

HUMAN AND SOCIAL BIOLOGY
COURSE OUTLINE - FORMS 4 & 5

PROPOSED WEEK	UNIT/SECTION	TOPIC	MODULES
(TERM 1) 1	A	Characteristics of Living Things	>GRIMNER >Structures of Plant and Animal cells >Functions of Cell Structures
2	A	Cells of the Human Body	>Different Types of Cells >Cell Differentiation >Cell Specialization >Relation of cells to the Organism
3	A	Movement of Substances Photosynthesis	>Osmosis >Diffusion >Active Transport >Definition >Word Equation >Site and Fate of Products
4	A	Food Chains & Food Webs Cycles	>Definitions >Constructing a Food Chain >Terrestrial, Fresh water, Marine >Identifying Trophic Levels >Carbon Cycle >Nitrogen Cycle >Diagrams
5	B	Nutrition	>Major Nutrients and Sources >Sources of Vitamins & Minerals >Functions of Vitamins and Minerals >Deficiency Diseases >Food Tests
6	B	Nutrition	>Functions of Water >Role of Dietary Fibre >Constipation and Diarrhoea >Balanced Diet >Malnutrition >BMI
7	B	Digestion	>Types of Teeth in Humans >Importance in Digestion >Structure and Function of a Typical Tooth >Care of Teeth

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8	B	Digestive Enzymes	>Properties, Role and Importance of Enzymes in Digestion >Effects of Temperature and pH on Enzyme Activity >Sites of Production of various Enzymes
9	B	Digestion	>Structures of the Digestive System >Relation of Structures to their Functions >Diagram Of Alimentary Canal
10	B	Digestion	>Process of Digestion and Absorption of Food >Mechanical Digestion >Chemical Digestion
11	B	Digestion	>Fate of the Products of Digestion >Assimilation >Role of the Liver
12	B	Digestion	>Structure of a Villus >Relation of Structure to Absorption >Diagram of Villus >Difference between Egestion and Excretion
13	-	-	REVISION OF CONTENT COVERED

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TERM 2 1	B	Respiratory System	>Importance of Breathing in Humans >Diagram of the Respiratory System >Relation of the Structures to their Functions
2	B	Respiratory system	>Describe the Breathing Mechanism >Factors affecting Breathing Rate >Vital Capacity >Distinguish between gaseous exchange and breathing
3	B	Respiratory System	>Characteristics of gaseous exchange surfaces >Aerobic Respiration >Anaerobic Respiration >Role of ADP and ATP
4	B	Respiratory System	>Mouth-to-Mouth Resuscitation >Effects of cigarette smoking >Nicotine Addiction >Damage to the Lungs >Carcinogenic Properties
5	B	Circulatory System	>Why is a Transport System necessary? >Limitations of Simple Diffusion >Relationship between Surface Area and Volume >Identify materials to be transported around the body
6	B	Circulatory System	>Diagram of the Heart >Relate structures of the Heart to their Functions >Pacemaker
7 (Carnival Wk)	B	Circulatory System	>Role of the Heart as a Double Pump >Blood Pressure
8	B	Circulatory System	>Pulmonary vs. Systemic circulation >Components of Blood >Structures of Arteries, Veins and Capillaries(Diagrams)

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9	B	Circulatory System	>Structures of Red Blood Cells, Phagocytes, Lymphocytes and their Functions >Process of Blood Clotting >Importance of Blood Clotting
10	B	Circulatory System	>Causes and Effects of Heart Attacks >Structure and Function of the Lymphatic System >Tissue Fluid and Lymph Formation
11	B	Skeletal System	>Identify the Major Bones of the Skeleton >Relate the Structure of the Skeleton to its Functions >Structure of a typical bone
12	B	Skeletal System	>Distinguish between Bone and Cartilage >Importance of Cartilage >Distinguish between Tendons and Ligaments

