

BCS THE CHARTERED INSTITUTE FOR IT
BCS HIGHER EDUCATION QUALIFICATIONS
BCS Level 4 Certificate in IT

INFORMATION SYSTEMS

Tuesday 27th September 2016 - Afternoon
Time: TWO hours

Section A and Section B each carry 50% of the marks.
You are advised to spend about 1 hour on Section A (30 minutes per question)
and 1 hour on Section B (12 minutes per question).

The marks given in brackets are **indicative** of the weight given to each part of the question.

Answer the Section A questions you attempt in Answer Book A
Answer the Section B questions you attempt in Answer Book B

Calculators are NOT allowed in this examination.

SECTION A

Answer 2 questions (out of 4). Each question carries 30 marks.

A1

A house cleaning company has been set up to provide cleaners in the local area. They require a system which deals with customers, jobs, staff, allocation of jobs, purchase and provision of cleaning material, paying both staff and suppliers.

- a) What is the purpose of system analysis and what skills are required by a system analyst?(8 marks)
- b) Identify the processes, data stores and external entities in the above case study(10 marks)
- c) Give THREE reasons why DFDs should be used and give an example from the above case study(12 marks)

A2

- a) Describe the functions of a feasibility study, discussing its place in the System Development Life Cycle (SDLC).(10 marks)
- b) Identify FOUR fact finding techniques, giving one different advantage and one different disadvantage of each(8 marks)
- c) Briefly describe TWO different approaches to the system development life cycle and techniques used in each(12 marks)

A3

a) Write brief notes describing the advantages and drawbacks of each of the following:

- i) Ecommerce (5 marks)
- ii) Data Warehousing (5 marks)
- iii) Client Server technology (5 marks)
- iv) End user computing (5 marks)

b) Briefly describe the most common features of relational database systems. (10 marks)

A4

a) What is HCI and why is it important in application design? (4 marks)

b) What techniques are used for good interface design? (8 marks)

c) Briefly describe the role and responsibilities of a project manager within the development of a computerised system. (9 marks)

d) Briefly discuss why documentation should be produced for a computer system and give examples of THREE different types of documentation explaining the basic content of each. (9 marks)

SECTION B

Answer 5 questions (out of 8). Each question carries 12 marks.

B5

a) Define what is meant by the following mathematical terms:

- i) Mean
 - ii) Mode
 - iii) Median
- (3 x 2 marks)

b) For the following selection of numbers,

1, 1, 1, 1, 2, 2, 3, 3, 4

calculate, showing workings, the

- i) Mean
 - ii) Mode
 - iii) Median
- (3 x 2 marks)

B6

Discuss with respect to Rapid Application Development the following terms:

- a) Joint Requirements Planning
- b) Time boxing
- c) Joint Application Development

(3 x 4 marks)

B7

Discuss the typical management structure for a computing department within a company.

(12 marks)

B8

Discuss the following terms, giving examples

- a) Operational data
- b) Strategic data
- c) Tactical data

(3 x 4 marks)

B9

Discuss the typical functions of a database administration team.

(12 marks)

B10

What is meant by the following terms and provide examples

- a) Structured data
- b) Un-structured data
- c) XML
- d) Lob

(4 x 3 marks)

B11

- a) Discuss briefly what it meant by the term Evolutionary Prototyping.
- b) Discuss briefly the advantages and disadvantages of this technique.

(4 marks)

(8 marks)

B12

Normalisation and Entity Relationship Diagrams are two techniques for designing data structures.

- a) Describe these two techniques

(2 x 3 marks)

- b) What are the advantages and disadvantages of these two techniques?

(6 marks)