

5.1 Beneficial and Harmful Effects

Name: _____ Class: _____ Date: _____

Total: 8 marks

KEY WORDS computing innovation 计算创新 • unintended consequences 意外后果

Objective

Build the skills to answer exam questions on **beneficial and harmful effects**.

You must be able to:

- explain how a **computing innovation** 计算创新 can have both beneficial and harmful effects
- describe how a single effect may be **beneficial** to some and **harmful** to others
- explain how an innovation can have an impact **beyond its intended purpose**
- identify **unintended consequences** 意外后果

1 Worked examples

Study these first. Each one shows the method for a question type used later.

■ Both effects

Almost every computing innovation has **both** beneficial and harmful effects, and a single effect may be seen as **good by some** people and **bad by others**.

■ Beyond the intended purpose

An innovation can have an impact **beyond** what its designers intended — an **unintended consequence**.

■ Evaluating

Judge an innovation by **weighing** its benefits against its harms.

2 Practice

2.1 State why a computing innovation can be both beneficial and harmful. [1]

2.2 Give an example of an unintended consequence of a technology. [1]

2.3 State how you should evaluate a computing innovation. [1]

3 Exam-style questions

3.1 A single effect of a technology can be [1]

- | | |
|---|---|
| A | B |
| C | D |
- A** only good
B only bad
C good for some people and bad for others
D neither good nor bad

3.2 An effect the designers did not intend is [1]

- | | |
|---|---|
| A | B |
| C | D |
- A** the main purpose
B an unintended consequence
C a syntax error
D a protocol

3.3 Social media connects people but can also spread misinformation.

(a) State one benefit. [1]

(b) State one harm. [1]

(c) State how to judge it overall. [1]