Practice Question Set For GCSE
Subject : Biology
Paper-1 Topic: B3 Infection And Response

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Name of the Student:_____
Max. Marks : 24 Marks **Time : 24 Minutes**

Mark Schemes

Q1.

(a) 18.06 / 18 / 18.1

*correct answer gains **2** marks*
if answer incorrect evidence of
(4131 - 3499) ÷ 3499 × 100
***or** 632 ÷ 3499 × 100*
***or** ((4131 ÷ 3499) × 100) - 100*
***or** 0.18*
*gains **1** mark*

2

(b) antibiotics kill non-resistant strain
or resistant strain bacteria survive

accept resistant strain the successful competitor
*do **not** accept intentional adaptation*
ignore strongest / fittest survive
ignore mutation
ignore people do not finish antibiotic course

1

resistant strain bacteria reproduce
or resistant strain bacteria pass on genes

1

population of resistant strain increases **or** proportion of resistant bacteria increases

allow high numbers of resistant bacteria

or
people more <u>likely</u> to be infected by resistant strain (than non-resistant strain)

1

[5]

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Q2.

(a) produces toxins / damage cells / reproduce rapidly **or** reproduce in cells

ignore invade cells

1

(b) any **three** from:

- TV crew immune / Indians not immune / Indians have weak(er) immune system

  ignore resistant

- TV crew had / produced antibodies / Indians had no antibodies **or** antibody production faster in TV crew

- TV crew had previous exposure to flu / had been vaccinated
  or
  Indian tribe had no previous exposure to flu / had not been vaccinated

  allow immunised

- Indians caught disease from TV crew
  or
  TV crew were carriers (of the virus)

3

[4]

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Q3.

(a) any **two** from

- live inside / infect body cells
- difficult for drugs to enter (body) cells / drug would kill (body) cell
- antibiotics ineffective against viruses
- viruses mutate **frequently**

2

(b) (i) 420

*correct answer with **or** without working*

*if answer incorrect evidence of 'number of deaths' × 7 **or** 60 seen gains **1** mark*

ignore 6 000 000

2

(ii) any **three** from:

- virus / flu mutates
- people no longer / not immune
  ignore resistance
- white blood cells / memory cells / immune system do not recognise virus
- relevant reference to antibodies / antigens
- current vaccine ineffective **or** no vaccine available then **or** takes time to develop new vaccine
  allow no tamiflu / anti-viral drugs
- conditions less hygienic / lack of hygiene
- people in poor health (following world wars)
  allow people had 'weak' immune system

3

[7]

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Q4.

(a) (bacteria) produce toxins / poisons

1

(viruses) damage / kills cells **or** toxins released from cell

1

(b) any **two** from:

- viruses live inside cells
- viruses inaccessible to drug
- drug would damage body cells / tissue

2

(c) any **four** from:

- overuse of antibiotics
- bacteria mutate

  *do **not** allow antibiotic causes mutation*
- antibiotics kill non-resistant strains **or** idea of selection
- reduced competition
- resistant bacteria reproduce

4

[8]

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