

**AQA, OCR, Edexcel**

**A Level**

# **A Level Biology**

Immunity and Vaccines

Answers

Name:

**M**

**M**

**E**

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Total Marks: /22

Answer	Marks
<p>1. A)</p> <p>i) – the body has to make its own antibodies - because of the presence of antigens in the blood</p> <p>ii) – there is no exposure to the antigen - provides short-term immunity - No memory cells are produced - e.g. Antibodies directly from mother/artificial injection of antibodies</p> <p>b)</p> <p>i) –substance containing antigens that elicits an immune response in the body</p> <p>ii) –Individuals who are not vaccinated against a disease are indirectly protected -because a large enough proportion of - the populations is immunity -so the infection cannot spread across the population -Herd immunity.</p>	<p>2 marks</p> <p>4 marks</p> <p>1 mark</p> <p>3 marks</p>
<p>2.</p> <p>a)</p> <p>i) – genetic change in the pathogen/ mutation. - Changes antigen.</p> <p>ii) – the individual was infected by a different strain of influenza -the virus had different antigens -these antigens were not recognised by memory cells in the individual from the original vaccine.</p> <p>b)</p> <p>i) – Antibodies produced by the same B cell - All identical in structure.</p>	<p>2 marks</p> <p>3 marks</p> <p>2 marks</p>

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<p>c)</p> <p>i) -A- Trastuzumab B- antibody</p> <p>ii) – the monoclonal antibody receptors are a complementary shape to the tumour markers/ antigens.</p> <p>iii) – the cancer drug will only accumulate at the site of the tumour - individual experiences less side effects</p>	<p>2 marks</p> <p>1 mark</p> <p>2 marks</p>
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