

iUBT298 – Anatomy and physiology

URN – J/617/0230

Guided Learning Hours: 100

| Learning outcome | Assessment criteria | Taught content |
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| LO1 Understand the structure, function and pathology of the skeletal system | 1.1. The learner will be able to explain the functions of the skeletal system | To include: <ul style="list-style-type: none"> • Support framework • Provides attachments for muscles • Forms joints to provide movement • Forms erythrocytes in the bone marrow • Stores calcium • Protection |
| | 1.2. The learner will be able to explain the structure of bone tissues | To include: <ul style="list-style-type: none"> • Compact • Cancellous |
| | 1.3. The learner will be able to explain the types of bone | To include: <ul style="list-style-type: none"> • Long • Short • Flat • Irregular • Sesamoid • Give examples of where in the body they would be found |
| | 1.4. The learner will be able to explain the position of the bones of the skeleton | To include: <ul style="list-style-type: none"> • Cranium <ul style="list-style-type: none"> - Parietal - Frontal - Ethmoid - Sphenoid - Occipital |

- Temporal
- Facial
 - Nasal
 - Zygomatic
 - Maxilla
 - Lacrimal
 - Turbinator
 - Palatine
 - Mandible
 - Vomer
 - Hyoid
- Vertebrae
 - Cervical
 - Thoracic
 - Lumbar
 - Sacrum
 - Coccyx
- Shoulder Girdle
 - Scapula
 - Clavicle
- Thoracic Cage
 - Ribs
 - Sternum
- Pelvic Girdle
 - Innominate bones
 - Ischium
 - Ilium
 - Pubis
- Upper Limb
 - Humerus
 - Ulna
 - Radius
 - Carpals
 - Scaphoid
 - Lunate
 - Triquetral
 - Pisiform
 - Trapezium
 - Trapezoid

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| | | <ul style="list-style-type: none"> ▪ Capitate ▪ Hamate - Metacarpals - Phalanges • Lower Limb <ul style="list-style-type: none"> - Femur - Tibia - Fibula - Patella - Tarsals <ul style="list-style-type: none"> ▪ Talus ▪ Calcaneus ▪ Navicular ▪ Cuneiforms (Medial, Intermediate, Lateral) ▪ Cuboid - Metatarsals - Phalanges |
| | 1.5. The learner will be able to explain different types of joints | <p>To include:</p> <ul style="list-style-type: none"> • Fixed • Slightly moveable • Freely moveable • Ball and socket • Hinge • Pivot • Gliding • Saddle |
| | 1.6. The learner will be able to Identify and explain possible causes of postural deformities | <p>To include:</p> <ul style="list-style-type: none"> • Kyphosis • Lordosis • Scoliosis |
| | 1.7. The learner will be able to explain and identify the symptoms, causes and effects of diseases and disorders of the skeletal system | <p>To include:</p> <ul style="list-style-type: none"> • Arthritis <ul style="list-style-type: none"> - Osteo - Rheumatoid • Gout • Osteoporosis • Stress |

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| LO2 Understand the structure, function and pathology of the muscular system | 2.1. The learner will be able to explain the structure and function of the different types of muscle with examples | <ul style="list-style-type: none"> • Voluntary • Involuntary • Cardiac |
| | 2.2. The learner will be able to explain the structure and function of the various attachments of muscles | <ul style="list-style-type: none"> • Ligament • Tendon • Fascia |
| | 2.3. The learner will be able to explain the terms used in relation to the muscular system | <ul style="list-style-type: none"> • Origin • Insertion • Action • Tone • Tension • Fatigue • Flexion • Extension • Abduction • Adduction • Rotation • Supination • Pronation • Dorsiflexion • Plantarflexion • Eversion • Inversion • Circumduction |
| | 2.4. The learner will be able to explain muscular contraction | <ul style="list-style-type: none"> • How a muscle works • How it provides movement • How a muscle knows when to contract • The source of energy to create a contraction • Different stages of contraction, i.e. tone and relaxation • Over contraction, i.e. causes of muscle tension and muscle fatigue |
| | 2.5. The learner will be able to explain the formation of lactic acid | <p>To include:</p> <ul style="list-style-type: none"> • Cause and effect |

