

Immunity Test Answer Key

1	B
2	A
3	D
4	C
5	B
6	B
7	D
8	D
9	C
10	A

Question 11 [1 mark each= 15 marks]

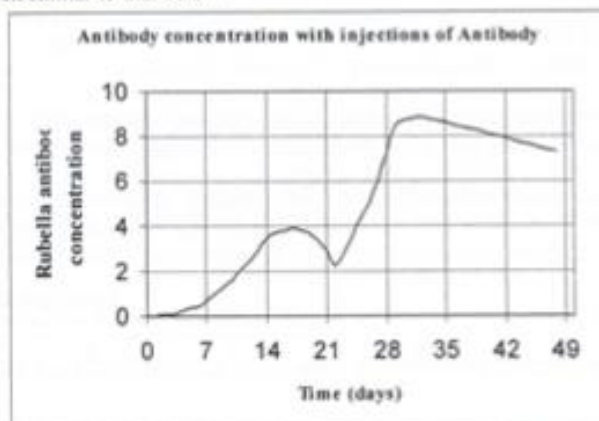
- (i) antibody
- (ii) red bone marrow
- (iii) T cells
- (iv) Plasma cells
- (v) Phagocytosis
- (vi) Immunity
- (vii) Vaccine
- (viii) Lymph node
- (ix) Thymus gland
- (x) Bone marrow
- (xi) Antiviral
- (xii) Stem cells
- (xiii) Pathogen
- (xiv) Pandemic
- (xv) Interferon

Question 12

- (a) self refers to all the cells and fluids that are part of your body [1]
non self refers to foreign materials- cells and tissues or particles from something or someone else that are not a part of your body [1]
- (b) it can be an issue for transplant recipients because the body recognises the transplant material as not belonging to self and the immune system is stimulated and responds to it. This can result in the destruction (rejection) of the transplant [2]
- (c) future strategies to overcome this situation include xenotransplantation, tissue regeneration from stem cells or tissue sourced from self (eg skin for grafts) [2]

Question 13

21. (a) Weakened / less virulent (1)
disease-causing micro-organism (1)
- (b) Graph should show two peaks: the first between 0 and 3 weeks (1)
Then the second peak, higher (and sharper) (1)
Immediately after the second injection (between 4&5 weeks) (1)
Graph should look similar to that below



- (c) Initiation of immune response / primary response / production of memory cells (1)
- (d) Macrophage Phagocytosis / presents antigen (to lymphocytes) (1)
Helper T cell Stimulate B cells to divide / initiate Antibody production / trigger immune response (1)
Memory B cell Allow subsequent response more quickly (1)
Plasma cell Antibody production (1)

Question 14

23. (a) Active = exposed to foreign antigen (1) manufactures antibody/memory cells (1)
Passive = individual is given the antibody (1) no production of own antibodies / or memory cells (1)
- (b) Active (1)
Explanation: Prolonged response/Antibodies at higher levels for longer (1) due to memory by cells (1)
Faster response with reinfection (1) Response before symptoms expressed (stronger) (1) (Any 3 = 3)
- (c) (i) Antibiotic must be toxic to micro-organism (1) not to person's cells (1)
Act on specific target (1) infection must be bacterial (1) dosage must be correct (1)
micro-organism must not be resistant (1) (Any two points = 2)

Question 15

Cell-mediated immunity (cellular immunity)

Works against transplanted tissues and organs, cancer cells and cells that have been infected by viruses or bacteria; also provides resistance to fungi and parasites.

1. Foreign antigen reaches lymphoid tissue.
2. Certain T lymphocytes are stimulated to undergo rapid cell division.
3. Most new T cells develop into killer T cells or helper T cells, which migrate to the site of the infection.
4. Killer T cells destroy the antigen, while helper T cells promote phagocytosis by macrophages.
5. Some sensitised T cells form memory cells.

