

Unit Code: H022/02

Qual Name: AS Level Biology B

Qual Title: Biology in depth

Question Set	Q. No	Total Marks	AO	Spec Ref.	Topic	Question Subject, If required	Additional Notes/Comments
1	1(a)	3	1	2.1.1g	Cells and microscopy	Trachea, smoking, and cancer, including data analysis	Organelles
1	1(b)	2	1	3.3.1c ,d	The cellular basis of cancer and treatment	Trachea, smoking, and cancer, including data analysis	Basis of cancer
1	1(c <i>i</i>)	2	3	3.3.1f	The cellular basis of cancer and treatment	Trachea, smoking, and cancer, including data analysis	Evaluating epidemiological evidence
1	1(c <i>ii</i>)	2	2	3.3.1f	The cellular basis of cancer and treatment	Trachea, smoking, and cancer, including data analysis	Evaluating epidemiological evidence. Also covers M0.3
1	1(d <i>i</i>)	1	2	3.3.1f	The cellular basis of cancer and treatment	Trachea, smoking, and cancer, including data analysis	Evaluating epidemiological evidence
1	1(d <i>ii</i>)	2	2	3.3.1g	The cellular basis of cancer and treatment	Trachea, smoking, and cancer, including data analysis	Cancer detection
1	1e	1	2	3.3.1i	The cellular basis of cancer and treatment	Trachea, smoking, and cancer, including data analysis	Cancer treatment
1	1f	1	2	3.3.1i	The cellular basis of cancer and treatment	Trachea, smoking, and cancer, including data analysis	Cancer treatment
2	1(a)	2	2	2.2.1 h	The heart and monitoring heart function	Heart function, including heart rate analysis	ECG . Also covers M3.1
2	1(b)	2	2	2.2.1 h	The heart and monitoring heart function	Heart function, including heart rate analysis	ECG
2	1(c)	4	1	2.2.1i	The heart and monitoring heart function	Heart function, including heart rate analysis	Heart attack and cardiac arrest
3	1(a)	1	1	3.1.3a	The development of species: evolution and classification	Classification and human language evolution	Classification
3	1(b)	6	2	3.1.3b	The development of species: evolution and classification	Classification and human language evolution	LoR question about evidence used in classification
3	1(c)	2	2	3.1.3e <i>i</i> ,g	The development of species: evolution and classification	Classification and human language evolution	Adaptation
3	1(d)	3	2	3.1.3f	The development of species: evolution and classification	Classification and human language evolution	Language evolution
4	1(a)	6	1	3.2.1b, i	Pathogenic microorganisms	TB and antibiotics	LoR about TB prevention
4	1(b) <i>(i)</i>	3	2	3.2.3e	Controlling communicable diseases	TB and antibiotics	Antibiotics

Question Set	Q.	Total Marks	AO	Spec Ref.	Topic	Question Subject, If required	Additional Notes/Comments
4	1(b)(ii)	1	2	3.2.1b,3.2.3e	Controlling communicable diseases	TB and antibiotics	TB treatment
5	1(ai)	2	2	2.1.1b,e	Cells and microscopy	Haemocytometers (with calculation and evaluation)	Haemocytometer calculation. Also covers M0.1
5	1(aii)	4	3	2.1.1e, 1.1.4	Cells and microscopy	Haemocytometers (with calculation and evaluation)	Haemocytometer use
5	1(b)	4	3	2.1.1e	Cells and microscopy	Haemocytometers (with calculation and evaluation)	Haemocytometer interpretation. Also covers M0.2
6	1(ai)	1	3	2.1.2g,h,2.1.1b	Water and its importance in plants and animals	Osmosis investigation and recall of water movement in plants	Differential staining
6	1(aii)	1	3	2.1.2g,h	Water and its importance in plants and animals	Osmosis investigation and recall of water movement in plants	Osmosis
6	1(aiii)	4	3	2.1.2g,h	Water and its importance in plants and animals	Osmosis investigation and recall of water movement in plants	Osmosis: experimental evaluation
6	1(bi)	3	3	2.1.2,h	Water and its importance in plants and animals	Osmosis investigation and recall of water movement in plants	Osmosis: experimental data processing. Also covers M3.2
6	1(bii)	1	3	2.1.2g,h	Water and its importance in plants and animals	Osmosis investigation and recall of water movement in plants	Osmosis: experimental data processing. Also covers M3.2
6	1(c)	2	2	2.2.4d	Transport systems in plants	Osmosis investigation and recall of water movement in plants	Water movement in plant roots
6	1(d)	4	1	2.2.4d	Transport systems in plants	Osmosis investigation and recall of water movement in plants	Water movement in xylem
7	1(ai)	3	2	3.1.1b	The developing cell: cell division and cell differentiation	Mitosis, stem cells, and apoptosis, in the context of mosquitoes	Mitosis
7	1(aii)	1	2	3.1.1b,3.1.2b	The developing cell: cell division and cell differentiation	Mitosis, stem cells, and apoptosis, in the context of mosquitoes	Mitosis and meiosis
7	1(aiii)	1	1	3.1.1d	The developing cell: cell division and cell differentiation	Mitosis, stem cells, and apoptosis, in the context of mosquitoes	Apoptosis
7	1(b)	1	2	3.1.3ei	The development of species: evolution and classification	Mitosis, stem cells, and apoptosis, in the context of mosquitoes	Adaptation
7	1(c)	6	1 and 2	3.1.1ei, 3.1.1eii	The developing cell: cell division and cell differentiation	Mitosis, stem cells, and apoptosis, in the context of mosquitoes	LoR question on stem cells
8	1(ai)	1	3	2.2.1e,2.2.1g, 1.1.1a	The heart and monitoring heart function	Investigation into the effect of digoxin on heart rate	Investigations into heart rate
8	1(aii)	1	3	2.2.1e,2.2.1g, 1.1.1b	The heart and monitoring heart function	Investigation into the effect of digoxin on heart rate	Investigations into heart rate
8	1(a)(iii)	1	3	2.2.1g, 1.1.3d	The heart and monitoring heart function	Investigation into the effect of digoxin on heart rate	Measuring pulse rate
8	1(aiv)	2	2	2.2.1g, 1.1.3b	The heart and monitoring heart function	Investigation into the effect of digoxin on heart rate	Measuring pulse rate. Also covers M0.3