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| | <p>2.6. The learner will be able to explain the position (with the aid of diagrams) and action of the following muscles</p> | <ul style="list-style-type: none"> • Trunk/torso <ul style="list-style-type: none"> - Trapezius - Erector Spinae - Splenius Capitis - Latissimus Dorsi - Serratus Anterior - Gluteus Maximus - Gluteus Medius - Gluteus Minimus - Psoas - Pectoralis Major and Minor - Rectus Abdominus - Internal Oblique - External Oblique - Transversus Abdominus - Rhomboid Major and Minor - Infraspinatis - Supraspinatis - Teres Major - Teres Minor - Iliacus - Subscapularis - Quadratus Lumborum • Arm <ul style="list-style-type: none"> - Deltoid - Biceps - Triceps - Brachialis - Coraco Brachialis - Brachioradialis - Pronator Teres - Supinator Radii Brevis - Flexor Carpi Radialis - Extensor Carpi Radialis - Extensor - Carpi Ulnaris - Flexor Carpi Ulnaris - Flexor Carpi Digitorum - Extensor Carpi Digitorum |
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| | | <ul style="list-style-type: none"> - Muscles of Thenar eminence - Muscles of Hypothenar eminence • Leg/Thigh <ul style="list-style-type: none"> - Quadriceps <ul style="list-style-type: none"> ▪ Rectus Femoris ▪ Vastus Lateralis ▪ Vastus Medialis ▪ Vastus Intermedius - Hamstrings <ul style="list-style-type: none"> ▪ Biceps Femoris ▪ Semimembranosus ▪ Semitendinosus - Adductor Longus - Adductor Magnus - Adductor Brevis - Gracilis - Sartorius - Piriformis - Gluteus Maximus - Gluteus Medius - Gluteus Minimus • Lower Leg <ul style="list-style-type: none"> - Gastrocnemius - Tibialis Anterior - Peroneus Longus - Flexor Digitorum Longus - Extensor Digitorum Longus - Soleus - Extensor Hallucis Longus • Face, neck and scalp <ul style="list-style-type: none"> - Orbicularis Oculi - Orbicularis Oris - Masseter - Buccinator - Levator Anguli Oris - Levator Labii Superioris - Depressor Anguli Oris - Depressor Labii Inferioris |
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| | | <ul style="list-style-type: none"> - Depressor Labii Oris - Mentalis - Zygomaticus - Temporalis - Nasalis - Procerus - Corrugator - Frontalis - Occipitalis - Pterygoids - Triangularis - Trapezius - Sternocleidomastoid - Platysma |
| | 2.7. The learner will be able to explain the cause and effect of the following muscular conditions | <ul style="list-style-type: none"> • Fibromyalgia (Fibrositis) • Cramp • Muscle Fatigue • Atony • Atrophy • Myositis • Rupture • Spasm • Spasticity • Sprain • Strain • Stress |
| LO3 Understand the structure, function and pathology of the skin | 3.1. The learner will know the structure of the skin | <p>To include:</p> <ul style="list-style-type: none"> • Epidermis <ul style="list-style-type: none"> - Stratum Corneum - Stratum Lucidum - Stratum Granulosum - Stratum Spinosum/Malpighian layer - Stratum Germinativum/Basal layer - Melanocytes • Dermis <ul style="list-style-type: none"> - Blood supply - Lymphatic supply |

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| | | <ul style="list-style-type: none"> - Hair follicle - Hair - Sebaceous gland - Sweat glands <ul style="list-style-type: none"> ▪ Eccrine ▪ Apocrine - Sensory nerve endings - Dermal Papilla - Collagen - Elastin - Histeocytes - Mast Cells - Fibroblasts - Erector pili muscle • Subcutaneous layer |
| | 3.2. The learner will be able to explain the functions of the skin | <p>To include:</p> <ul style="list-style-type: none"> • Secretion • Heat Regulation • Absorption • Protection • Elimination • Sensation • Vitamin D formation (7-dehydro-cholesterol) • Keratinisation • Melanin Formation |
| | 3.3. The learner will be able to explain and identify the different skin types | <p>To include:</p> <ul style="list-style-type: none"> • Dry • Oily • Dehydrated • Sensitive • Combination |
| | 3.4. The learner will be able to explain skin diseases and disorders and when they are contra-indicated to treatment | <p>To include:</p> <ul style="list-style-type: none"> • Recognition points • Whether congenital, bacterial, viral, fungal or an infestation and whether the condition is contra-indicated • Congenital <ul style="list-style-type: none"> - Eczema |

