OCR A A-Level Biology Revision Plan

OCR A-LEVEL BIOLOGY REVISION PLAN

AREA	SPECIFICATION POINTS	TO DO WC
MODULE 1	Experimental design including solve problems set in practical context, selection of suitable apparatus, equipment	26 [™] FEB
_	and techniques.	
PRACTICAL	Identification of variables that must be controlled.	
SKILLS	Evaluation that an experimental method is appropriate to meet expected outcomes.	
	Appropriate units for measurements.	
1.1	Presenting observations and data in an appropriate format.	
	Processing, analysing and interpreting qualitative and quantitative results, valid conclusions where appropriate.	
	Use of appropriate mathematical skills for analysis of quantitative data.	
	Plotting and interpreting suitable graphs from experimental results, including, selection & labelling of axes with	
	appropriate scales, quantities and units,	
	measurement of gradients & intercepts.	
	To evaluate results and draw conclusions. Apply knowledge and understanding of:	
	identification of anomalies in experimental measurements,	
	The limitations in experimental measurements,	
	Precision and accuracy of measurements and data including margins or error, percentage errors and uncertain in	
[1.2]	The refining of experimental design by suggestion of improvements to the procedure mapping to the procedure of the procedure	
	[practical skills assessed in the practical endorsement]	
	Note ³	
MODULE 2	Cell Structure	4 TH MARCH
_	Use microscopy to observe and investigate different types of cells and cells true to e in a range of eukaryotic	
FOUNDATIONS	microscopes.	
IN BIOLOGY	Prepare and e an emic oscope slides for use in the mucroscopy including use of eye graticule and stage	
	Use differential staining to identify different cellular components and cell types in light microscopy.	
2.1.1	Represent cell structure seen under light microscopes in drawings, annotated diagrams of whole cells or sections of tissue.	
	Use and manipulate magnification formula.	
	Know the difference between magnification and resolution, and how each can be achieved by the different types of microscopes	
	Outline the functions of the ultrastructure of eukaryotic cells and components.	
	Interpret photomicrographs [scanning and transmission electron microscope images] of cellular components in	
	range of eukaryotic cells.	
	Understand and apply the interrelationship of organelies involved in production and secretion of proteins. The importance of the cytoskeleton in providing mechanical strength to cell, aiding transport, enabling cell	
	movement.	
	Similarities and differences in ultra/structure of prokaryotic/eukaryotic cells.	
2.1.2	Biological Molecules	
	and illustrated using examples of prokarvotes and eukarvotes.	
	The concept of monomers, polymers and importance of condensation & hydrolysis reactions in a range of	
	biological molecules.	
	Know the chemical elements that compose biological molecules: carbs, lipids, proteins, nucleic acids. The structure and properties of glucose [beyose monosaccharide] and ribose [pentose monosaccharide]	
	including their differences and the differences between alpha & beta glucose.	
	The synthesis and breakdown of disaccharides and polysaccharides by formation and breaking of glycosidic	
	bonds.	
	The structure and functions of the starches, grycogen and cellulose molecules. Structure of a triglyceride and a phospholipid as macromolecules	
	The synthesis and breakdown of triglycerides via ester bonds between fatty acids and glycerol.	
	How properties of phospholipids, triglycerides and cholesterol relate to function, including hydrophobic and	
	hydrophilic areas. The general structure of an amino acid.	
2.1.2	Know the difference between magnification and resolution, and how each can be achieved by the different types of microscopes. Outline the functions of the ultrastructure of eukaryotic cells and components. Interpret photomicrographs [scanning and transmission electron microscope images] of cellular components in range of eukaryotic cells. Understand and apply the interrelationship of organelles involved in production and secretion of proteins. The importance of the cytoskeleton in providing mechanical strength to cell, aiding transport, enabling cell movement. Similarities and differences in ultra/structure of prokaryotic/eukaryotic cells. Biological Molecules Hydrogen bonding occurs between water molecules, represent through diagrams, including properties of water and illustrated using examples of prokaryotes and eukaryotes. The concept of monomers, polymers and importance of condensation & hydrolysis reactions in a range of biological molecules. Know the chemical elements that compose biological molecules: carbs, lipids, proteins, nucleic acids. The structure and properties of glucose [hexose monosaccharide] and ribose [pentose monosaccharide], including their differences and the differences between alpha & beta glucose. The synthesis and breakdown of disaccharides and polysaccharides by formation and breaking of glycosidic bonds. The structure and functions of the starches, glycogen and cellulose molecules. Structure of a triglyceride and a phospholipid as macromolecules. The synthesis and breakdown of triglycerides via ester bonds between fatty acids and glycerol. How properties of phospholipids, triglycerides and cholesterol relate to function, including hydrophobic and hydrophilic areas. The general structure of an amino acid.	