Question Set	Q.	Total Marks	AO	Spec Ref.	Topic	Question Subject, If required	Additional Notes/Comments
8	1(b)(i)	2	1	2.2.1d	The heart and monitoring heart function	Investigation into the effect of digoxin on heart rate	Role of AVN
8	1(b)(ii)	2	2	2.2.1d,2.2.1f	The heart and monitoring heart function	Investigation into the effect of digoxin on heart rate	Role of AVN
9	1(ai)	2	1	3.3.2e	Respiratory diseases and treatment	Clinical trials of quinine	Plants as sources of medicinal drugs
9	1(aii)	2	2	2.1.3i, 2.1.2d	Proteins and enzymes	Clinical trials of quinine	Hydrolysis of proteins
9	1(bi)	1	1	3.3.2e	Respiratory diseases and treatment	Clinical trials of quinine	Plants as sources of medicinal drugs
9	1(bii)	2	3	3.3.2f	Respiratory diseases and treatment	Clinical trials of quinine	Clinical trials
9	1(c)	2	2	3.3.2f	Respiratory diseases and treatment	Clinical trials of quinine	Clinical trials. Also covers M0.1
10	1(a)	4	3	3.2.2d,3.2.3a, 1.1.3a	The immune system	Vaccinations	Vaccination
10	1(b)	2	2	3.2.2f	The immune system	Vaccinations	Vaccination data calculation. Also covers M0.3
10	1(c)	2	1	3.2.2g	The immune system	Vaccinations	Types of immunity
10	1(d)	6	1	3.2.2c	The immune system	Vaccinations	Roles of lymphocytes
11	1(a)	2	2	2.1.2d,2.1.2e	Water and its importance in plants and animals	Biochemical testing and translocation in the context of tomato plants	Structure of monosaccharides and condensation reactions
11	1(bi)	4	3	2.1.2cii,2.2.4f, 1.1.3a	Water and its importance in plants and animals	Biochemical testing and translocation in the context of tomato plants	Translocation
11	1(bii)	3	3	2.1.2cii , 1.1.1b	Water and its importance in plants and animals	Biochemical testing and translocation in the context of tomato plants	Benedict's test (evaluation)
11	1(c)	3	2	2.2.4b	Transport systems in plants	Biochemical testing and translocation in the context of tomato plants	Structure of vascular tissue
11	1(d)	3	2	2.1.2d	Water and its importance in plants and animals	Biochemical testing and translocation in the context of tomato plants	Hydrolysis of starch
12	1(ai)	2	1	2.1.1ci	Cells and microscopy	Microscopy, staining and cytometry in the context of blood cells	Identification of blood cells
12	1(aii)	2	2	2.1.1d	Cells and microscopy	Microscopy, staining and cytometry in the context of blood cells	Magnification calculation. Also covers M1.8. NB: mark scheme may need amending to adjust for reproduced scale
12	1(bi)	2	3	2.1.1ci, 2.1.1b, 1.1.4e	Cells and microscopy	Microscopy, staining and cytometry in the context of blood cells	Blood smear preparation
12	1(bii)	2	2	2.1.1ci, 2.1.1b	Cells and microscopy	Microscopy, staining and cytometry in the context of blood cells	Differential staining
12	1(c)	3	1	2.1.1f,2.1.1e	Cells and microscopy	Microscopy, staining and cytometry in the context of blood cells	Flow cytometry