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| | | <ul style="list-style-type: none"> - Psoriasis - Dermatitis • Bacterial <ul style="list-style-type: none"> - Acne Vulgaris - Impetigo - Acne Rosacea - Folliculitis - Boils • Viral <ul style="list-style-type: none"> - Warts - Verrucas - Herpes simplex - Herpes zoster • Fungal <ul style="list-style-type: none"> - Tinea corporis - Tinea Pedis • Pigmentation disorders <ul style="list-style-type: none"> - Vitiligo - Albinism - Chloasma - Ephelides - Lentigo - Moles - Naevae - Port wine stain • General disorders <ul style="list-style-type: none"> - Broken capillaries - UV damage - Urticaria - Allergic reaction - Comedones - Milia |
| | 3.5. The learner will be able to understand the different skin cancers and their possible causes | <p>To include:</p> <ul style="list-style-type: none"> • Basal Cell Carcinoma • Squamous Cell Carcinoma • Malignant Melanoma |

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| LO4 Understand the structures and functions of cells and tissues in the body | 4.1. The learner will be able to explain the structures of the cell and their functions | <p>To include:</p> <ul style="list-style-type: none"> • Cell Membrane • Nuclear Membrane • Nucleus • Nucleolus • Cytoplasm • Centrosome • Golgi Apparatus • Mitochondria • Lysosome • Endoplasmic Reticulum • Ribosome • Centrosome • Centromere • Vacuoles • Centrioles • Chromatids |
| | 4.2. The learner will be able to explain the process of mitosis | <p>To include:</p> <ul style="list-style-type: none"> • Prophase • Metaphase • Anaphase • Telophase |
| | 4.3. The learner will be able to explain the term histology | <p>To include:</p> <ul style="list-style-type: none"> • Define histology |
| | 4.4. The learner will be able to explain the structure and function of the main types of tissue in the body | <p>To include:</p> <ul style="list-style-type: none"> • Epithelial tissue <ul style="list-style-type: none"> - Simple <ul style="list-style-type: none"> ▪ Squamous ▪ Cuboidal ▪ Ciliated ▪ Columnar - Compound <ul style="list-style-type: none"> ▪ Transitional ▪ Stratified • Nervous tissue • Muscular tissue <ul style="list-style-type: none"> - Striated |

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| | | <ul style="list-style-type: none"> - Non-striated - Cardiac • Connective tissue <ul style="list-style-type: none"> - Areolar - Adipose - Cartilage (white fibrous, yellow elastic, hyaline) - Bone - Blood - Lymph • Membranes <ul style="list-style-type: none"> - Serous - Mucus - Synovial |
| | 4.5. The learner will be able to explain how substances enter and leave the cell | <p>To include:</p> <ul style="list-style-type: none"> • Diffusion • Osmosis • Dissolution • Active Transport • Filtration |

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| LO5 Understand the structure, function and pathology of the circulatory system | 5.1. The learner will be able to explain the structure and function of blood and its components | <p>To include:</p> <ul style="list-style-type: none"> • Erythrocytes • Leucocytes • Thrombocytes • Plasma and plasma proteins • Platelets • Describe the vessels in which it is carried <ul style="list-style-type: none"> - Arteries - Arterioles - Veins - Venules - Capillaries |
| | 5.2. The learner will be able to explain the position of the main arteries and veins of the body | <p>To include:</p> <ul style="list-style-type: none"> • Main arteries of the head and neck <ul style="list-style-type: none"> - Innominate - Common Carotid - Internal Carotid |

