

## Microorganisms and disease HW 2

1. Underline **one** word in each group to make the sentences correct.

Yeast is a (**bacterium/fungus**) and is (**unicellular/multicellular**). (1)

2. Which of the following correctly describes antibiotics?

A medicine which

**A** kills bacteria and viruses

**B** kills only viruses

**C** kills only bacteria

**D** is dangerous and so is no longer used (1)

3. Why have some bacteria become resistant to antibiotics?

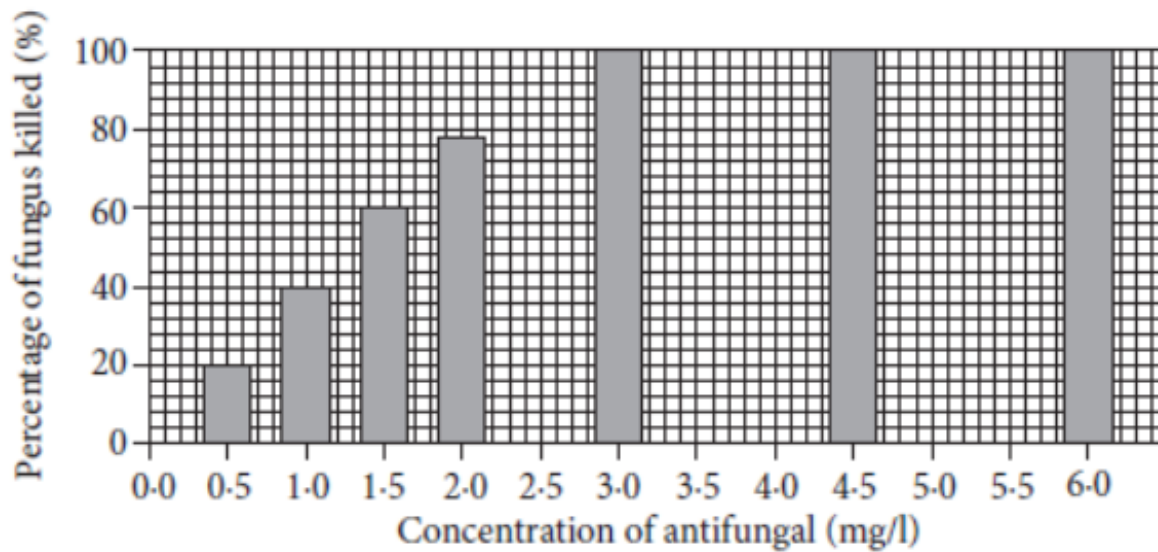
**A** The range of antibiotics has increased.

**B** Antibiotics have been overused.

**C** The antibiotics are produced by fungi.

**D** Too few antibiotics have been prescribed by doctors. (1)

4. The graph below gives information about the effectiveness of an antifungal on killing a fungus.



Use the information in the graph to answer the following questions.

(i) What percentage of the fungus is killed by 1.0 mg/l of antifungal?

\_\_\_\_\_ % (1)

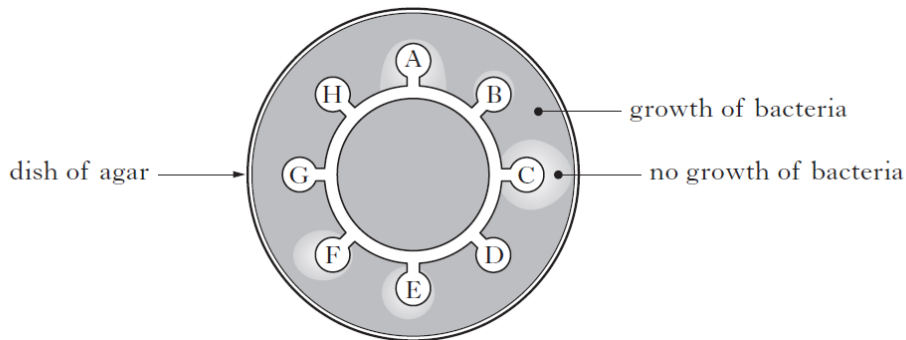
(ii) What is the lowest concentration of antifungal that kills 100% of the fungus?

\_\_\_\_\_ mg/l (1)

(iii) Name one fungal infection that can effect humans?

\_\_\_\_\_ (1)

5. (i) A disc containing eight different antibiotics (A–H) was placed on a plate on which one type of bacteria was growing. The diagram below shows the appearance of the plate after being kept at 25°C for 48 hours.



Which antibiotic would be most effective in preventing growth of the bacteria?

Antibiotic \_\_\_\_\_ (1)

(ii) The **reliability** of this investigation would be increased by repeating the experiment using.

- A a different type of bacteria and different antibiotics
  - B a different type of bacteria and the same antibiotics
  - C the same type of bacteria and the same antibiotics
  - D the same type of bacteria and different antibiotics.
- (1)

**6. Read the following passage.**

Yeast can be grown in large numbers in a fermenter. The fermenter is filled with sugar for the yeast to feed on and a pure culture of yeast is added.

If the correct growing conditions (eg pH and temperature) are maintained in the fermenter the yeast cells can be grown in large numbers. The yeast can then be used by the baking industry to make bread or the brewing industry to make beer.

**Use the passage above to answer the following questions;**

**(i)** What is the name of the vessel in which yeast cells can be grown in large numbers?

\_\_\_\_\_ (1)

**(ii)** What do yeast cells feed on in this vessel?

\_\_\_\_\_ (1)

**(iii)** Give two uses of the yeast cells grown in these vessels.

\_\_\_\_\_ and \_\_\_\_\_ (1)

**7.** Disease can be spread through contaminated food and water. Give one other way in which disease can spread.

\_\_\_\_\_ (1)

8. Decide if each of the following statements about the body's natural defences are **True** or **False**, and tick (✓) the appropriate box.

If the statement is **False**, write the correct word in the **Correction** box to replace the word underlined in the statement.

Statement	True	False	Correction
The acid in your <u>lungs</u> helps to kill microbes.			
Cells in your windpipe and nose produce <u>mucus</u> which traps microbes.			

(1)

9. Vaccinations are given to protect people from diseases caused by microorganisms.

The following table gives information about some vaccines.

<i>Vaccine</i>	<i>Time vaccine is effective (years)</i>	<i>Booster vaccine required within effective period</i>	<i>Method of vaccination</i>
Hepatitis A	10	yes	injection
Hepatitis B	5	no	injection
Meningitis	5	no	injection
Polio	10	no	by mouth
Rabies	2	no	injection
Tetanus	10	no	injection
Typhoid	3	no	injection

(a) Which vaccine is effective for the shortest time?

(1)

\_\_\_\_\_

(c) Which vaccine is effective for 10 years, is given by injection and does not require a booster to be given?

(1)

\_\_\_\_\_

10. Which type of blood cell is responsible for fighting disease?

(1)

\_\_\_\_\_