

# Year 12 Biology Preview Sheet

**Exam Board: AQA**

**Syllabus: 7402**

## Module 1

Biological molecules

- Carbs, lipids and proteins
- Enzyme structure and factors affecting enzyme reactions
- Structure of DNA and RNA, DNA replication
- ATP, Water and Inorganic ions

## Module 2

Cells

- Eukaryotic and prokaryotic cell structure, viruses
- Microscopes
- Mitosis and binary fission
- Require Practical 2: Preparation on mitosis cells
- Fluid mosaic model and membrane transport
- Require Practical 3: Identify water potential of plants
- Require Practical 4: Effect of variable on cell membrane
- Immune system and response
- Vaccines, HIV, uses of monoclonal antibodies and the ELISA test

## Module 3

Organisms exchange substances with their environment

- Gas exchange in ss orgs, insects, humans and plants.
- The mechanism of breathing.
- Lung ventilation and lung disease.
- Enzymes and digestion.
- Require Practical 1: Rate on enzyme reaction

## Module 4

Mass transport

- Haemoglobin.
- Heart, blood and mass transport
- Require Practical 5: Dissection of a heart
- Xylem and phloem
- Investigating transport in plants

## Module 5

Genetic information, variation and relationships between organisms

- DNA, genes, chromosomes, genetic code
- Protein synthesis
- Genetic diversity - mutations and meiosis
- Types of selection
- Require Practical 6: Effect of antimicrobial substance
- Species and taxonomy
- Biodiversity and the effects of farming

## Module 6

Revision of the year