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| | | <ul style="list-style-type: none"> - External Carotid - Facial - Occipital - Superficial Temporal • Main veins of the head and neck <ul style="list-style-type: none"> - Posterior External Jugular - Occipital - Superficial Temporal - Maxillary - Anterior Facial - Common Facial - Internal Jugular - External Jugular • Main arteries of the body <ul style="list-style-type: none"> - Descending Aorta - Left Common Carotid - Left Subclavian - Right Common Carotid - Right Subclavian - Pulmonary - Right Hepatic - Splenic - Right Renal - Superior Mesenteric - Right Iliac - Inferior Mesenteric - Left Iliac - Vertebral - Axillary - Brachial - Right Ulnar - Left Ulnar - Right Radial - Left Radial - Right Deep Palmar Arch - Left Deep Palmar Arch - Right Superficial Palmar Arch - Left Superficial Palmar Arch - External Iliac |
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| | | <ul style="list-style-type: none"> - Left Femoral - Right Femoral - Left Popliteal - Right Popliteal - Left Anterior Tibial - Right Anterior Tibial - Plantar Arch • Main veins of the body <ul style="list-style-type: none"> - Inferior vena cava - 4 Pulmonary - Right Hepatic - Splenic - Right Renal - Right Iliac - Left Iliac - Right Axillary - Left Axillary - Right Brachial - Left Brachial - Right Basilic - Left Basilic - Right Cephalic - Left Cephalic - Right Subclavian - Long Saphenous - Left Short Saphenous - Right Short Saphenous - Dorsal Venous Arch - Left Femoral - Right Femoral - Left Popliteal - Right Popliteal - Right Posterior Tibial - Left Posterior Tibial - Right Anterior Tibial - Left Anterior Tibial |
| | 5.3. The learner will be able to explain the structure and function of the heart and the vessels entering and leaving the heart | <p>To include:</p> <ul style="list-style-type: none"> • Superior Vena Cava • Aortic Arch |

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| | | <ul style="list-style-type: none"> • Inferior Vena Cava • Aorta • Right Atrium • Right Ventricle • Left Atrium • Left Ventricle • Septum • Pulmonary Valve • Pulmonary Artery • Pulmonary Veins • Mitral (Bicuspid) Valve • Tricuspid Valve • Endocardium • Myocardium • Pericardium |
| | 5.4. The learner will be able to explain the pulmonary circulation | <p>To include:</p> <ul style="list-style-type: none"> • The way in which the blood circulates from the heart to the lungs and back to the heart • Vessels in which the blood is carried • Whether the blood is oxygenated or deoxygenated • Process of gaseous exchange |
| | 5.5. The learner will be able to explain the structure and function of the systemic circulation | <ul style="list-style-type: none"> • Describe the structure and function of the systemic circulation • Describe the coronary circulation |
| | 5.6. The learner will be able to explain blood pressure and pulse | <p>To include:</p> <ul style="list-style-type: none"> • Define blood pressure • Factors which produce, maintain and affect blood pressure |
| | 5.7. The learner will be able to explain the conditions of high and low blood pressure | <p>To include:</p> <ul style="list-style-type: none"> • Causes and effects of hypo and hyper tension • Way in which blood pressure is measured • Way in which blood pressure can be affected by massage |
| | 5.8. The learner will be able to explain the diseases and disorders of the circulatory system | <p>To include the cause and effects of the following:</p> <ul style="list-style-type: none"> • Anaemia • Varicose veins • Haemophilia • Arteriosclerosis • Atherosclerosis |

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| | | <ul style="list-style-type: none"> • HIV/AIDS • High blood pressure (hypertension) • Low blood pressure (hypotension) • High cholesterol • Hepatitis A,B & C • Coronary thrombosis • Septicaemia • Haemorrhoids • Phlebitis • Thrombus • Leukaemia • Aneurism • Stress |
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| LO6 Understand the structure, function and pathology of the lymphatic system | 6.1. The learner will be able to explain the structure and functions of the lymph | Formation and composition of lymph and its function to include: <ul style="list-style-type: none"> • Leucocytes • Lymphocytes • Waste products |
| | 6.2. The learner will be able to explain the structure and function of the lymphatic system | To include: <ul style="list-style-type: none"> • Lymphatic capillaries • Lymphatic vessels • Lymphatic nodes • Lymphatic ducts • Describe the way in which Lymph is moved around the body |
| | 6.3. The learner will be able to explain the structure and function of lymphatic tissue | Describe the structure and function of all lymphatic tissue and the areas in which it can be found in the body: <ul style="list-style-type: none"> • Spleen • Lymph nodes • Tonsils • Peyer's Patches • Appendix |
| | 6.4. The learner will be able to explain the position of the lymph nodes of the body | To include: <ul style="list-style-type: none"> • Superficial and deep cervical • Submandibular • Thoracic duct • Right lymphatic duct |

