

| Question Number | Answer   | Mark               |
|-----------------|--|--------------------|
| <b>8 (a)</b>    | <ol style="list-style-type: none"> <li>1. ref. to agar / eq ;</li> <li>2. idea that bacteria need to be distributed ;</li> <li>3. idea of {single / named} bacterial strain / eq ;</li> <li>4. appropriate microbiological technique employed e.g. aseptic / sterile plates ;</li> </ol> | <b>maximum (2)</b> |

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| <b>8 (b)(i)</b> | to allow a comparison with the other discs / to show that any difference between the discs is due to the treatment given to those discs / eq ; | <b>(1)</b> |

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| <b>8 (b)(ii)</b> | <ol style="list-style-type: none"> <li>1. (tea tree oil) { diffused / eq } (out of disc) ;</li> <li>2. killed the bacteria / inhibits bacterial growth / eq ;</li> </ol> | <b>(2)</b> |

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| <b>8 (b)(iii)</b> | <ol style="list-style-type: none"> <li>1. record several measurements / eq ;</li> <li>2. divide by number of measurements (to obtain mean) ;</li> </ol> | <b>(2)</b> |

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| <b>8 (c)</b>    | <ol style="list-style-type: none"> <li>1. 3 (or more) dilutions of tea tree oil / eq ;</li> <li>2. from 50% downwards / eq ;</li> <li>3. looking for minimum strength when diameter is same as original strength / eq ;</li> <li>4. one other named variable kept constant ;</li> </ol> | <b>maximum (3)</b> |

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| <b>8 (d)</b>    | <ol style="list-style-type: none"> <li>1. 37°C is (human) body temperature ;</li> <li>2. (this temp) allows growth of {pathogenic / eq} bacteria / encourages more rapid {growth /reproduction/ eq} ;</li> </ol> | <b>(2)</b> |