Computer Systems

December 2015

Sample Examination Paper

Answer ALL questions.

Clearly cross out surplus answers.

Time: 3 hours

The maximum mark for this paper is 100.

Any reference material brought into the examination room must be handed to the invigilator before the start of the examination.

Answer ALL questions

Marks

Question 1

a) Recommend THREE (3) ways of how to categorise computer systems. **3**

b) State THREE (3) different types of computer system. **3**

c) For TWO (2) different types of computer system listed in (b), briefly describe TWO (2) defining characteristics of each technology. **4**

Total: 10 Marks

Question 2

a) State THREE (3) primary benefits of networking individual computers. **3**

b) List FIVE (5) network classifications based on physical size, ranked in order from the smallest (desktop) to the largest (global). **5**

c) What fundamentally differentiates the largest type of network from all the others? **2**

Total: 10 Marks

Question 3

a) State THREE (3) sub-components typically located *within* the CPU/Processor. **3**

b) State THREE (3) components of a computer located *outside* of the CPU/Processor. **3**

c) Provide TWO (2) examples volatile storage **and** provide TWO (2) examples of non-volatile storage. **4**

Total: 10 Marks

Questions continue on next page

Marks

Question 4

a) Briefly explain what is meant by the term *peripheral* in relation to a computer system. **2**

b) Name TWO (2) input peripherals. You should also state ONE (1) advantage of **each** device. **4**

c) Name TWO (2) output peripherals. You should also state ONE (1) advantage of **each** device. **4**

Total: 10 Marks

Question 5

a) Briefly explain what is meant by a *computer file*. You should also outline what can be held in a file **and** how files are normally stored. **3**

b) State THREE (3) pieces of meta-data that are captured when a computer file is stored. **3**

c) Identify FOUR (4) different access rights or permissions that may be applied to a file. **4**

Total: 10 Marks

Question 6

a) Briefly describe FOUR (4) types of change that create the need for software maintenance. **4**

b) Briefly discuss THREE (3) routine software maintenance tasks. **3**

c) State THREE (3) forms of common hardware upgrade **and** provide ONE (1) reason for each upgrade. **3**

Total: 10 Marks

Questions continue on next page

Marks

Question 7

a) What are the main stages of the Software Development Life-Cycle (SDLC)? **2**

b) State FOUR (4) reasons why the requirements elicitation stage may have problems. **4**

c) Briefly discuss TWO (2) selection strategies that may be used to pick a solution. **2**

d) List TWO (2) criteria that may be used to judge a solution's suitability **2**

Total: 10 Marks

Question 8

a) Outline THREE (3) computer system problems that could harm people **and** propose THREE (3) ways to avoid the problem. **6**

b) Briefly describe TWO (2) computer system problems that could harm computers **and** suggest TWO (2) ways to avoid the problem. **4**

Total: 10 Marks

Question 9

Provide TWO (2) examples of each of the following type of software:

a) Operating system **2**

b) User interface **2**

c) Utility and System software **2**

d) Application software **2**

e) Open source software **2**

Total: 10 Marks

Questions continue on next page

Marks

Question 10

You are a software testing specialist and have been asked by the Head of Quality Assurance to advise the IT department on how to guarantee the highest standards throughout the whole software development lifecycle. **10**

Identify FIVE (5) types of testing **and** state at which stage in the development lifecycle it is applied.

Total: 10 Marks

End of Examination Paper