

**UNIVERSITY OF BOLTON**

**FACULTY OF HEALTH AND WELLBEING**

**FdSc NURSING ASSOCIATE HIGHER APPRENTICESHIP  
PROGRAMME**

**SEMESTER TWO EXAMINATION 2018/2019**

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

**MODULE NO: NRS4003**

Date: Thursday 28 March 2019

Time: 9.30 am – 11.30 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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**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 50 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) 5 tablets
  - b) 10 tablets
  - c) 8 tablets
  - d) 2 tablets
  
- 3) How many nanograms does 0.85 micrograms equals?
  - a) 800 nanograms
  - b) 850 nanograms
  - c) 8500 nanograms
  - d) 8000 nanograms
  
- 4) A patient in recovery receives four medications of a drug, 0.4 mg, 1 mg, 0.50 mg and 2.5 mg. What is the total dose?
  - a) 4.4 mg
  - b) 4.65 mg
  - c) 6 mg
  - d) 3.75 mg

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- 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 250mg to grams:
- a) 0.025 grams
  - b) 2.5 grams
  - c) 0.25 grams
  - d) 25 grams
- 8) You are required to convert 450 micrograms to mg. Which is the correct answer?
- a) 0.045 mgs
  - b) 0.45 mgs
  - c) 4.50 mgs
  - d) 45.0 mgs

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- 9) A bottle of medicine contains 240mls, each dose is two 10mls 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 200 mgs of drug J, in the form of a syrup. The concentration of the syrup is 50 mgs in 5 mLs. How many mLs would you administer to patient S?
- a) 10 mLs
  - b) 5 mLs
  - c) 20 mLs
  - d) 15 mLs

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**Section 2.**

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

- 11) What does the term POM standards for?
- a) Prescriptions Of Medicines
  - b) Prescribing Of Medicines
  - c) Prescription Only Medication
  - d) Prescription On Medicines
- 12) Which of the following statement is **NOT** correct regarding the Misuse of Drugs Act, 1971?
- a) Give power to prescribers to do whatever they wish
  - b) Outlines restrictions in relation to controlled drugs
  - c) Control mechanisms for regulating the misuse of controlled drugs
  - d) Restricts production and supply of controlled drugs
- 13) 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..."

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- 14) 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
- 15) Which of the following statement below best describes consent?
- a) A patient is persuaded by the doctor to have an operation as this is good for them
  - b) A patient is told by the family to have the operation as this is good for them
  - c) A patient is given a form to sign and told the doctors know what they are doing
  - d) A patient has capacity to receive sufficient information to make a voluntary informed decision

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**Section 3.**

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

- 16) Which sentence best describes arteries?
- a) They mostly take oxygenated blood away from the heart
  - b) They mostly take deoxygenated blood to the heart
  - c) They mostly have thin walls
  - d) They mostly take deoxygenated blood away from the heart
- 17) Which of the following is NOT a structure of the heart?
- a) Carina
  - b) Left ventricle
  - c) Right atrium
  - d) Mitral valve
- 18) Which of the examples given below is NOT a valve of the heart?
- a) Tricuspid
  - b) Bicuspid
  - c) Aortic
  - d) Renal
- 19) Which sentence best describes veins?
- a) They mostly take oxygenated blood away from the heart
  - b) They mostly take deoxygenated blood to the heart
  - c) They are mainly muscular tubes
  - d) They mostly take oxygenated blood to the heart

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- 20) What is the function of the cell nucleus?
- a) It contains chromosomes and is the cells control centre
  - b) Storage of glycogen
  - c) Supports organelles
  - d) Packages proteins for secretion
- 21) What is cytoplasm?
- a) A viscous, translucent, watery material. It contains a large percentage of water, inorganic ions and naturally occurring organic compounds. Its main function is to support organelles
  - b) It is the gate keeper of the cell. It serves as the cells external boundary, separating it from other cells and from the external environment
  - c) The cells control centre. It plays a role in cell growth, metabolism & reproduction. It contains chromosomes, which control cellular activity & direct protein synthesis through ribosomes in the cytoplasm
  - d) It is the part of the cell that moves fluid or particles over the surface of the cell
- 22) The largest organelle is:
- a) The ribosomes
  - b) The nucleus
  - c) The lysosomes
  - d) The centrioles

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- 23) 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
- 24) 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
- 25) The autonomic 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
- 26) Which of the examples is NOT a risk factor for aging?
- a) Tobacco smoking
  - b) Drinking excess alcohol
  - c) Wearing sunscreen
  - d) Sun exposure