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| | | <ul style="list-style-type: none"> • Axillary • Supratrochlear • Inguinal • Popliteal • Superficial and deep cervical • Anterior auricular • Posterior auricular • Occipital |
| | 6.5. The learner will be able to explain the interrelationship between the circulatory/ lymphatic systems and the muscular, digestive and immune systems | <p>To include:</p> <ul style="list-style-type: none"> • Way in which blood becomes tissue fluid • Way in which excess tissue fluid is picked up by the lymphatic capillaries • Route which the lymph takes before it returns to the circulatory system |
| | 6.6. The learner will be able to explain the diseases and disorders of the lymphatic system | <p>To include:</p> <ul style="list-style-type: none"> • Oedema/Water retention • Hodgkin's disease • Lymphoedema |
| LO7 Understand the structure, function and pathology of the neurological system | 7.1. The learner will be able to explain the structure and functions of the nervous system | <p>To include:</p> <ul style="list-style-type: none"> • Neurone • Motor Neurone • Sensory Neurone • Mixed Nerve • Dendrite • Axon • Synapse • Neurilemma • Nodes of Ranvier • White Matter • Grey Matter • Myelin Sheath • End Feet/Axon Terminals • Ganglia • Reflex Arc |

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| | 7.2. The learner will be able to explain the structure and functions of the Central Nervous System (CNS), the Peripheral and the Autonomic Nervous System (ANS) | <p>To include:</p> <ul style="list-style-type: none"> • Central Nervous System <ul style="list-style-type: none"> - Brain - Spinal Cord • Peripheral Nervous System <ul style="list-style-type: none"> - 31 pairs of spinal nerves - 12 pairs of cranial nerves • Autonomic Nervous System <ul style="list-style-type: none"> - Sympathetic - Parasympathetic |
| | 7.3. The learner will be able to explain the effect of stress on the nervous system | <ul style="list-style-type: none"> • The way in which stress affects the fear, fight, flight syndrome • Effects of stress on the sympathetic and parasympathetic nervous systems • Possible diseases and disorders caused by stress |
| | 7.4. The learner will be able to explain briefly the structure and function of the brain and spinal cord | <p>To include:</p> <ul style="list-style-type: none"> • Brain <ul style="list-style-type: none"> - Meninges <ul style="list-style-type: none"> ▪ Pia ▪ Arachnoid ▪ Dura mater - Cerebrospinal Fluid - Cerebrum - Cerebellum - Pons varolii - Medulla Oblongata - Hypothalamus - Brain Stem • Spinal cord <ul style="list-style-type: none"> - White Matter - Grey Matter - Dura, Arachnoid and Pia - Mater - Cerebrospinal Fluid |
| | 7.5. The learner will be able to explain how a nerve impulse is created | <p>To include:</p> <ul style="list-style-type: none"> • Changes in temperature, pressure and chemicals • Potassium and sodium ions |

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| | 7.6. The learner will be able to explain the position and function of the spinal and cranial nerves | <p>To include:</p> <ul style="list-style-type: none"> • 8 cervical • 12 thoracic • 5 lumbar • 5 sacral • 1 coccygeal • 5th, 7th & 11th cranial nerves <ul style="list-style-type: none"> - Facial - Trigeminal - Accessory |
| | 7.7. The learner will be able to briefly explain the Olfactory system | <p>To include:</p> <ul style="list-style-type: none"> • Nose • Olfactory Membranes (contain smell-sense cells) • Olfactory Plexus |
| | 7.8. The learner will be able to explain the causes and effects of diseases and disorders of the nervous system | <p>To include:</p> <ul style="list-style-type: none"> • Neuritis • Bell's Palsy • Neuralgia • Parkinson's Disease • Stress • Myalgic Encephalomyelitis (ME) • Cerebral Palsy • Multiple Sclerosis • Sciatica • Motor Neurone Disease |
| LO8 Understand the structure, function and pathology of the endocrine system | 8.1. The learner will be able to explain the position of the main Endocrine glands, hormones secreted and the result of hypo and hyper secretion of each | <p>To include:</p> <ul style="list-style-type: none"> • Pituitary • Posterior Lobe <ul style="list-style-type: none"> - Oxytocin - Antidiuretic hormone (ADH or vasopressin) • Anterior lobe <ul style="list-style-type: none"> - Prolactin - Human growth Hormone (HGH) - Thyroid Stimulating Hormone (TSH) - Adrenocorticotrophic hormone (ACTH) - Luteinising Hormone (LH) |

