

**UNIVERSITY OF BOLTON**

**SCHOOL OF NURSING AND MIDWIFERY**

**PETROC COLLEGE**

**FdSc NURSING ASSOCIATE**

**SEMESTER ONE EXAMINATION 2019/2020**

**APPLICATION OF CORE KNOWLEDGE AND SKILLS**  
**FOR THE NURSING ASSOCIATE**

**MODULE NO: NRS4003**

Date: Friday 6 December 2019

Time: 9.30 am

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**INSTRUCTIONS TO CANDIDATES:**

There are 60 questions.

Answer ALL 60 questions.

1 mark will be awarded for each question.

There are a total of 60 marks available.

The pass mark is 40%.

You are permitted to use a calculator.

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School of Nursing and Midwifery – Petroc College  
FdSc Nursing Associate  
Semester One Examination 2019/2020  
Application of Core Knowledge and Skills for the Nursing Associate  
Module Number: NRS4003

**Section 1.**

**Medication drug calculation questions - Answer ALL 10 questions**

- 1) Your patient is prescribed erythromycin 500mg. You only have access to erythromycin 250 mg tablets. How many tablets would you need to dispense to your patient?
  - a) 1 tablet
  - b) 2 tablets
  - c) 4 tablets
  - d) 3 tablets
  
- 2) Patient X requires 60 mgs of Drug K to be given once daily. The tablets are available as 10mg tablets. How many tablets would you need to administer?
  - a) 6 tablets
  - b) 10 tablets
  - c) 8 tablets
  - d) 2 tablets
  
- 3) How many nanograms does 0.95 micrograms equal?
  - a) 900 nanograms
  - b) 950 nanograms
  - c) 9500 nanograms
  - d) 9000 nanograms
  
- 4) A patient in recovery receives 0.2 mg, 1 mg, 0.50 mg and 2.5 mg of a medication. What is the total dose?
  - a) 4.2 mg
  - b) 4.65 mg
  - c) 6 mg
  - d) 3.75 mg

**Please turn the page**

School of Nursing and Midwifery – Petroc College

FdSc Nursing Associate

Semester One Examination 2019/2020

Application of Core Knowledge and Skills for the Nursing Associate

Module Number: NRS4003

- 5) A patient is prescribed Warfarin tablets 9mg once daily. The stock that they have in their home are 5mg, 3mg and 1mg tablets. What is the lowest number of tablets the patient could take to make up the correct dose?
- a) 3 tablets
  - b) 4 tablets
  - c) 2 tablets
  - d) 1 tablet
- 6) A patient is prescribed 160mg of a drug, the tablets are 40mg each, how many tablets will you administer?
- a) 1 tablet
  - b) 3 tablets
  - c) 4 tablets
  - d) 2 tablets
- 7) Convert 150mg to grams:
- a) 0.015 grams
  - b) 2.5 grams
  - c) 0.15 grams
  - d) 15 grams
- 8) You are required to convert 250 micrograms to mg. Which is the correct answer?
- a) 0.025 mgs
  - b) 0.25 mgs
  - c) 2.50 mgs
  - d) 25.0 mgs

**Please turn the page**

School of Nursing and Midwifery – Petroc College

FdSc Nursing Associate

Semester One Examination 2019/2020

Application of Core Knowledge and Skills for the Nursing Associate

Module Number: NRS4003

- 9) A bottle of medicine contains 240mls, each dose is two 10ml medicine spoons. How many patients will one bottle be sufficient for?
- a) 10 patients
  - b) 12 patients
  - c) 15 patients
  - d) 16 patients
- 10) Patient S has been prescribed 200mgs of drug J, in the form of a syrup. The concentration of the syrup is 50mgs in 5mls. How many mls would you administer to patient S?
- a) 10mls
  - b) 5mls
  - c) 20mls
  - d) 15mls

**Please turn the page**

School of Nursing and Midwifery – Petroc College  
FdSc Nursing Associate  
Semester One Examination 2019/2020  
Application of Core Knowledge and Skills for the Nursing Associate  
Module Number: NRS4003

**Section 2.**

**Medication administration questions – Answer ALL 5 questions**

11) Which formula can you use to calculate the required quantity of a medicine?

- a) What you want, subtracted by what you've got, multiplied by what it's in
- b) What you've got, divided by what it's in, added to what you want
- c) What you want, divided by what you've got, multiplied by what it's in
- d) What it's in, added to what you've got, subtracted by what it's in

12) Which of the information below is not required or included when labelling medication?

