thick muscular walls, they do not have valves and work under low pressure
- d) They carry blood to the heart, they normally have valves and work under low pressure

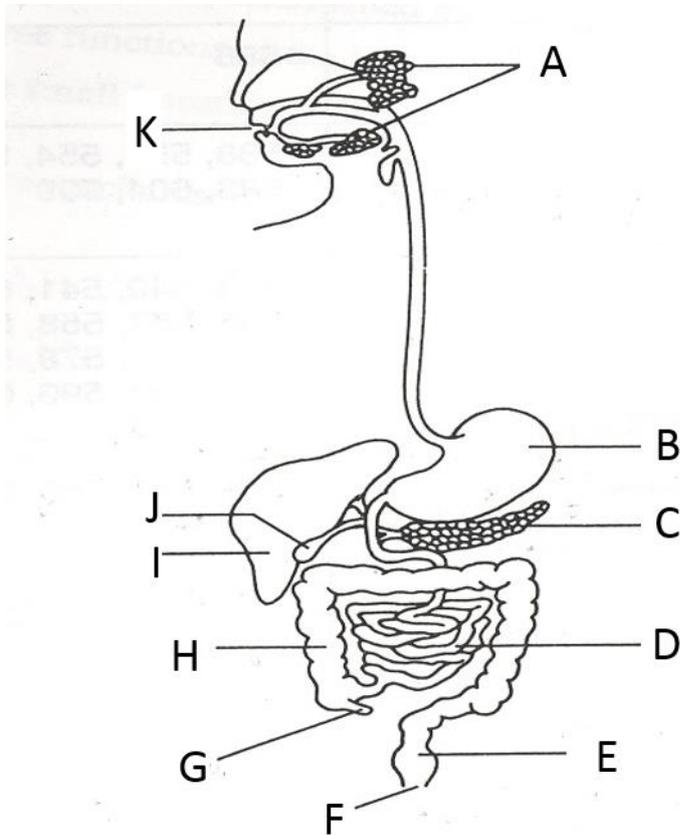
1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

The Digestive System (9.5 marks total)

30. Please label the diagram of the digestive system using the answer booklet provided.



(0.5 marks for each correct answer)

Total 5.5 marks

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

31. Of the 4 functions listed below, which 2 are functions of the large intestine?

- a) Maintains continence by remaining tight until the stool enters the rectum
- b) Lubricates faeces to ease its passage and prevent damage to the anal canal
- c) Turns food residue into faeces
- d) Chemically digests food through the addition of stomach acids

2 marks

32. What are the names given to the 3 parts of the small intestine?

- a) Duodenum, ileum, jejunum
- b) Rectum, colon, ileum
- c) Sigmoid, rectum, duodenum
- d) Colon, ileum, jejunum

1 mark

33. Which sentence best describes peristalsis?

- a) The rhythmical contraction and relaxation of muscles resulting in wave like movements
- b) The churning of food in the stomach
- c) The chewing of food in the mouth
- d) The excretion of faeces via the anus

1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

The Renal System (3 marks)

34. Which of the following functions is NOT a function of the kidney?

- a) Filtration
- b) Regulation of pH
- c) Regulation of blood water levels
- d) Transportation of urine from the bladder to the outside world

1 mark

35. Which of the following sentences best describes the functions of the nephron in a healthy person?

- a) Filter lymph, perform selective reabsorption, excrete waste products from filtered blood
- b) Filter blood, perform selective digestion, excrete waste products from filtered blood
- c) Filter blood, perform selective reabsorption, excrete waste products from filtered blood
- d) Transportation of urine from the bladder to the outside world

1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

36. Which of the following structures is NOT a structure of the kidney?

- a) Renal medulla
- b) Renal cortex
- c) Renal atrium
- d) Renal pelvis

1 mark

Nervous System (5 marks total)

37. A nerve cell is composed of:

- a) Nucleus, dendrite, node of ranvier, pons
- b) Nucleus, cell body, dendrite and axon
- c) Dendrite, node of ranvier, myelin sheath, pons
- d) Pons, dendrite, myelin sheath, node of Ranvier

1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

38. The peripheral nervous system is composed of:

- a) The autonomic and somatic nervous system
- b) The sympathetic and parasympathetic nervous system
- c) The brain, brainstem and spinal cord
- d) The autonomic and parasympathetic nervous system

1 mark

39. The autonomic nervous system is composed of the:

- a) The autonomic and somatic nervous system
- b) The sympathetic and parasympathetic nervous system
- c) The brain, brainstem and spinal cord
- d) The autonomic and parasympathetic nervous system

1 mark

40. 3 types of neurone are:

- a) Involuntary, motor, relay
- b) Involuntary, voluntary, relay
- c) Sensory, motor, relay
- d) Sensory, motor, involuntary