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| | | <ul style="list-style-type: none"> - Follicle Stimulating Hormone (FSH) - Interstitial Cell Stimulating Hormone (ICSH) - Melanin Stimulating Hormone (MSH) • Thyroid gland <ul style="list-style-type: none"> - Thyroxin - Triiodothyronine - Calcitonin • Parathyroids <ul style="list-style-type: none"> - Parathormone • Thymus <ul style="list-style-type: none"> - Secretion of T Lymphocytes • Pineal <ul style="list-style-type: none"> - Releases melatonin • Islets of Langerhans <ul style="list-style-type: none"> - Insulin - Glucagon - Glycogen • Adrenal medulla <ul style="list-style-type: none"> - Adrenalin - Noradrenalin • Adrenal cortex <ul style="list-style-type: none"> - Mineralocorticoids - Glucocorticoids - Sex hormones • Ovaries <ul style="list-style-type: none"> - Oestrogen - Progesterone • Testes <ul style="list-style-type: none"> - Testosterone |
| | 8.2. The learner will be able to explain the effects of hormones on the body | <ul style="list-style-type: none"> • To include knowledge of the effects of specific hormones on the body at puberty, pregnancy, menopause and the menstrual cycle |
| | 8.3. The learner will be able to explain the interrelationship of the endocrine system with other systems | <p>To include:</p> <ul style="list-style-type: none"> • Nervous system • Circulatory system • Digestive system • Reproductive system • Skin |

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| | 8.4. The learner will be able to explain the causes and effects of various endocrine diseases and disorders | To include: <ul style="list-style-type: none"> • Addison's syndrome • Amenorrhoea • Cushing's syndrome • Pre-menstrual Syndrome • Polycystic Ovarian Syndrome • Stress • Diabetes Mellitus • Diabetes Insipidus • Endometriosis |
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| LO9 Understand the structure, function and pathology of the respiratory system | 9.1. The learner will be able to explain the structure of the respiratory system and the function of each organ | To include: <ul style="list-style-type: none"> • Nose • Nasal cavity • Larynx • Pharynx • Trachea • Bronchi • Bronchioles • Alveoli • Lungs • Pleura (visceral, parietal, pleural cavity) • Diaphragm • Intercostals |
| | 9.2. The learner will be able to explain external respiration, i.e. the process and mechanism of breathing | To Include: <ul style="list-style-type: none"> • Inhalation and the organs involved • Expiration and the organs involved • Process of diffusion in the alveoli |
| | 9.3. The learner will be able to explain internal respiration | <ul style="list-style-type: none"> • Exchange of gases between the cells and the circulatory system |
| | 9.4. The learner will be able to explain the chemical control of the respiration | To include: <ul style="list-style-type: none"> • Position, function and role of the chemo-receptors |
| | 9.5. The learner will be able to explain nervous control of respiration | To include: <ul style="list-style-type: none"> • Role of the brain, i.e. the pons varolii and medulla oblongata in the process of respiration |

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| | 9.6. The learner will be able to explain the structure and function of the pulmonary circulation | To include: <ul style="list-style-type: none"> • Structure and function of the heart • Pulmonary artery • Pulmonary vein • Lungs • Pulmonary alveoli • Process of gaseous exchange |
| | 9.7. The learner will be able to explain the interrelationship of the respiratory system with other systems of the body | To include: <ul style="list-style-type: none"> • Circulatory system • Nervous system • Muscular system |
| | 9.8. The learner will be able to explain the causes and effects of diseases and disorders of the respiratory system | To include: <ul style="list-style-type: none"> • Bronchitis • Emphysema • Pleurisy • Pneumonia • Tuberculosis • Asthma • Rhinitis • Hay fever • Stress • Sinusitis |
| LO10 Understand the structure, function and pathology of the digestive system | 10.1. The learner will be able to explain the structure and function of the organs and accessory organs of the digestive system | To include: <ul style="list-style-type: none"> • Alimentary canal • Salivary glands • Tongue • Teeth • Mouth • Epiglottis • Oesophagus • Stomach • Small intestine (Jejunum, Ileum, Duodenum) • Appendix • Large intestine • Rectum |

