

Model Answers: Easy

1

The correct answer is **B** because:

- Malaria is transmitted by the female *Anopheles* mosquito. It is caused by one of four species of the protoctist *Plasmodium*
- Cholera is transmitted by contaminated water. It is caused by the bacteria *Vibrio cholerae*
- HIV/AIDS is transmitted via bodily fluids. It is caused by the human immunodeficiency virus (HIV)

2

The correct answer is **D** because:

- As the female *Anopheles* mosquito is the one that transmits the malaria parasite it will only be in areas where it can survive and breed
- The *Anopheles* mosquito only breeds in sub-tropical and tropical areas, and malaria is therefore endemic in over 100 countries across Latin America, Africa and South-East Asia

A is incorrect as TB can survive in these environmental conditions

B is incorrect as antibiotics are not effective on the malaria parasite, but this would not explain why the different regions have varying rates of infection

C is incorrect as migrant workers can carry the disease but without the vector, this will not be transmitted

3

The correct answer is **C** because:

- TB and cholera are both caused by bacteria and are infectious
- TB is caused by either of the two bacteria: *Mycobacterium bovis* or *Mycobacterium tuberculosis*. These live inside human cells, particularly in the lungs where conditions are ideal for survival (warm and moist)
- Cholera is caused by the bacteria *Vibrio cholerae*. This infects the small intestine
- Both diseases are infectious and can be transmitted from one human to another

A, B & D are incorrect as TB is not transmitted by contaminated water.

4

The correct answer is **A** because:

- HIV/AIDS is caused by the human immunodeficiency virus (HIV). Viruses do not have a cell membrane, ribosomes and therefore they cannot carry out metabolic processes such as respiration
- This means that the only feature all three organisms have in common is that they contain genes (genetic information)
 - In a virus, the genetic information can be either DNA or RNA

5

The correct answer is **D** because:

- Cholera is caused by the bacteria *Vibrio cholerae*. This infects the small intestine
- Cholera is transmitted by contaminated water

6

The correct answer is **A** because:

- Malaria is spread by the female *Anopheles* mosquito (but remember it is caused by one of four species of *Plasmodium* protoctists)
- The *Anopheles* mosquito breeds in subtropical and tropical regions of Africa
- When migration happens due to war the parasite can be transferred from areas that have the infection to new regions
- If the mosquito is breeding in the new region then the mosquito vector will transfer the disease from one human to the next

7

The correct answer is **C** because:

- Cholera is caused by the bacteria *Vibrio cholerae*. This infects the small intestine. An infected individual will spread the bacterium through their waste
- Cholera is transmitted by **contaminated water**. When the water is contaminated by sewage the infection can easily be spread from one person to the next
- Refugee camps are unlikely to have adequate facilities for dealing with and processing human waste, which makes contamination of water and therefore the spread of cholera more likely

A is incorrect as whilst this can be an issue in refugee camps this is not a cause for the spread of cholera.

B is incorrect as antibiotics are not the best treatment choice for cholera, hydration with oral rehydration therapy is a better option.

D is incorrect as cholera is not transmitted by droplet infection.

8

The correct answer is **D** because:

- The HIV virus responsible for HIV/AIDS is transmitted through bodily fluids, such as blood
- During pregnancy, the virus could be transmitted through the placenta from the mother to the fetus
- During birth the mother's blood could come in contact with the baby directly and infect the baby

A is incorrect as cholera is transmitted through contaminated water

B is incorrect as obesity is not an infectious disease and therefore cannot be transmitted from mother to baby during pregnancy or birth.

C is incorrect as tuberculosis is transmitted through droplet infection when coughing or sneezing

Malaria (not an answer option) can also be transmitted during pregnancy or birth.

9

The correct answer is **D** because:

- Malaria is spread by the female *Anopheles* mosquito.
- It is caused by one of four species of the protoctist *Plasmodium*
- A vector is another organism that will transmit an infectious disease from one person to another

10

The correct answer is **A** because:

- HIV is transmitted by bodily fluids
- The methods in the list that include the mixing of body fluids are blood transfusion, sharing of intravenous needles and the transmission across the placenta
 - Although the virus can pass through the placenta from mother to fetus in an infected individual, most babies who get HIV from their mothers become infected during childbirth when blood is more likely to mix