

**Multiple Choice Answers**

Q3: A

**Multiple Choice Answers**

Q4: B

|           |                                                                                                                                                                                                                   |
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| 2(a)(i)   | Outline – single clear line, no shading ;<br>Size – height bigger than 84 mm ;<br>Detail 1 ; textured point at tip<br>Detail 2 ; shape of cupule (drawn with a dip at the top right side and left pointing-stalk) |
| 2(a)(ii)  | $84 \pm 1$ (mm) ;<br>25(mm) ;;                                                                                                                                                                                    |
| 2(a)(iii) | <i>any two from;</i><br><i>Turkey oak has:</i><br>flatter top of nut ;<br>less nut above cupule / AW ;<br>spines on the cupule / AW ;<br>does not have a stalk / AW ;<br>lighter colour ;                         |
| 2(b)(i)   | <i>any two from;</i><br>same type of soil ;<br>lack of light ;<br>temperature ;<br>timing of watering ;<br>time allowed for germination ;<br>number of acorns from each species ;                                 |

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| 2(b)(ii)  | <p>two y-axes <b>OR</b> one y-axis, with appropriate scale for both datasets and units, <b>and</b> one x-axis labelled ;</p> <p>suitable scale and occupies at least half the grid in both directions ;</p> <p>six bars plotted accurately <math>\pm</math> half a small square, with gaps between the different species ;</p> <p>key that clearly identifies each dataset ;</p> |
| 2(b)(iii) | (to obtain a) representative sample / avoid bias ;                                                                                                                                                                                                                                                                                                                               |
| 2(b)(iv)  | 62.2(%) ;                                                                                                                                                                                                                                                                                                                                                                        |
| 2(c)      | biuret ;                                                                                                                                                                                                                                                                                                                                                                         |

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| 3(a)(i) | 27 ;; |
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| 3(a)(ii)  | <i>any three from:</i><br>1 ref to solvent / described ;<br>2 for digestion / named example ;<br>3 for excretion / named example ;<br>4 for transport / named example ;<br>5 temperature regulation ;<br>6 support, cells / tissues ;<br>7 AVP ;                                                                                          |
| 3(b)(i)   | <b>L</b> cell membrane ;<br><b>M</b> ribosome ;                                                                                                                                                                                                                                                                                           |
| 3(b)(ii)  | <i>any two from:</i><br>cell wall ;<br>circular DNA ;<br>plasmid(s) ;<br>AVP ;;                                                                                                                                                                                                                                                           |
| 3(b)(iii) | bacterium ;                                                                                                                                                                                                                                                                                                                               |
| 3(b)(iv)  | <i>Vibrio</i> ;                                                                                                                                                                                                                                                                                                                           |
| 3(b)(v)   | <i>any three from:</i><br>cholera produces a toxin that <del>causes</del> secretion of chloride ions, into, (small) intestine / gut <b>or</b> out of the small intestine cells ;<br>causing osmotic movement of water into the, gut / (small) intestine <b>or</b> out of the (small intestine) cells ;<br>causing diarrhoea / described ; |
| 3(b)(vi)  | sticky ends ;<br>(DNA) ligase ;<br>recombinant ;                                                                                                                                                                                                                                                                                          |