

1 (a) Examples of primary and secondary storage devices include:

- hard disk
- DVD-RW
- flash memory

For each device, describe the type of media used.

Hard disk

DVD-RW

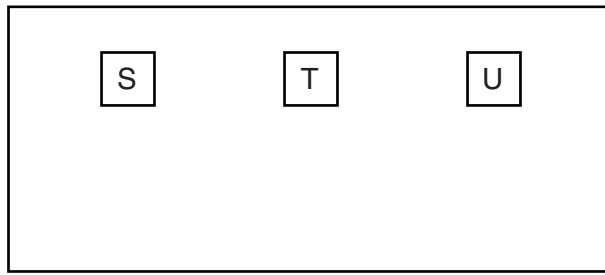
Flash memory[3]

(b) Describe the internal operation of the following devices:

DVD-RW

DVD-RAM[4]

3 A touch screen has three squares where a selection can be made:



(a) The x-coordinate of the centre of the three squares is held in three memory locations:

	Address	Memory contents
S	40	0000 1011 0100
T	41	0010 0101 0100
U	42	0100 0110 1100

(i) Give the hexadecimal value of the memory contents for U.

.....
[1]

(ii) Convert the denary number 40 into binary.

.....
[1]

(b) Bitmap graphics are used to represent squares S, T and U.

These can be saved in a number of different image resolutions.

(i) Give the number of bits required to store each pixel for a black and white bitmap.

.....[1]

(ii) Identify how many bits are required to store each pixel for a 256-colour bitmap.

Explain your answer.

.....

[2]

6 (a) Describe the stored program concept for the basic Von Neumann model for a computer system.

.....
.....
.....
.....
.....[3]

(b) (i) Name the **three** types of bus used by a processor.

1
2
3 [3]

(ii) State the function of the system clock in a processor.

.....
.....
.....[1]

- 7 An amusement park has a website. This includes a page where potential visitors can enquire about the price for an individual or group visit.

The user can enter the number of people in their group.

The admission price will be calculated and displayed.

```
1 <html>
2 <head>
3 <title>Amusement park visit ticket cost</title>
4 </head>
5 <body>
6 Calculate my ticket price
7 <Script Language = "JavaScript">
8 var groupSize = prompt("Enter number of visitors in
9 your group)", "");
10 var groupPrice = groupSize * 20;
11 if (groupSize > 4)
12 {
13 groupPrice = groupPrice * 0.8;
14 }
15 alert("Price for the group is " + groupPrice);
16 alert("Thank you for your enquiry");
17 </Script>
18 </body>
19 </html>
```


(a) Give the range of line numbers in the web page script that are JavaScript code.

.....[1]

(b) (i) Give the identifiers of **two** variables which have been used by the programmer.

1

2

[2]

(ii) Give the range of line numbers where selection is performed.

.....[1]

(c) Explain the use of the following in JavaScript.

(i) the `prompt` function

.....

.....[2]

(ii) the `var` keyword

.....

.....[2]

8 Verification and validation can be applied during data entry.

Describe what is meant by these terms. For each method, explain why it is needed.

Verification

.....

.....

.....

Validation

.....

.....

.....[4]

9 (a) An IP address has the following value:

11.64.255.90

(i) Write the above IP address in hexadecimal.

.....[4]

(ii) Explain the format of an IP address.

.....
.....
.....
.....[2]

(b) Study the following sentence:

“When a user enters a URL into their web browser, the DNS service locates the required resource.”

Explain how a URL and DNS are used to locate a resource.

.....
.....
.....
.....
.....
.....
.....
.....
.....[4]

10 Before it is used, a hard disk is formatted using disk formatter software.

(a) Explain why formatting is needed.

.....
.....
.....
..... [2]

(b) Eventually, the performance of the hard disk deteriorates.

Name **three** other utility programs that might be required. State why each is needed.

1

.....
.....
.....

2

.....
.....
.....

3

.....
.....
.....

[6]

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge International Examinations Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cie.org.uk after the live examination series.

Cambridge International Examinations is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.