GCE A LEVEL

COMPUTER SCIENCE

H446/01 Computer Systems

Candidate	Name:
Candidate	Number:
Centre	Number:
Date of	Examination:

Time Allowed: 1 hour 30 minutes

Total Marks: 40

INSTRUCTIONS

- Use black ink or ball-point pen.
- Answer all questions.
- Answer questions in the spaces provided.
- Show all your working.
- Do not write in the margins.

INFORMATION

- The total number of marks for this paper is 40.
- The marks for each question are shown in brackets.
- You are reminded of the need for clear presentation in your answers.

Section A: Software and Software Development

1. Define the term *firmware* and explain two differences between firmware and application software. [4 marks]

2. Describe the characteristics of the following types of software licensing:

   (a) Open source

   (b) Proprietary

   Provide one advantage and one disadvantage for each type. [6 marks]

3. Explain the purpose and advantages of using an Integrated Development Environment (IDE) in software development. [5 marks]

4. A software development team is creating a new mobile application.

   (a) Describe two methodologies they could use for the software development process. [4 marks]

   (b) Compare the advantages and disadvantages of these methodologies. [6 marks]

5. Discuss the legal and ethical considerations that software developers must consider when creating software applications. Include reference to:

   - Data Protection Act
   - Intellectual Property Rights
   - Accessibility requirements

   [10 marks]

6. Explain the process of software testing, including:

   (a) Different types of testing
   (b) The importance of thorough testing in software development

   [5 marks]

Grade Boundaries:

- A Grade: 36-40 marks
- B Grade: 31-35 marks
- C Grade: 26-30 marks
- D Grade: 21-25 marks
- E Grade: 16-20 marks