

| Question Number | Answer   | Mark |
|-----------------|--|------|
| 2(a)            | chloroplast / (sap / large / permanent) {vacuole / vacuole membrane / tonoplast} / cellulose cell wall ; | (1)  |

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|-----------------|---|------------|
| 2(b)(i)         | 1. spindle fibres contract / eq ;<br>2. {chromatids / daughter chromosomes / eq} ;<br>3. {pull apart / separate / eq} ;<br>4. reference to kinetochore / centromere leads ;<br>5. move to opposite {poles / eq} of cell ; | max<br>(3) |

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|-----------------|---|------------|
| 2(b)(ii)        | 1. membrane bound organelles {present / eq} / correctly named organelle e.g. mitochondrion ;<br>2. has {80s / large} ribosomes ;<br>3. nucleus will reform / eq ;<br>4. presence of cellulose cell wall ; | max<br>(2) |

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|-------------------------|--|------------------------------|-------------------------------|------------------------------|------------|--|--|----------|--|--|-----------|-----|--|----------|--|--|-----------|--|--|-------------|-----|--|--------------|--|--|-----|
| 2(c)(i)                 | <table border="1"> <thead> <tr> <th>Stage of the cell cycle</th><th>Number of cells in each stage</th><th>Percentage in each stage (%)</th></tr> </thead> <tbody> <tr> <td>Interphase</td><td></td><td></td></tr> <tr> <td>Prophase</td><td></td><td></td></tr> <tr> <td>Metaphase</td><td>2 ;</td><td></td></tr> <tr> <td>Anaphase</td><td></td><td></td></tr> <tr> <td>Telophase</td><td></td><td></td></tr> <tr> <td>Cytokinesis</td><td>4 ;</td><td></td></tr> <tr> <td><b>TOTAL</b></td><td></td><td></td></tr> </tbody> </table> | Stage of the cell cycle      | Number of cells in each stage | Percentage in each stage (%) | Interphase |  |  | Prophase |  |  | Metaphase | 2 ; |  | Anaphase |  |  | Telophase |  |  | Cytokinesis | 4 ; |  | <b>TOTAL</b> |  |  | (2) |
| Stage of the cell cycle | Number of cells in each stage  | Percentage in each stage (%) |                               |                              |            |  |  |          |  |  |           |     |  |          |  |  |           |  |  |             |     |  |              |  |  |     |
| Interphase              |  |                              |                               |                              |            |  |  |          |  |  |           |     |  |          |  |  |           |  |  |             |     |  |              |  |  |     |
| Prophase                |  |                              |                               |                              |            |  |  |          |  |  |           |     |  |          |  |  |           |  |  |             |     |  |              |  |  |     |
| Metaphase               | 2 ;  |                              |                               |                              |            |  |  |          |  |  |           |     |  |          |  |  |           |  |  |             |     |  |              |  |  |     |
| Anaphase                |  |                              |                               |                              |            |  |  |          |  |  |           |     |  |          |  |  |           |  |  |             |     |  |              |  |  |     |
| Telophase               |  |                              |                               |                              |            |  |  |          |  |  |           |     |  |          |  |  |           |  |  |             |     |  |              |  |  |     |
| Cytokinesis             | 4 ;  |                              |                               |                              |            |  |  |          |  |  |           |     |  |          |  |  |           |  |  |             |     |  |              |  |  |     |
| <b>TOTAL</b>            |  |                              |                               |                              |            |  |  |          |  |  |           |     |  |          |  |  |           |  |  |             |     |  |              |  |  |     |

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|-----------------|---|------|
| 2(c)(ii)        | 1. interphase ;<br>2. most found at this stage (at any one time) / correct reference to figure from table ; | (2)  |

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|-----------------|--|------|
| 2(c)(iii)       | not enough {data / samples / cells / slides} {observed / counted} / (data) only taken from one point in time ; | (1)  |