- a) Country of origin
- b) Expiry date
- c) Method / route of administration
- d) Name of product

13) A side effect or complication from a medication is known as:

- a) Drug overdose
- b) Adverse drug event
- c) Late effect
- d) Transition point

**Please turn the page**

School of Nursing and Midwifery – Petroc College

FdSc Nursing Associate

Semester One Examination 2019/2020

Application of Core Knowledge and Skills for the Nursing Associate

Module Number: NRS4003

14) Which **ONE** statement below gives a definition of Anaphylaxis?

- a) "...a process of taking medication and making sure they are working in the body..."
- b) "...a severe and potentially life-threatening allergic reaction affecting more than one body system..."
- c) "...a way in which drugs interact with each other in the system after taking them..."
- d) "...a process by which the body reacts to medication and drugs..."

15) The five R's of medication administration are:

- a) The right dose, right time, right route, right patient, right drug
- b) The right drug, right patient, right dose, right amount, right route
- c) The right dose, right time, right place, right patient, right drug
- d) The right strength, right format, right drug, right patient, right date

**Please turn the page**

School of Nursing and Midwifery – Petroc College  
FdSc Nursing Associate  
Semester One Examination 2019/2020  
Application of Core Knowledge and Skills for the Nursing Associate  
Module Number: NRS4003

**Section 3.**

**Anatomy and physiology – Answer ALL 45 Questions**

- 16) Which of the following sentences best describes anatomy?
- 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 cooperate to maintain health and life
  - c) A self-regulating process necessary for the normal state of the body's environment
  - d) Tissues grouping together to become a discrete functional unit
- 17) The term physiology can be defined as:
- a) 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
  - b) The study of cells
  - c) The study of abnormalities and how they affect body functions, often causing illness
  - d) The study of life
- 18) Which of the following sentences best describes homeostasis?
- a) The study of abnormalities and how they affect the body
  - b) The study of how the parts of the body work together and the ways in which they co-operate to maintain health and life
  - c) A self-regulating process necessary for the normal state of the body's environment
  - d) Tissues grouping together to become a discrete functional unit

**Please turn the page**

School of Nursing and Midwifery – Petroc College

FdSc Nursing Associate

Semester One Examination 2019/2020

Application of Core Knowledge and Skills for the Nursing Associate

Module Number: NRS4003

19) Which organelle produces ATP molecules?

- a) Chloroplast
- b) Golgi complex
- c) Vacuole
- d) Mitochondria

20) What is the function of the golgi apparatus?

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

21) What is one of the main function of cytoplasm?

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

**Please turn the page**



School of Nursing and Midwifery – Petroc College

FdSc Nursing Associate

Semester One Examination 2019/2020

Application of Core Knowledge and Skills for the Nursing Associate

Module Number: NRS4003

22) A definition of systemic circulation is:

- a) The movement of deoxygenated blood from the right side of the heart to the lungs where it is oxygenated blood and returned to the left side of the heart
- b) The movement of oxygenated blood from the left side of the heart around the body to the tissues and the return of deoxygenated blood back to the right side of the heart
- c) The movement of oxygenated blood into the coronary arteries to perfuse the heart
- d) The movement of oxygenated blood from the right side of the heart around the body to the tissues and the return of deoxygenated blood back to the left side of the heart

23) A definition of pulmonary circulation is:

- a) The movement of deoxygenated blood from the right side of the heart to the lungs where it is oxygenated blood and returned to the left side of the heart
- b) The movement of deoxygenated blood from the left side of the heart around the body to the tissues and the return of oxygenated blood back to the right side of the heart
- c) The movement of oxygenated blood into the coronary arteries to perfuse the heart
- d) The movement of oxygenated blood from the right side of the heart around the body to the tissues and the return of deoxygenated blood back to the left side of the heart

24) The pulmonary vein transports:

- a) Oxygenated blood from the lungs to the heart
- b) Deoxygenated blood from the heart to the lungs
- c) Oxygenated blood to the right mitral valve
- d) Deoxygenated blood to the right ventricle

**Please turn the page**

School of Nursing and Midwifery – Petroc College

FdSc Nursing Associate

Semester One Examination 2019/2020

Application of Core Knowledge and Skills for the Nursing Associate

Module Number: NRS4003

25) Which of the following are components of a nerve cell?

