



Past Papers Questions:

Section 1.2: System Software

May/June 2002

October / November 2002

2 Batch processing and real-time are two modes of computer system use.

(a) Define the terms

(i) *batch processing*,

(ii) *real-time processing*. [2]

(b) Give an example of an application for which

(i) batch processing

(ii) real-time processing would be appropriate, giving a reason for each of your answers. [4]

6 An on-line telephone enquiry system employs a large number of operators who answer customer queries by accessing their records at a terminal. All the terminals are connected to a single processor using a multi-user operating system.

(a) Explain how a multi-user operating system allows each of the users to share a single processor. [3]

(b) Give reasons why a number of terminals using a multi-access operating system is preferable in this application to a number of stand alone machines. [3]

May/June 2003

1 (b) State three utility programs associated with the use of a hard drive. Explain the purpose of each of the programs. [6]

2 (a) State what is meant by each of the following modes of use.

(i) Batch processing.

(ii) Real-time processing.

(iii) On-line processing.

(iv) Off-line processing. [4]

(b) A computer game involves driving a racing car around a track. State which two of the above modes of use would be appropriate, justifying your answers. [4]

October / November 2003

1 (b) (i) Explain the difference between batch processing and real-time processing.

(ii) For each mode of processing give an example of a computer application for which it would be appropriate. In each case justify your choice. [6]

2 Describe the following types of user interface. For each type of interface give a suitable use, justifying your answer in each case.

(i) Form-based.

(ii) Graphical User Interface (GUI).

(iii) Command line. [9]

May/June 2004

- 1 (a) State what is meant by
(i) operating system software; [1]
(ii) applications software. [1]
- (b) Explain the difference between
(i) batch processing and real-time modes of computer system use; [2]
(ii) on-line processing and off-line processing. [2]
- (c) A computer game involves steering a car around a course. State which two of the terms: batch, real-time, on-line and off-line would be needed for this example, justifying your choice. [3]
- 2 (a) Explain the meaning of the term utility software. [2]
(b) Describe two examples of utility software. [4]

October/November 2004

- 2 (a) A bank's computer system uses batch processing to produce customers' bank statements.
Give three reasons why batch processing is suitable in this application, justifying each of your answers. [6]

May/June 2005

- 1 (b) Describe three features which an operating system would be expected to provide in a single user computer system. [6]

October/November 2005

- 2 (a) Define the following modes of computer system use.
(i) Batch.
(ii) Real-time.
(iii) On-line.
(iv) Off-line. [4]
- (b) At the end of each day, the workers in a factory send, to the accounts department, the details of the time that they have been at work. They are paid at the end of each week. Choose two of the modes of use in part (a) which would be sensible to use in this example. Justify your answers. [4]

- 3 Describe each of the following types of user interface and give an example of an application where it might be used.

- (i) Form based. [3]
(ii) Menu based. [3]
(iii) Command line. [3]

May/June 2006

- 6 State four purposes of the operating system of a stand-alone computer. [4]

October/November 2006

- 9 State the purpose of each of the following pieces of utility software and say how each would be used by the copy editors.
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|-------------------------|-----|
| (i) Disk formatting. | [2] |
| (ii) File handling. | [2] |
| (iii) Hardware drivers. | [2] |
| (iv) File compression. | [2] |
| (v) Virus checker. | [2] |

May/June 2007

- 2 Speed mismatch is a problem that arises with the use of computer systems.
(a) Describe what is meant by the speed mismatch between user, peripheral and processor. [2]
(b) Identify an application which would use batch processing. [1]
(c) Explain how batch processing can overcome problems caused by speed mismatch. [2]
- 4 One purpose of most operating systems is to provide a set of utility programs designed to perform common tasks.
(a) (i) Describe the purpose of a disk formatting utility. [2]
(ii) Describe the purpose of a virus checking utility. [2]
(b) Describe two other purposes of an operating system apart from providing utility programs. [4]

October/November 2007

- 1 (a) (i) Describe a GUI (Graphical User Interface). [2]
(ii) Describe a form-based computer interface. [2]
(b) (i) State a computer application for which a GUI would be suitable. Justify your answer. [2]
(ii) State a computer application for which a form-based interface would be suitable. Justify your choice. [2]

May/June 2008

- 1 (c) The operating system, used by the computer controlling the ATM, must work in both batch and real-time modes.
(i) State what is meant by a batch processing operating system and explain why it would be necessary in the ATM. [3]
(ii) State what is meant by a real-time operating system and explain why it would be necessary in the ATM. [3]