Question Set	Q.	Total Marks	AO	Spec Ref.	Topic	Question Subject, If required	Additional Notes/Comments
13	1(ai)	1	2	2.1.2 e	Water and its importance in plants and animals	Monosaccharides and starch testing in the context of potatoes	Monosaccharide structure
13	1(aii)	1	2	2.1.2e	Water and its importance in plants and animals	Monosaccharides and starch testing in the context of potatoes	Monosaccharide structure
13	1(bi)	1	1	2.2.4 b	Transport systems in plants	Monosaccharides and starch testing in the context of potatoes	Vascular tissue
13	1(bii)	2	2	2.2.4 b	Transport systems in plants	Monosaccharides and starch testing in the context of potatoes	Vascular tissue and staining
13	1(ci)	1	3	2.1.2 fii	Water and its importance in plants and animals	Monosaccharides and starch testing in the context of potatoes	Starch test
13	1(cii)	1	3	2.1.2 fii	Water and its importance in plants and animals	Monosaccharides and starch testing in the context of potatoes	Starch test
13	1(ciii)	2	3	2.1.2 fii	Water and its importance in plants and animals	Monosaccharides and starch testing in the context of potatoes	Starch test
13	1(iv)	1	3	2.1.2 fii	Water and its importance in plants and animals	Monosaccharides and starch testing in the context of potatoes	Starch test
14	1(ai)	2	2	3.2.1g	Pathogenic microorganisms	Smoking and lung cancer (data interpretation and processing)	LoR about epidemiological data interpretation
14	1(aii)	2	2	3.2.1g	Pathogenic microorganisms	Smoking and lung cancer (data interpretation and processing)	Epidemiological data interpretation
14	1(aiii)	2	2	3.2.1f	Pathogenic microorganisms	Smoking and lung cancer (data interpretation and processing)	Calculation of disease risk
14	1(b)	6	1	3.3.2a b	Respiratory diseases and treatment	Smoking and lung cancer (data interpretation and processing)	Effects of pollutants on the respiratory system
15	1(ai)	2	3	2.2.1c	The heart and monitoring heart function	Blood pressure measurements in the context of a coupler	Cardiac cycle (data interpretation)
15	1(aii)	2	3	2.2.1c	The heart and monitoring heart function	Blood pressure measurements in the context of a coupler	Cardiac cycle (data interpretation)
15	1(aiii)	1	2	2.2.1c	The heart and monitoring heart function	Blood pressure measurements in the context of a coupler	Cardiac cycle (data interpretation). Also covers M0.1
15	1(b)	1	2	2.2.2a	Transport systems in mammals	Blood pressure measurements in the context of a coupler	Double circulatory system
15	1(ci)	2	3	2.2.2e	Transport systems in mammals	Blood pressure measurements in the context of a coupler	Blood pressure measurements (experiment evaluation)
15	1(cii)	2	2	2.2.2e	Transport systems in mammals	Blood pressure measurements in the context of a coupler	Blood pressure measurements (experiment evaluation)
15	1(ciii)	4	2	2.2.2d	Transport systems in mammals	Blood pressure measurements in the context of a coupler	Blood pressure calculation. Also covers M0.3 and M1.6

Question Set	Q.	Total Marks	AO	Spec Ref.	Topic	Question Subject, If required	Additional Notes/Comments
16	1(a)	6	1	3.1.2 d e	The developing individual: meiosis, growth and development	Fetal development, including data interpretation	Antenatal care and diet (level of response)
16	1(b)	2	2	2.1.1k	Cells and microscopy	Fetal development, including data interpretation	Plasma membranes
16	1(ci)	1	2	3.1.2 f	The developing individual: meiosis, growth and development	Fetal development, including data interpretation	Alcohol effects of fetal development (data interpretation)
16	1(cii)	1	2	3.1.2 f	The developing individual: meiosis, growth and development	Fetal development, including data interpretation	Alcohol effects of fetal development (data interpretation)
16	1(d)	2	1	3.1.1 d	The developing cell: cell division and cell differentiation	Fetal development, including data interpretation	Apoptosis
17	1(a)	3	1	3.1.3h	The development of species: evolution and classification	Measuring and calculating biodiversity in the context of ladybirds	Definition of biodiversity
17	1(bi)	3	3	3.1.3.h	The development of species: evolution and classification	Measuring and calculating biodiversity in the context of ladybirds	Measuring biodiversity procedures
17	1(bii)	2	2	3.1.3h	The development of species: evolution and classification	Measuring and calculating biodiversity in the context of ladybirds	Measuring biodiversity (calculation). Also covers M2.3
17	1(biii)	2	3	3.1.3h	The development of species: evolution and classification	Measuring and calculating biodiversity in the context of ladybirds	Measuring biodiversity (calculation)
18	1(a)	2	3	3.2.1g	Pathogenic microorganisms	Vaccination and epidemics in the context of influenza	Mortality rate data interpretation
18	1(b)	2	2	3.2.3b	Controlling communicable diseases	Vaccination and epidemics in the context of influenza	Virus particle size calculation. Also covers M0.2 and M4.1
18	1(ci)	2	1	3.2.3b	Controlling communicable diseases	Vaccination and epidemics in the context of influenza	Vaccination programmes
18	1(cii)	2	1	3.2.3b	Controlling communicable diseases	Vaccination and epidemics in the context of influenza	Vaccination programmes
18	1(d)	4	2	3.2.2 c	The immune system	Vaccination and epidemics in the context of influenza	Role of B lymphocytes