

Year 13 Biology Preview Sheet

Exam Board: AQA

Syllabus: 7402

Module 1

Photosynthesis

Required Practical 7: Chlorophyll chromatography

Required Practical 8: Dehydrogenase activity

Respiration

Required Practical 9: Rate of respiration

Biomass and production

Nitrogen cycle, Carbon cycle

Module 2

Growth and response – IAA, taxes and kineses, reflexes

Required Practical 10: Effect of environmental variable on movement

Receptors

Stimulation of heart, control of heart rate

Nerve impulses and factors affecting transmission

Synaptic transmission, inhibition

Muscle fibre structure and function

Module 3

Homeostasis of water, pH and blood glucose, negative feedback Control of blood glucose

Required Practical 11: Series of dilution on glucose solution

Osmoregulation

Monohybrid and dihybrid inheritance

Sex linkage, autosomal linkage, multiple alleles, epistasis

Chi square testing, populations and Hardy-Weinberg testing Sympatric and allopatric speciation

Genetic drift and evolution

Module 4

Populations, communities, ecosystems, estimating population size

Succession, human needs vs conservation

Required Practical 7: Effect of environmental factor on a species

Mutations - types and effects on polypeptides

Stem cells and their uses in medicine

Control of transcription and translation, Cancer, Genome projects and sequencing

cDNA, restriction endonucleases, recombinant technology In vivo and in vitro gene amplification

DNA probes, DNA hybridization and their uses, Genetic fingerprinting.