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| | | <ul style="list-style-type: none"> • Anus • Accessory organs • Liver • Gall bladder • Pancreas |
| | 10.2. The learner will be able to explain the function of digestion | <p>To include:</p> <ul style="list-style-type: none"> • Peristalsis • Ingestion • Digestion • Absorption • Defecation |
| | 10.3. The learner will be able to explain the process by which food stuffs are broken down as they pass through the alimentary canal during the digestive process | <p>To include:</p> <ul style="list-style-type: none"> • Action of Rennin, hydrochloric acid and pepsin in the stomach • Action of pancreatic juice, i.e. trypsin and trypsinogen, lipase, amylase on peptones, fats and polysaccharides • Action of bile on fat • Action of intestinal juice – maltase, sucrase, lactase on disaccharides |
| | 10.4. The learner will be able to explain the process of absorption of nutrients | <p>To include:</p> <ul style="list-style-type: none"> • Process of absorption of nutrients by the villi and lacteals contained in the small intestine |
| | 10.5. The learner will be able to explain the structure and function of the digestive system | <p>To include:</p> <ul style="list-style-type: none"> • Enzyme • Proteins • Peptones • Polypeptides • Amino acids • Carbohydrates • Disaccharides • Monosaccharides • Fats • Fatty acids |
| | 10.6. The learner will be able to explain the interrelationship of the digestive system with other systems of the body | <p>To include:</p> <ul style="list-style-type: none"> • Circulatory • Endocrine • Lymphatic |

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| | | <ul style="list-style-type: none"> • Muscular • Nervous |
| | 10.7. The learner will be able to explain the causes and symptoms of diseases and disorders of the digestive system | <p>To include:</p> <ul style="list-style-type: none"> • Appendicitis • Cirrhosis of the liver • Jaundice • Heartburn • Irritable bowel syndrome (IBS) • Ulcer • Hernia • Stress • Anorexia Nervosa • Bulimia • Constipation • Gall stones • Diabetes Mellitus • Coeliac's disease |

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| LO11 Understand the structure, function and pathology of the urinary system | 11.1. The learner will be able to explain the structure and function of the organs of the urinary system | <p>To include:</p> <ul style="list-style-type: none"> • Kidney (cortex and medulla) • Pelvis • Ureter • Bladder • Urethra |
| | 11.2. The learner will be able to explain the process of filtration. | <p>To include:</p> <ul style="list-style-type: none"> • Functions of the Bowman's capsule • Filtration • Re-absorption • Secretion/ Micturition |
| | 11.3. The learner will be able to explain the composition of urine | <p>To include:</p> <ul style="list-style-type: none"> • 2% urea • 96% water • 2% other substances, e.g. ammonia, sodium, potassium, phosphates, chlorides, sulphates, and excess vitamins • Colour is formed from bilirubin (bile pigment) |

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| | 11.4. The learner will be able to explain urine production | To include: <ul style="list-style-type: none"> • Cold and hot weather • Activity and inactivity • Stress |
| | 11.5. The learner will be able to explain the interrelationship of the urinary system with other body systems | To include: <ul style="list-style-type: none"> • Circulatory system • Endocrine system • Skeletal system • The skin |
| | 11.6. The learner will be able to explain the causes and effects of the disorders and diseases of the urinary system | <ul style="list-style-type: none"> • Cystitis • Kidney stones • Nephritis • Diabetes Insipidus |

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| LO12 Understand the structure, function and pathology of the reproductive system | 12.1. The learner will be able to explain the structure and function of the male reproductive system | To include: <ul style="list-style-type: none"> • Prostate • Testes • Testicular vessels • Penis • Scrotum |
| | 12.2. The learner will be able to explain the structure and function of the female reproductive system | To include: <ul style="list-style-type: none"> • Uterus • Fallopian tubes • Cervix • Ovary • Vagina • Labia |
| | 12.3. The learner will be able to explain the menstrual cycle | To include: <ul style="list-style-type: none"> • Three phases <ul style="list-style-type: none"> - Menstrual - Proliferative - Secretory • Formation of the Graafian Follicle • Formation of the Corpus Luteum |

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| | 12.4. The learner will be able to explain the structure and function of the breast | To include: <ul style="list-style-type: none"> • Fatty tissue • Ducts • Nipple • Areola • Lobules |
| | 12.5. The learner will be able to explain the causes and effects of the diseases and disorders of the reproductive system | To include: <ul style="list-style-type: none"> • Ectopic pregnancy • Amenorrhoea • Dysmenorrhoea • Pre-menstrual syndrome • Polycystic ovarian syndrome • Endometriosis • Mastitis • Stress |

Document History

| Version | Issue Date | Changes | Role |
|---------|------------|------------------------|--|
| v1 | 01/05/2018 | First published | Qualifications Manager |
| v2 | 30/08/2019 | Amended product coding | Qualifications and Regulation Co-ordinator |