A Level Biology REVISION PLAN 2020

PART	PERCENTAGE	WHAT IS IT?	DATE
Paper 1 1. Biological molecules 2. Cells 3. Organisms exchange substances with their environment 4. Genetic information, variation and relationships between organisms AND relevant practical's	35%	EXAM /91 2 hours 76 marks: a mixture of short and long answer questions 15 marks: extended response questions	4th June AM
Paper 2 5. Energy transfers in and between organisms 6. Organisms respond to changes in their internal and external environments 7. Genetics, populations, evolution and ecosystems 8. The control of gene expression AND relevant practical's	35%	EXAM /91 2 hours 76 marks: a mixture of short and long answer questions 15 marks: comprehension question	11th June AM

Paper 3 Any content from topics 1–8 AND relevant practical's	30%	EXAM /78 2 hours 38 marks: structured questions, including practical techniques 15 marks: critical analysis of given experimental data 25 marks: one essay from a choice of two titles	15th June AM

<u>Required practical's you need to be familiar with</u>

1. Investigation into the effect of a named variable on the rate of an enzyme-controlled reaction

2. Preparation of stained squashes of cells from plant root tips; set-up and use of an optical microscope to identify the stages of mitosis in these stained squashes and calculation of a mitotic index

3. Production of a dilution series of a solute to produce a calibration curve with which to identify the water potential of plant tissue

4. Investigation into the effect of a named variable on the permeability of cell-surface membranes

5. Dissection of animal or plant gas exchange or mass transport system or of organ within such a system

6. Use of aseptic techniques to investigate the effect of antimicrobial substances on microbial growth

7. Use of chromatography to investigate the pigments isolated from leaves of different plants, eg leaves from shade-tolerant and shade-intolerant plants or leaves of different colours

8. Investigation into the effect of a named factor on the rate of dehydrogenase activity in extracts of chloroplasts

9. Investigation into the effect of a named variable on the rate of respiration of cultures of single-celled organisms

10. Investigation into the effect of an environmental variable on the movement of an animal using either a choice chamber or a maze

11. Production of a dilution series of a glucose solution and use of colorimetric techniques to produce a calibration curve with which to identify the concentration of glucose in an unknown 'urine' sample

12. Investigation into the effect of a named environmental factor on the distribution of a given species

Week beginning ⇩	Mon	Tue	Wed	Thurs	Fri	Sat	Sun
10/02/20	1.1	1.2	1.3	1.4	1.6	1.7 and 4.3	1.8 and 2.4
17/02/20 HALF TERM	4.1	4.2	4.4 and 4.5	8.3	4.6 and 8.1	4.7	7.1
24/02/20	7.2	7.3	8.4 and 5	7.4	7.5	4.8	4.9 and 7.6
02/03/20	7.7	7.8 and 9	7.10 and 4.12	7.11	7.12 and 4.11	Review of unit 4	
09/03/20	Review of unit 7	1.5	5.3 and 4	5. 5	1.9	Review of unit 1	
16/03/20	5.1	5.2	3.11 and 12	3.13	8.6	8.7 and 8	8.9
24/03/20	8.10	Review of topic 8		5.6 and 7	5.8	5.9	Review of topic 5
30/03/20	2.1 and 2	2.3	2.5 and 2.8	3.14	6.14	2.6	2.7
06/04/20 HALF TERM	3.1 and 3.2	3.3	3.4 and 3.5	2.9 and 10	2.11 and 12	2.13	2.14
13/04/20 HALF TERM	Review of unit 2		3.6	3.7	6.3	3.8	3.9
20/04/20	**3.10**	Review of unit 3	Paper 1 specimen paper	Review paper 1 and go back to paper 1 topics		6.2	6.4

27/04/20	6.5	6.6	6.7	6.8	6.9	6.10	6.1
04/05/20	6.12	6.13	6.11	Review of topic 6	Paper 2 specimen paper	Review paper 2 and go back to topics 1-8	
11/05/20	Review paper 2	Go back to topic 1			Go back to topic 2		
18/05/20	Go back to topic 3			Go back to topic 4			Paper 1 exam
25/05/20 HALF TERM	Go back to topic 5			Go back to topic 6			Go back to topic 7
01/06/20	Go back to topics 1-4			**EXAM PAPER 1**	Go back to topics 5-8		Paper 2 exam
08/06/20	Paper 3 exam	Review topics 5-8		**EXAM PAPER 2**	Review topics 1-8		
15/06/20	**EXAM PAPER 3**	**CELEBRATE!** ☺					

Topic 1 **Biological molecules**		**Topic 2** **Cells**		**Topic 3** **Organisms and exchange**		**Topic 4** **Genetic information**	
Carbohydrates	1	Microscopy	1	SA/VR and features of specialised exchange surfaces	1	DNA and chromosomes	1
Lipids	2	Eukaryotic cell structure	2	Single celled organisms and insects	2	Genes and triplet code	2
Proteins	3	Cell specialisation and prokaryotic cell structure	3	Fish GE	3	RNA	3
Enzymes	4	Mitosis	4	Lung structure and function	4	Transcription	4
Water and ions	5	Cell surface membrane and diffusion	5	Breathing and GE in lungs	5	Translation	5
Starch, glycogen and cellulose	6	Osmosis	6	Circulatory system and heart structure	6	Mutations	6
RNA and DNA structure	7	Active transport	7	Cardiac cycle	7	Meiosis	7
DNA replication	8	Co transport and glucose uptake	8	Blood vessels	8	Diversity and adaptation	8
Energy and ATP	9	Defence mechanisms	9	Tissue fluid	9	Selection pressures	9
		Phagocytosis	10	Haemoglobin and disassociation curves	10	Taxonomy	10
		T Lymphocytes	11	Xylem	11	Index of diversity and human activities	11
		B Lymphocytes	12	Phloem	12	Investigation diversity and quantitative measurements	12
		Monoclonal antibodies and vaccination	13	GE in leaf and adaptation	13		
		HIV	14	Digestion and absorption	14		

Topic 5 **Energy transfers**		**Topic 6** **Organisms and response**		**Topic 7** **Genetics and populations**		**Topic 8** **Gene expression**	
Photosynthesis- light dependent	1	Taxes, kinesis and tropisms	1	Monohybrid and dihybrid crosses	1	Mutations	1
Light independent	2	Reflex arc and receptors	2	Co dominance and sex linkage	2	Stem cells and totipotency	2
Respiration- glycolysis, link and Krebs	3	Control of heart rate	3	Autosomal linkage and epistasis	3	Regulating transcription and translation	3
Oxidative phosphorylation	4	Neurones structure and function	4	Chi square and Hardy Weinburg	4	Epigenetics	4
Anaerobic respiration	5	Action potential	5	Variation and natural selection	5	Cancer and the genome project	5
Food chains and energy transfer	6	Speed of a nervous impulse	6	Selection pressures	6	DNA technology- producing DNA fragments	6
Productivity	7	Synapses	7	Isolation and speciation	7	In- vivo gene cloning	7
Nitrogen cycle and phosphorus cycle	8	Muscle structure and function	8	Ecosystems and factors affecting populations	8	In- vitro gene cloning	8
Fertilisers and environmental issues	9	Muscle contraction	9	Competition and predation	9	Genetic screening	9
		Neuro muscular junction	10	Sampling populations	10	Genetic fingerprinting	10
		Feedback mechanisms and thermoregulation	11	Succession	11		
		Kidneys structure and function	12	Conservation	12		
		Osmoregulation	13				
		Blood glucose control and diabetes	14				