BIOLOGY

THIRUVANANTHAPURAM EDUCATIONAL DISTRICT

BWS14 X

Standard X

5. SOLDIERS OF DEFENSE

Answerkey

1. a. Blood clotting helps to prevent bleeding and checks the entry of pathogens through wounds and also helps in wound healing.

b. 1. Tissues and platelets at the site of the wound degenerate to form the enzyme called Thromboplastin.

2. Prothrombin in plasma —(Thromboplastin; Calcium, Vitamin K)→ Thrombin

3. Fibrinogen —(Thrombin)→ Fibrin fibres

4. The red blood cells and platelets get entangled in the network of f fibrin fibres to form the blood clot.

c. Vitamin K
Calcium

2. a. When the connective tissue heals the wound the wound scar remains.

b. When a wound occurs new similar tissues are formed in place of the tissues damaged or lost by the wound and scar does not remain.

3. a. It is better to take the advice of a doctor to diagnose the exact reason and treat. The rise in body temperature will badly affect the internal organs so should take medicine to reduce fever.

b. High temperature destroys the pathogens, thuss reduces the number and protects the body.

c. A - The presence of toxins produced by the pathogens stimulates the white blood cells.

B - The rise in body temperature reduces the multiplication of pathogens. Increases the effect of phagocytosis.

BIOLOGY

4. a. The defense mechanism that identifies the structure of each antigen and destroys it specifically is called specific defense.
Lymphocyes.
Lymphocytes are formed in the bone marrow and are of two types. Those that mature in the bone marrow are call B lymphocytes and those that mature in the thymus gland are called T lymphocytes.

b. A - B lymphocytes

B – T lymphocytes
C - Neutralise the toxin of the antigens.
D – Destroy the pathogens by stimulating other white blood cells.
E – Destroy the cells affected by virus.
F – Destroy cancer cells.

5. A – Blood
B – Raising body temperature
C – Inflammatory response
D – Phagocytosis
E – Blood clottting
F – Destroy the disease causing bacteria in lymph nodes and spleen**.**

6. a. Immunization is the artificial method to make the defense cells

alert against the attack of pathogens.

b. A - Neutralised toxins of the pathogens
B – Cellular parts of the pathogens.

c. (i) T.B
(ii) O.P.V
(iii) Diphtheria, Pertussis, Tetanus, Hepatitis B & Haemophilus influenza type b
(iv) M.M.R
(v) Measles, Mumps, Rubella
(vi) Tetanus