1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

41. The main function of a motor neurone is to:
- a) Transmit messages from the sense receptors to the coordinator
 - b) Transmit messages from the coordinator to the brain
 - c) transmit messages from the coordinator to the effector
 - d) Transmit messages from the coordinator to the sense receptor

1 mark

PAST EXAMINATION PAPER

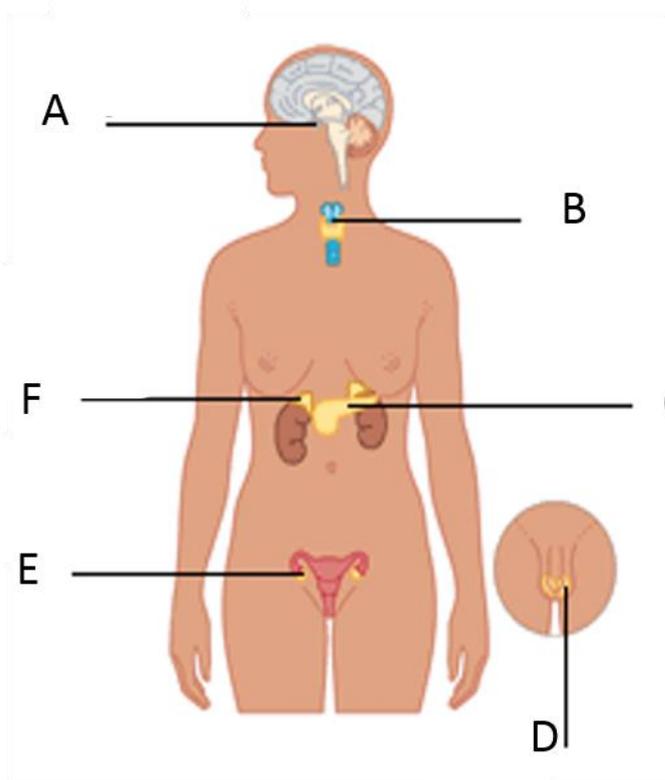
Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

The Endocrine System (6 marks total)

42. Please label the diagram of the endocrine system using the answer booklet provided.

(0.5 marks for each correct answer)



Total 3 marks

43. The main function of the hormone prolactin is:

- a) Promote the growth of bone, cartilage and soft tissue
- b) Promote sperm production in males and mature ovarian follicles in females
- c) Stimulate the secretion of breast milk
- d) Produce the coloured pigmentation in skin

1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

44. Which of the following sentences best describes the thyroid gland?
- a) A butterfly shaped gland located in the front of the neck just below the larynx.
 - b) Most adults have 2 pairs of thyroid glands
 - c) A pea sized gland that is divided into anterior and posterior lobes
 - d) It is responsible for raising the concentration of glucose in the blood by breaking down glycogen

1 mark

45. The main function of the hormone insulin is:
- a) To increase the concentration of blood glucose
 - b) To stimulate the secretion of breast milk
 - c) To reduce the concentration of blood glucose
 - d) To stimulate the production of cortisol and androgens from the adrenal cortex

1 mark

The Lymphatic System (6 marks total)

46. Which of the following sentences best describes the lymphatic system?
- a) A system of blood vessels that perfuse the brain
 - b) A major communicating and control system
 - c) A system that is often responsible for the regulation of long term processes
 - d) A widespread system of vessels and tissues scattered throughout the body that helps to protect the body from infections

1 mark

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

47. Which of the following is not a structure of the lymphatic system?

- a) Tonsils
- b) Thyroid gland
- c) Bone marrow
- d) Lymph nodes

1 mark

48. In relation to the lymphatic system, which of the following is a key function of the tonsils?

- a) Formation of T-cells
- b) Detect and destroy invaders
- c) Filters blood, distributes T and B cells. Presents antigens to white cells for recognition and removes dead red blood cells
- d) Storage of white blood cells and the filtration of lymph

1 mark

49. Of the 4 examples given below, which 2 are NOT functions of the lymphatic system?

- a) Chemical digestion
- b) Absorption of fats and fat soluble vitamins
- c) Fighting infection
- d) Metabolism

2 marks

Please turn the page

School of Health and Human Sciences
BSc (Hons) Adult Nursing
Semester Two Examination 2018/2019
Introduction to Human Anatomy and Physiology
Module No. HLT4082

50. In relation to the lymphatic system, which of the following is a key function of the thymus?
- a) Maturation of T-cells
 - b) Detect and destroy invaders
 - c) Filters blood, distributes T and B cells. Presents antigens to white cells for recognition and removes dead red blood cells
 - d) Storage of white blood cells and the filtration of lymph

1 mark

PAST EXAMINATION PAPER

END OF QUESTIONS