Immunity Answers

Ex 36

**M1.**          (a)     (i)      Amino acids;

**1**

(ii)     Peptide;

**1**

(b)     Contains specific sequence of amino acids;
Complimentary shape enables attachment to antigen;

**2**

(c)     (Maternal antibodies) are antigens;
Destroyed by (fetal) antibodies / lymphocytes;

***Q*** *Do not credit marks where source of antigens or antibodies/lymphocytes is ambiguous.*

**2**

**[6]**

**M2.**          (a)     Stimulates memory cells;

Secondary response;

Antivenom / antibodies produced quicker;

**max 2**

(b)     Passive immunity;

No memory cells produced;

Antivenom breaks down / destroyed;

**max 2**

(c)     Could transfer disease/Allergy/Immune response to antibodies
from animal;

**1**

**[5]**

**M3.**  (a)     add antibodies/enzyme;
wash to remove unbound antibodies;
add (colourless) solution;

*(mark correct responses sequentially)*

**3**

(b)     antibodies specific/shape only fits one antigen;
other antigens different shape;
would not bind to antibodies;

**2 max**

**[5]**

**M4.**          (a)     molecule (on cell surface);
that triggers immune response;

**2**

(b)     (i)      axes right way round and labelled;
2nd peak drawn higher;
steeper gradient on second rise;

**3**

(ii)     because one dose does not give a high enough level of
antibody to be effective/ because the antibody falls after a while;

**1**

(iii)     antigens are only single molecules/part of parasite;
do not actually cause disease;

**2**

(c)     malaria sufferers would have parasites in red blood cells;

**1**

**[9]**

**M5.**          (a)     (i)      protein/immunoglobulin;
specific to antigen;
idea of ‘fit’/complementary shape;

**2 max**

(ii)     1.       virus contains antigen;
2.       virus engulfed by phagocyte/macrophage;
3.       presents antigen to B-cell;
4.       memory cells/B-cell becomes activated;
5.       (divides to) form clones;
6.       by mitosis;
7.       plasma cells produce antibodies;
8.       antibodies specific to antigen;
9.       correct reference to T-cells/ cytokines;

**6 max**

(b)     passive;
person is not making own antibodies/antibodies not replaced;
memory cells not produced;

**2 max**

(c)     fewer ethical difficulties/less risk of infection;

**1**

**[15]**