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PROPOSED WEEK	UNIT/SECTION	TOPIC	MODULE
TERM 3 1	B	Skeletal System	>Joints-Hinge, Fixed, Ball and Socket >Movement in Joints >Biceps and Triceps- Role in Movement of the forelimb
2	B	Skeletal System	>Skeletal muscles function in movement >Effects of Exercise >Importance of Locomotion to Man >Factors that adversely affect the skeletal system
3	B	Coordination and Control	>Main divisions of the Nervous System >Functions of the parts of the Brain >Difference between a Nerve and a Neurone
4	B	Coordination and Control	>Functions of different types of neurones >Reflex Actions-Spinal and Cranial >Distinguish Voluntary actions from Involuntary actions
5	B	Coordination and Control	>Response of Sense Organs to stimuli >The Eye- Structures and Functions >How images are formed >Accommodation in the eye
6	B	Coordination and Control	>Eye Defects- causes and corrective measures >Difference between Endocrine and Nervous Control Systems
7	B	Coordination and Control	>Sites of Hormone Production- Pituitary, Thyroid, Pancreas, Ovary and Testes >Role of selected hormones in the Human body (Diagram)
8	B	Excretion and Homeostasis	>Definition and Importance of Excretion >Roles of Organs involved- Lungs, Skin and Kidneys

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9	B	Excretion and Homeostasis	>Structures of the Skin and their Functions >Homeostasis- Definition and examples >Concept of positive and negative feedback mechanisms
10	B	Excretion and Homeostasis	>Regulation of Blood Sugar >Regulation of water >Regulation of temperature Difference between Heat and Temperature

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TERM 1 1	B	Reproduction	>Sexual and Asexual Reproduction >Male and Female Reproductive Systems (Diagrams-Structures and functions) >Menstrual Cycle >Cancer of the Reproductive Organs
2	B	Reproduction	>Fertilization >Implantation and Development of the Embryo >The Birth Process >Importance of Prenatal Care
3	B	Reproduction	>Birth Control Methods >Advantages and Disadvantages >Abortion >Family Planning
4	C	Heredity and Variation	>Process of Mitosis >Process of Meiosis >Diagrams of various stages
5	C	Heredity and variation	>Importance of Mitosis >Importance of Meiosis >Importance of Genetic Variation >Difference between Genetic Variation and Environmental Variation
6	C	Heredity and Variation	>Monohybrid Inheritance >Inheritance of Sex >Genetic Engineering >Advantages and Disadvantages of Genetic engineering
7	D	Disease and Its Impact on Humans	>Definitions of Good Health and Disease >Classification of Diseases >Differentiation between signs and symptoms >Causes and Treatment of Asthma
8	D	Disease and Its Impact on Humans	>Lifestyle diseases- causes, signs/symptoms, prevention >Obesity >Diabetes mellitus (Types I & II)
9	D	Disease and Its Impact on Humans	>Importance of Diet and Exercise >Infectious Diseases- causative agents, signs/symptoms, prevention and control

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10	D	Diseases and Its Impact on Humans	>HIV/AIDS- cause, symptoms, prevention and control >S.T.I.'s >Impact of Diseases on the Human Population >Malaria and Dengue
11	D	Disease and Its Impact on Humans	>Vectors >Life Cycles of Mosquito and Housefly >Methods of Controlling Vectors
12	D	Disease and Its Impact on Humans	>Personal Hygiene >Methods used to Control Micro-organisms >Disinfectants and Antiseptics
13	D	Disease and Its Impact on Humans	>Antibiotics >Antifungal Agents >Types of Immunity >Drugs- use, misuse and social effects

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TERM 2 1	E	Impact of Health Practices on the Environment	>Identify Pollutants >Causes of Water and air pollution >Effects of Pollutants on human beings
2	E	Impact of Health Practices on the Environment	>Methods of Controlling Pollution >Purifying Water >Testing Water for Bacteria >Large Scale water Purification
3	E	Impact of Health Practices on the Environment	>Impact of human activities on Water supplies >Contamination of water >Proper and Improper Sewage Disposal Practices
4	E	Impact of Health Practices on the Environment	>Impact of Improper Sewage Disposal >Treatment of Sewage >Relate parts of a pit latrine to its functions
5	E	Impact of Health Practices on the Environment	>Siting of Pit Latrines >Methods of Domestic Refuse Disposal >Operations t a Landfill >Importance of Landfills
6	E	Impact of Health Practices on the Environment	>Impact of Solid Waste on the Environment >Measures used to Control Solid Waste Volume >Distinguish between Biodegradable and Non-biodegradable