Immunity – AS 9700 November 2023

1. Nov/2023/Paper_ 9700/11/No.38

Some responses made by cells of the immune system to a pathogen are listed.

1 mitosis

2 bind to specific antigens

3 produce memory cells

4 secrete antibodies

Which responses are correct for B-lymphocytes?

A 1, 2, 3 and 4

B 1, 2 and 4 only

C 1 and 3 only

D 2, 3 and 4 only

2. Nov/2023/Paper_ 9700/11/No.39

Which statements about uses of monoclonal antibodies are correct?

1 Monoclonal antibodies can be injected into patients to give active immunity.

2 Monoclonal antibodies can be injected into patients to treat viral infections.

3 Monoclonal antibodies can be used as diagnostic tests for specific pathogens.

A 1, 2 and 3 **B** 1 and 2 only **C** 2 and 3 only **D** 3 only

3. Nov/2023/Paper_ 9700/11/No.40

Which statement explains how a vaccination programme can control the spread of an infectious disease in a population?

A Unvaccinated individuals are less likely to meet a vaccinated individual.

B Unvaccinated individuals are less likely to meet an infected individual.

C Vaccinated individuals cannot catch the disease.

D Vaccinated individuals have natural active immunity.

4. Nov/2023/Paper_ 9700/12/No.39

Some responses made by cells of the immune system to a pathogen are listed.

1 mitosis

2 recognises a pathogen

3 produces memory cells

4 secretes enzymes

Which responses are correct for phagocytes?

A 1, 2, 3 and 4

B 1, 2 and 3 only

C 1 and 3 only

D 2 and 4 only

5. Nov/2023/Paper_ 9700/12/No.40

Some vaccines do not contain antigens. The vaccines contain a molecule of mRNA. Cells in the immune system use the mRNA molecule to make a protein antigen.

The statements describe the stages of how mRNA vaccines work when they enter a cell of the immune system.

1 B-lymphocytes and T-lymphocytes with complementary receptors bind to the protein.

2 Lymphocytes differentiate into memory cells that give long lasting immunity.

3 Ribosomes translate the mRNA molecule to make a protein.

4 The cell displays the protein on its cell surface membrane.

What is the correct order of the stages of how mRNA vaccines work?

A 1 → 2 → 4 → 3

B 3 → 1 → 2 → 4

C 3 → 4 → 1 → 2

D 4 → 1 → 2 → 3