



Rugby
School

Biology

Sixth Form Examination

Mark Scheme

Sixth Form Entrance Examination

Specimen Paper Mark scheme

Section A

1 A	6 D	11 B	16 C
2 C	7 B	12 D	17 C
3 C	8 B	13 C	18 A
4 D	9 B	14 A	19 B
5 C	10 D	15 A	20 C

Section B

1.
 - a. 0.1%;
 - b. Correct shape; correctly labelled;
 - c. Energy is lost between trophic levels/ Not all biomass at one trophic level is converted to biomass at the next;

2.
 - a. 9-10 AND 12-13;
 - b. 0.81 dm³
 - c. Anaerobic respiration during exercise;
Produced lactic acid;
Increased breathing rate increases delivery of oxygen;
Required to break down lactic acid to water and carbon dioxide;
Breathing rate also high to excrete the carbon dioxide produced during exercise;
Correct reference to oxygen debt;
 - d. Gas composition of air;

3.
 - a. Mitosis
 - b. DBACE
 - c. Mutation
 - d. Radiation/X-rays/UV/chemicals e.g. carcinogens

4.

- a. Protease
- b. Amino acids/peptides
- c. Linear scale covering at least 50% of plot area;
Points joined point to point with ruler;
Axis the correct way round and labelled;
Units added to the axes;
Plotted accurately;
- d. 9.2x;
- e. Stomach

5.

- a. Change: Method outlines to alter light intensity e.g. distance from lamp, different bulbs etc
Organism: same species, age, size, surface area of plant
Measure 1: Method to measure photosynthesis e.g. capturing gas/counting bubbles etc.
Measure 2: Over a stated period of time, measurement over time for rate
Repeat: Minimum of three repeats at each light intensity
Same 1&2: Temperature; PH; CO₂ concentration; wavelengths of light