

Combined Science OCR 21st Century – Mocks 2020 November Revision sheet

Chemistry Paper 1hr 45mins [95 marks] HIGHER

Question	Content & Module	Total
Q1	C4 – Hydrocarbons (Alkanes)	11
Q2	C4 – Nanotechnology: Nanotubes	8
Q3	C6 – Rates of reaction (hydrochloric acid and sodium thiosulfate reaction), particle model	8
Q4	C5 – separation of mixtures.	9
Q5	C2 – Periodic Table – Group 1 metals	10
Q6	C1 – Catalytic converters in car exhausts, Balancing symbol equations.	8
Q7	Balancing symbol equations, C6. particle model & Rates of reactions	12
Q8	C3 – Extracting metals from ores (using carbon/electrolysis), Phytoextraction	12
Q9	Exothermic reactions, reaction profile diagrams, calculating energy given out (KJ) from chemical reactions using Bond energies.	11
Q10	C2 – Bonding (Covalent, Ionic and Metallic)	6

Biology Paper 1hr 45mins [95 marks] HIGHER

Question	Content & Module	Total
Q1	C4. Respiration, enzymes, calculating rates of reaction, lock and key model of enzyme action.	19
Q2	B6. Food chains and Food webs, sustainability, analysing bar graphs.	14
Q3	B2. Pathogens, preventing communicable illnesses, light & electron microscopes, Vaccination. B5. Lungs & gas exchange.	24
Q4	B1. Punnett squares, structure and function of DNA, mutation, Genetic inheritance probabilities.	10
Q5	B5. What is blood made up of? Heart function – cardiac cycle. B4. Stem cells and specialized cells.	13
Q6.	B6. Data analysis, B5. Synapses, structure and function, neurons.	8
Q7	B4. Translocation, osmosis, active transport, diffusion.	5

Physics Paper 1hr 45mins [95 marks] **HIGHER**

Question	Content & Module	Total
Q1	P2. The National Grid	5
Q2	P6. Specific Heat capacity, calculating SHC (given the equation)	8
Q3	P2. Energy resources generating electricity	6
Q4	P3. Permanent and induced magnets, magnetic field,	7
Q5	P1. Frequency, calculating wave speed, standard form	7
Q6	P6. Radioactive decay of isotopes (decay equations), alpha, beta and gamma.	10
Q7	P4. Energy transfers, calculating force using equations.	13
Q8	P1. Light and refraction of light using a prism.	4
Q9	P4. Calculating speed, scalar and vector quantities, speed-time graphs	15
Q10	P3. The motor effect	2
Q11	P6. Particle model, Specific latent heat P2. Energy transfers	13

Combined Paper 1hr 45mins [75 marks] **HIGHER**

Question	Content & Module	Total
Q1	C4. Hydrocarbons, fractional distillation, empirical formulae, combustion of hydrocarbons	15
Q2	B1. Genetic Engineering process including risks and benefits, C5. Chromatography, Rf values	14
Q3	Graph analysis, evaluation of experiments (ways to improve them), P1. UV Radiation	14
Q4	B5. Homeostasis	13
Q5	B2. Infection and evaluation of data.	8
Q6	P2. Energy efficiency and calculations.	6

GCSE Combined Science B (Twenty First Century Science)

			Max Mark	9-9	9-8	8-8	8-7	7-7	7-6	6-6	6-5	5-5	5-4	4-4	4-3	3-3	3-2	2-2	2-1	1-1	u	
J260	F	01	Biology	Raw	95	n/a	n/a	n/a	n/a	n/a	n/a	n/a	55	n/a	49	n/a	37	n/a	25	n/a	12	0
J260	F	02	Chemistry	Raw	95	n/a	n/a	n/a	n/a	n/a	n/a	n/a	52	n/a	44	n/a	31	n/a	20	n/a	9	0
J260	F	03	Physics	Raw	95	n/a	n/a	n/a	n/a	n/a	n/a	n/a	52	n/a	45	n/a	33	n/a	21	n/a	9	0
J260	F	04	Combined Science	Raw	75	n/a	n/a	n/a	n/a	n/a	n/a	n/a	48	n/a	41	n/a	31	n/a	20	n/a	10	0
J260	H	05	Biology	Raw	95	62	n/a	55	n/a	49	n/a	42	n/a	35	n/a	28	n/a	n/a	n/a	n/a	n/a	0
J260	H	06	Chemistry	Raw	95	66	n/a	57	n/a	49	n/a	41	n/a	33	n/a	26	n/a	n/a	n/a	n/a	n/a	0
J260	H	07	Physics	Raw	95	57	n/a	48	n/a	39	n/a	32	n/a	25	n/a	19	n/a	n/a	n/a	n/a	n/a	0
J260	H	08	Combined Science	Raw	75	54	n/a	49	n/a	43	n/a	37	n/a	31	n/a	25	n/a	n/a	n/a	n/a	n/a	0
J260	F		Foundation Tier: 01+02+03+04	Overall	360	n/a	n/a	n/a	n/a	n/a	n/a	n/a	207	193	179	155	132	109	86	63	40	0
J260	H		Higher Tier: 05+06+07+08	Overall	360	239	224	209	194	180	166	152	138	124	111	98	91	n/a	n/a	n/a	n/a	0