- a) Nucleus, dendrite, node of Ranvier, pons
- b) Nucleus, dendrite, myelin sheath, node of Ranvier
- c) Dendrite, node of Ranvier, myelin sheath, pons
- d) Pons, dendrite, myelin sheath, node of Ranvier

26) Neurons transmit nerve signals to one another via the:

- a) Dendrite
- b) Synapse
- c) Myelin sheath
- d) Nucleus

27) The central 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

28) Which one of the following sentences best describes the location of the pituitary gland?

- a) It is located in the front of the neck just below the larynx
- b) It is located near the underside of the brain and is connected to the hypothalamus
- c) It is located at the back (posterior) of the thyroid gland
- d) It is attached to the adrenal gland

**Please turn the page**

School of Nursing and Midwifery – Petroc College

FdSc Nursing Associate

Semester One Examination 2019/2020

Application of Core Knowledge and Skills for the Nursing Associate

Module Number: NRS4003

- 29) Which of the following sentences best describes the function of insulin?
- a) Stimulates the production of glucose from amino acids and glycerol
  - b) Stimulates the liver to store glucagon and facilitates the entry of glucose into muscle and other tissues
  - c) Regulates fluid balance and raises the concentration of glucose in the blood
  - d) Raises the concentration of glucose in the blood
- 30) What is the main function of Human Growth Hormone (HGH)?
- a) Promotes growth of bone, cartilage and soft tissue
  - b) Stimulates the activity of cells in the thyroid gland leading to an increased production and secretion of T<sub>4</sub> and T<sub>3</sub>
  - c) Increases water retention by the kidneys
  - d) Decreases the concentration of glucagon in the blood
- 31) The female gonads are known as:
- a) The vulva
  - b) The ovaries
  - c) Ovulation
  - d) The uterus

**Please turn the page**

School of Nursing and Midwifery – Petroc College  
FdSc Nursing Associate  
Semester One Examination 2019/2020  
Application of Core Knowledge and Skills for the Nursing Associate  
Module Number: NRS4003

- 32) The function of the \_\_\_\_\_ is to maintain an acidic environment to prevent the growth of bacteria:
- a) Uterus
  - b) Cervix
  - c) Oocytes
  - d) Vagina
- 33) To produce oocytes is the main function of the:
- a) Ovaries
  - b) Cervix
  - c) Vagina
  - d) Uterus
- 34) The male gonads are called:
- a) The testes
  - b) The Vas Deferens
  - c) The epididymis
  - d) The prostate gland
- 35) What is the main function of the penis?
- a) A passage way for ejaculated semen and the excretion of urine
  - b) To produce sperm
  - c) It is where sperm motility is increased
  - d) Transportation of sperm to the urethra

**Please turn the page**

School of Nursing and Midwifery – Petroc College

FdSc Nursing Associate

Semester One Examination 2019/2020

Application of Core Knowledge and Skills for the Nursing Associate

Module Number: NRS4003

36) What is the main function of the testes?

- a) A passage way for ejaculated semen and the excretion of urine
- b) To produce sperm
- c) It is where sperm motility is increased
- d) Transportation of sperm to the urethra

37) 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

38) Which of the explanations below best describes cardiac 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

39) Which of the explanations below best describes skeletal 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

**Please turn the page**

School of Nursing and Midwifery – Petroc College  
FdSc Nursing Associate  
Semester One Examination 2019/2020  
Application of Core Knowledge and Skills for the Nursing Associate  
Module Number: NRS4003

40) The anatomical name for the thigh bone is:

- a) The clavicle
- b) The sternum
- c) The ulna
- d) The femur

41) An example of a flat bone is:

- a) Scapula
- b) Ulna
- c) Femur
- d) Metatarsals

42) Of the four examples given below, which one is not a main function of the human skeleton?

- a) Storage of calcium and phosphorus
- b) Connects tendon to bone
- c) Maturation of some white blood cells
- d) The manufacture of red blood cells

43) In the body, there are approximately 206:

- a) Bones
- b) Ligaments
- c) Tendons
- d) Skeletal muscles

**Please turn the page**

School of Nursing and Midwifery – Petroc College  
FdSc Nursing Associate  
Semester One Examination 2019/2020  
Application of Core Knowledge and Skills for the Nursing Associate  
Module Number: NRS4003

