

TT14 Food spoilage and contamination: Microorganisms and enzymes; The signs of food spoilage; Microorganisms in food production

1. Fill in the gaps using the keywords below. Note that each keyword may be used once, more than once or not at all. (4 marks)

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|-----------------|----------------------|-----------------|------------------|-------------------|
| <i>catapult</i> | <i>catalysts</i> | <i>cataract</i> | <i>slow down</i> | <i>speed up</i> |
| <i>protein</i> | <i>carbohydrates</i> | <i>fresh</i> | <i>ripen</i> | <i>stay green</i> |
| <i>room</i> | <i>low</i> | <i>high</i> | <i>fats</i> | <i>stay</i> |

- i) Enzymes are biological _____ usually built from _____.
- ii) This means that they can _____ chemical reactions.
- iii) Enzymes naturally occurring in plants help them to _____ and develop flavour.
- iv) If fruits are left for too long at _____ temperature, they can become brown.

2. Identify **two** methods of controlling enzymatic action in foods. (2 marks)

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3. i) Define high-risk foods. (1 mark)

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ii) Provide **three** examples of high-risk foods. (3 marks)

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4. Identify **two** food products made with the use of moulds. (2 marks)

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5. Identify one sign of food spoilage caused by: (3 marks)

- i) Enzymatic action
- ii) Mould growth
- iii) Yeast action

6. i) Explain how bacteria work in the production of yoghurt. **(2 marks)**

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ii) Identify **two** food products other than yoghurt which are made with the use of bacteria. **(2 marks)**

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7. i) Explain why yeast is useful in the production of bread. **(4 marks)**

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ii) Identify one product other than bread which is made with the use of yeast. **(1 mark)**

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8. Microorganisms need numerous conditions for growth. Explain how each of the conditions below affects microorganisms' growth, and suggest a way of controlling them. **(10 marks)**

| Factor | Effect | Control method |
|--------------------|---------------|-----------------------|
| Temperature | | |
| Moisture | | |
| Food | | |
| Time | | |
| pH | | |

Total marks _____ /34