

Name of the Student: _____

Max. Marks : 17 Marks

Time : 17 Minutes

Mark Schemes

Q1.

(a) **Quality of written communication**

The answer to this question requires ideas in good English in a sensible order with correct use of scientific terms. Quality of written communication should be considered in crediting points in the mark scheme

idea of mutation **or** variation

*do **not** allow 'bacteria get used to antibiotics' **or** idea that antibiotics change the bacteria **or** 'bacteria become immune' **or** references to adaptation or evolution*

1

(resistant cells) survive antibiotic

1

(resistant cells) breed

1

(b) **EITHER** (yes)

keep animals disease free (1) so grow faster (1 mark) **or** live longer

OR (no)

resistant bacteria may develop (1)

risk to human **or** animal health (1)

allow bacteria become resistant / immune

2

[5]

Q2.

- (a) more (mothers) died if doctors delivered their babies (rather than midwives)

answer must be comparative

allow more deaths on Ward 1

ignore descriptions of trends

1

doctors spread bacteria / viruses / pathogens / microbes from dead bodies / other patients

allow disease / infection childbed fever

ignore germs

allow doctors did not wash their hands / midwives washed their hands

1

- (b) (i) hand-washing

1

before / after examining patients

ignore between wards

or

between patients

or

after examining dead bodies

1

- (ii) removed / killed bacteria / viruses / pathogens / microbes (from hands)

ignore disease / infection / germs / childbed fever

or

reduced transfer of bacteria / viruses / pathogens / microbes (from hands)

1

[5]

Q3.

- (a) dead / inactive form of virus introduced into body 1
- white blood cells stimulated to produce antibodies 1
- correct antibodies rapidly made if the body is infected with the virus 1
- (b) the percentage of children vaccinated fell to zero in 1995 1
- but the number of children developing autism rose and fell during the period when % vaccinations was falling 1
- number of children developing autism peaked after MMR vaccination had ceased 1
- which suggests that something other than MMR vaccination was causing autism 1

[7]