- 44) The main function of bile is?
- a) The breakdown of carbohydrates
  - b) The breakdown of proteins
  - c) The emulsification of fats
  - d) The regulation of blood glucose
- 45) The main function of the gallbladder is to:
- a) Store and concentrate bile before releasing it into the duodenum
  - b) Store and concentrate bile before releasing it into the large intestine
  - c) Store and concentrate amylase before secreting it into the duodenum
  - d) Store and concentrate amylase before secreting it into the large intestine.
- 46) Of the 4 functions below, which 1 is a functions of the pancreas?
- a) Digestion of bile
  - b) Secretion of insulin
  - c) Digestion of proteins
  - d) Secretion of salts
- 47) What are the names given to the 3 parts of the small intestine?
- a) Colon, ileum, jejunum
  - b) Rectum, colon, ileum
  - c) Sigmoid, rectum, duodenum
  - d) Duodenum, ileum, jejunum

**Please turn the page**

School of Nursing and Midwifery – Petroc College  
FdSc Nursing Associate  
Semester One Examination 2019/2020  
Application of Core Knowledge and Skills for the Nursing Associate  
Module Number: NRS4003

48) Which of the examples is NOT a risk factor for ageing?

- a) Tobacco smoking
- b) Drinking excess alcohol
- c) Wearing sunscreen
- d) Sun exposure

49) The epidermis:

- a) Is composed of keratinised stratified squamous epithelium
- b) Is composed of areolar and adipose tissue
- c) Lines the walls of hollow cavities
- d) Makes up most of the heart

50) The hypodermis:

- a) Is composed of keratinised stratified squamous epithelium
- b) Is mainly composed of areolar and adipose tissue
- c) The dermis is attached to the sub-cutaneous layer which anchors the skin and other organs of the body
- d) Makes up much of the heart

51) A category 3 pressure ulcer is identified when:

- a) There is full thickness skin loss. Subcutaneous fat may be visible but bone, tendon and muscle are not exposed
- b) There is redness on the skin which is non-blanching
- c) There is a small amount black tissue present on a part of the wound
- d) There is partial thickness skin loss involving epidermis, dermis or both

**Please turn the page**



School of Nursing and Midwifery – Petroc College

FdSc Nursing Associate

Semester One Examination 2019/2020

Application of Core Knowledge and Skills for the Nursing Associate

Module Number: NRS4003

52) Which of the below is **not** a major structure of the lymphatic system

- a) The pancreas
- b) The tonsils
- c) Bone marrow
- d) Lymphoid tissue

53) Which of the following sentences best describes phagocytosis?

- a) Fluid balance
- b) Destruction of an infectious organism engulfing and ingesting it
- c) The movement of white blood cells and other useful substance to the site of injury
- d) Absorption of fats

54) What are the main functions of the lymphatic system?

- a) Detection and destruction of bacteria and viruses
- b) Maintaining the fluid balance of the body
- c) Absorption of fats and fat soluble vitamins
- d) All of the above

55) Fluid balance is mainly a function of the:

- a) Kidneys
- b) Bladder
- c) Lungs
- d) Liver

**Please turn the page**

School of Nursing and Midwifery – Petroc College  
FdSc Nursing Associate  
Semester One Examination 2019/2020  
Application of Core Knowledge and Skills for the Nursing Associate  
Module Number: NRS4003

- 56) The main functions of the kidneys include:
- a) Filtration, reabsorption and digestion
  - b) Filtration, reabsorption and excretion
  - c) Filtration reabsorption and oxygenation
  - d) Filtration, digestion and excretion
- 57) Out of the four options below, which one details the substances formed with the metabolism of protein?
- a) Glucose and potassium
  - b) Urea, uric acid and creatinine
  - c) Potassium and sodium
  - d) Sodium and glucose and urea
- 58) Which one of these structures is not a component of the lower respiratory tract?
- a) Trachea
  - b) Larynx
  - c) Bronchiole
  - d) Alveoli
- 59) What is the function of the alveoli?
- a) They are the passages through which air is directed from the nose and mouth
  - b) They move backwards and forwards sweeping mucous back up towards the throat
  - c) They produce energy which facilitates the expansion of the diaphragm
  - d) They exchange carbon dioxide for oxygen in the lungs

**Please turn the page**

School of Nursing and Midwifery – Petroc College

FdSc Nursing Associate

Semester One Examination 2019/2020

Application of Core Knowledge and Skills for the Nursing Associate

Module Number: NRS4003

60) The respiration rate is:

- a) How fast oxygen is exchanged for carbon dioxide within the lungs
- b) The rate carbon dioxide is expired from the body
- c) The speed of which oxygen is transported to the tissues within the body
- d) The number of breaths taken per minute

**END OF QUESTIONS**

Past Examination Paper