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- 27) Which 1 of the examples below is NOT a function of the skin?
- a) Excretion
  - b) Heat regulation
  - c) Storage of lipids and water
  - d) The manufacture of proteins
- 28) 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
- 29) The study of tissues is called:
- a) Physiology
  - b) Pathophysiology
  - c) Cytology
  - d) Histology
- 30) What are the 2 main components of the digestive system?
- a) Alimentary canal and accessory organs
  - b) Appendicular and axial tracts
  - c) Alimentary canal and appendicular organs
  - d) The mouth and anus
- 31) A crucial role of bile in the digestive system is to:
- a) Break down proteins
  - b) Break down carbohydrates
  - c) Break down fats
  - d) Break down hormones

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- 32) The main function of the gallbladder is to:
- a) store and concentrate bile before releasing it into the small intestine
  - b) store and concentrate bile before releasing it into the large intestine
  - c) store and concentrate amylase before secreting it into the small intestine
  - d) store and concentrate amylase before secreting it into the large intestine.
- 33) The pancreas is responsible for the secretion of:
- a) bile and bile salts
  - b) insulin and glucagon
  - c) insulin and bile
  - d) glucagon and bile
- 34) Which one of these structures is not a component of the lower respiratory tract?
- a) Trachea
  - b) Larynx
  - c) Bronchiole
  - d) Alveoli
- 35) 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

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- 36) The function of the intercostal muscles during breathing is:
- a) To move the ribs inwards and downwards to increase thoracic pressure and assist with inhalation
  - b) The intercostal muscles are not involved in breathing
  - c) To move the ribs up and out to decrease thoracic pressure and assist with inhalation
  - d) To maintain structure to the trachea
- 37) 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 are responsible for gaseous exchange of oxygen and carbon dioxide
- 38) The male gonads are called:
- a) The testes
  - b) The Vas Deferens
  - c) The epididymis
  - d) The prostate gland
- 39) The female gonads are known as:
- a) The vulva
  - b) The ovaries
  - c) Ovulation
  - d) The uterus

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- 40) What is the main function of the vagina?
- a) To provide sexual stimulation
  - b) To protect the inner, more sensitive structures of the vulva
  - c) To store oocytes
  - d) To maintain an acidic environment to prevent the growth of bacteria
- 41) What is the main function of the ovaries?
- a) To provide sexual stimulation
  - b) To protect the inner, more sensitive structures of the vulva
  - c) To produce oocytes
  - d) To maintain an acidic environment to prevent the growth of bacteria
- 42) 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
- 43) The term idiopathic refers to:
- a) The likely outcome of a disease
  - b) The cause of the disease
  - c) The disease process
  - d) A disease or condition of which the cause is unknown

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- 44) Homeostasis is:
- 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) A self-regulating process necessary to maintain the normal state of the body's environment
  - c) The study of abnormalities and how they affect body functions, often causing illness
  - d) The body's ability to heal wounds
- 45) The study of cells is known as:
- a) Histology
  - b) Biology
  - c) Cytology
  - d) Physiology
- 46) The function of the mitochondria is to:
- a) Regulate the transition of proteins
  - b) Control genetic activity and metabolism
  - c) Synthesise carbohydrate molecules
  - d) Fuel many cellular activities and provide most of the energy for the body
- 47) The 3 basic components of the cell are:
- a) Cytoplasm, ectoplasm and endoplasm
  - b) Cytoplasm, Cell membrane and nucleus
  - c) Cytoplasm, chromosomes and endoplasm
  - d) Cytoplasm, chromosomes and cell membrane

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- 48) Rough Endoplasmic Reticulum are studded with:
- a) Lysosomes
  - b) Ribosomes
  - c) Centrioles
  - d) Mitochondria
- 49) Which organelle packages the energy from the food you eat into ATP molecules?
- a) Chloroplast
  - b) Golgi complex
  - c) Vacuole
  - d) Mitochondria
- 50) Ultrafiltration takes occurs in which part of the nephron:
- a) The descending loop of Henle
  - b) The ascending loop of Henle
  - c) The Bowman's capsule
  - d) The collecting duct
- 51) Which of the following is NOT a function of the kidney?
- a) Secretion of hormones
  - b) Maintenance of homeostasis
  - c) Production of white blood cells
  - d) Excretion or urea
- 52) The breakdown of proteins results in the formation of which substance?
- a) Glucose
  - b) Nitrogen
  - c) Sodium
  - d) Urea

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53) Which of the following is NOT usually found in urine:

- a) Glucose
- b) Red cells
- c) Protein
- d) All of the above

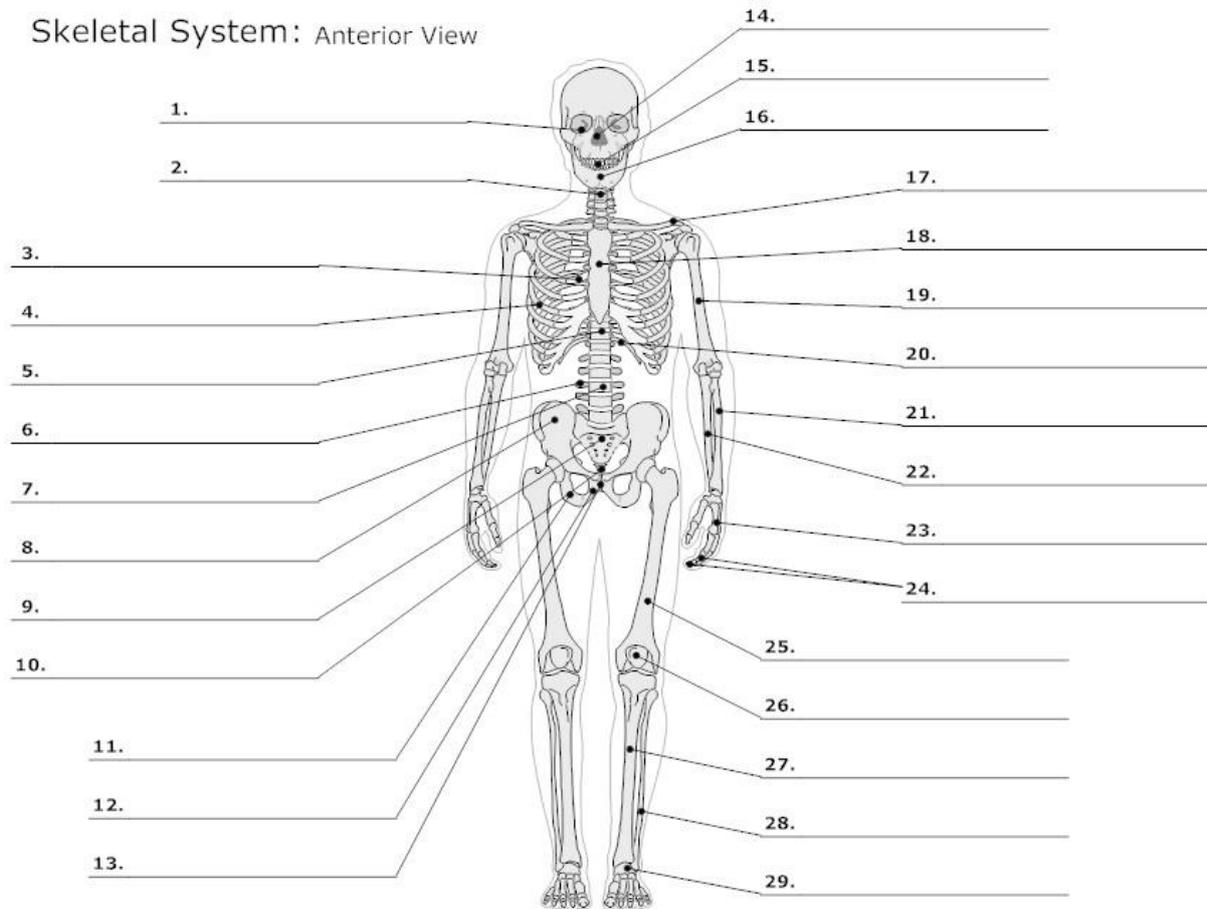
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PAST EXAMINATION PAPER

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54) On the diagram below the bone labelled 21 is:

- a) The femur
- b) The tibia
- c) The radius
- d) The ulna



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- 55) On the diagram under Question 54, the bones labelled 24 are:
- a) The meta-carpals
  - b) The meta-tarsals
  - c) The phalanges
  - d) The carpals
- 56) What is the function of a tendon?
- a) Links muscles to bones
  - b) Links bones to bones
  - c) Links muscles to ligaments
  - d) Binds bone cells close together
- 57) Approximately how many skeletal muscles are there in the body?
- a) 1,000
  - b) 250
  - c) 650
  - d) 45
- 58) The three basic types of muscle are:
- a) Skeletal, cardiac and smooth
  - b) Skeletal, thoracic and smooth
  - c) Smooth, endothelial and cardiac
  - d) Smooth, skeletal and endothelial

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- 59) Skeletal muscle is:
- a) Striated with one nucleus
  - b) Striated with no nucleus
  - c) Non- striated with one nucleus
  - d) Striated with multiple nuclei
- 60) 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

**END OF QUESTIONS**