AQA
Realising potential

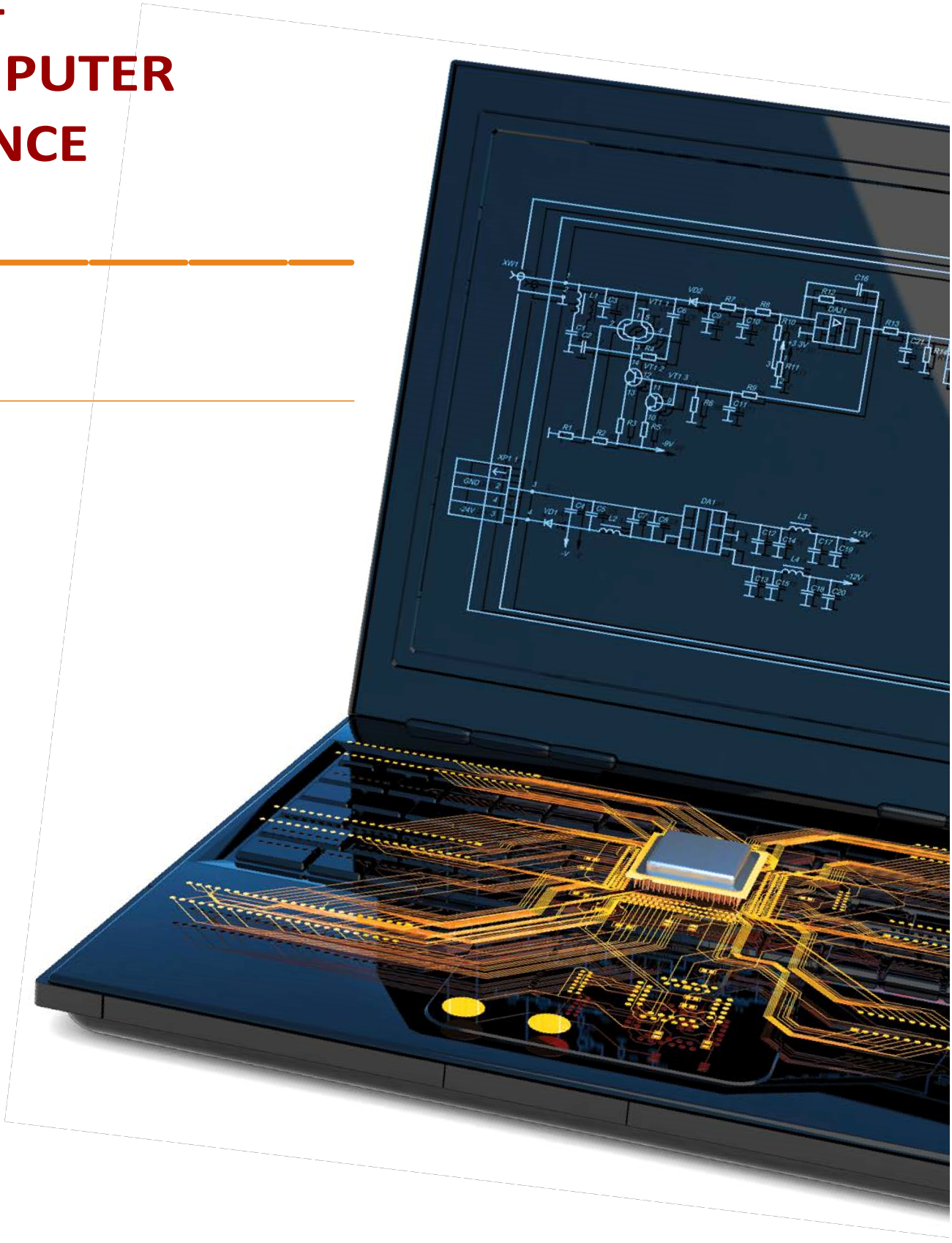
LANGLEY PARK SCHOOL FOR BOYS

MORES ET STUDIA

GCSE COMPUTER SCIENCE

GCSE (8520)

UNIT 3.5



3.5 Character encoding

Content	Additional information
Understand what a character set is and be able to describe the following character encoding methods: • 7-bit ASCII • Unicode.	Students should be able to use a given character encoding table to: • convert characters to character codes • convert character codes to characters.
Understand that character codes are commonly grouped and run in sequence within encoding tables.	Students should know that character codes are grouped and that they run in sequence. For example in ASCII 'A' is coded as 65, 'B' as 66, and so on, meaning that the codes for the other capital letters can be calculated once the code for 'A' is known. This pattern also applies to other groupings such as lower case letters and digits.
Describe the purpose of Unicode and the advantages of Unicode over ASCII. Know that Unicode uses the same codes as ASCII up to 127.	Students should be able to explain the need for data representation of different alphabets and of special symbols allowing a far greater range of characters. It is not necessary to be familiar with UTF-8, UTF-16 or other different versions of Unicode.

SPECIMEN MATERIAL 2015

0 1 . 5 Shade **one** lozenge to indicate which character is represented by the numeric code 70.

[1 mark]

A E ⬭

B F ⬭

C f ⬭

D 6 ⬭

E e ⬭

0 1 . 6 Unicode is an alternative to the ASCII coding system.

Describe **one** advantage and **one** disadvantage of using Unicode to represent characters instead of using ASCII.

[2 marks]

SPECIMEN PAPER 1 SUPPLEMENTAL MATERIAL 2015

1 (e) ASCII is a character-encoding system that uses seven bits to represent each character. Complete the table stating the binary representation of the character g.

Character	Binary Representation
f	110 0110
g	

[1 mark]

2 (d) How many bits does ASCII use to represent a single character?

[1 mark]

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0 3 State **one** advantage of using Unicode instead of using ASCII.

[1 mark]