THE INSTITUTE OF CHARTERED ACCOUNTANTS (GHANA)

INTEGRITY

MAY 2006 EXAMINATIONS
(PROFESSIONAL)

PART 2

MIS AND BUSINESS SYSTEMS
(Paper 2.5)

TIME ALLOWED: 3 HOURS

SECTION A

Based on the following case, answer **ANY TWO (2)** of the questions in this section.

ICACC, a local administrative authority, provides a range of services to individuals, including the provision of welfare. ICACC has a total workforce of 1,900.

In the welfare department, ICACC employs 30 staff who visit individuals to assess their welfare needs. This job means visiting individuals, who are normally poorly-paid or facing difficult family circumstances, to find out whether they should receive financial assistance (sometimes termed 'benefits') form ICACC.

The area covered by ICACC has a very low population density. Staff may have to travel many kilometres between each appointment and may not return to their central office for days at a time.

Rules which determine whether people are entitled to financial assistance are complicated, with over 6,500 separate rules and 170 different forms to complete. These rules change frequently, usually three per week. Consistent application of rules is difficult because of benefit fraud, human error, constant changing of rules and time delays inherent in the system itself. Staff retention is low because of poor morale.

The existing IT system is a minicomputer located at the headquarters of ICACC. The minicomputer contains a database showing which benefits are due to which individuals. A list of the benefits due is printed out weekly; and benefits are paid out according to the information on this list. The database is accessed and updated from ten terminals located in the computer room itself. Staff normally update the database when they return from their visits to individuals requiring benefits.

ICACC has decided to establish a decision support system to assist its staff in the application of benefit rules to the situations of individuals. ICACC requires that staff have access to the decision support system at any time during their working day.

Answer any TWO of the following questions.

1. Describe the essential hardware and software necessary to establish the decision support system, explaining why each part is relevant in meeting the aims of ICACC.

(Total: 20 marks)

2. (a) What is a 'decision support system'? (8 marks)

    (b) Explain with any two points how the new decision support system may enable ICACC to improve staff retention. (12 marks)

(Total: 20 marks)

3. (a) What is meant by a 'relational database structure'? (5 marks)

(b)   Explain any FIVE (5) advantages of a database system.   (15 marks)

(Total: 20 marks)

SECTION B

ANSWER ANY THREE (3) QUESTIONS FROM THIS SECTION

QUESTION 4

(a)   What is the essence of:

      i)   System maintenance
      ii)   Regression testing
      iii)   Usability testing   (15 marks)

(b)   Quality management is concerned with controlling activities with the aim of ensuring that products or services are fit for their purpose and meet specifications.

     Identify the main activities associated with quality management.   (5 marks)

(Total: 20 marks)

QUESTION 5

(a)   A feature of general systems theory and of all managerial control systems is the existence of feedback control loops. The normal feedback loop, sometimes termed single loop feedback, is the most formalised; yet, from a system's viewpoint, higher level feedback, sometimes termed double loop feedback, can be said to be of equal importance.

      i)   Describe a feedback control cycle, identifying each element in the loop.
                                          (6 marks)

      ii)   Discuss the importance of feedback in the control of systems.
                                            (6 marks)

(b)   Companies have to decide on the type of processing activities to engage in depending on the nature of their operations.

Two of these processing types are 'batch' and 'real-time'.

You are required to explain the difference between batch processing and real-time processing, giving any two examples of each.   (8 marks)

(Total: 20 marks)

QUESTION 6

(a)   One of the stages of the system development life cycle (SDLC) is 'System Investigation'.

You are required to explain how an analyst will go about system investigation.
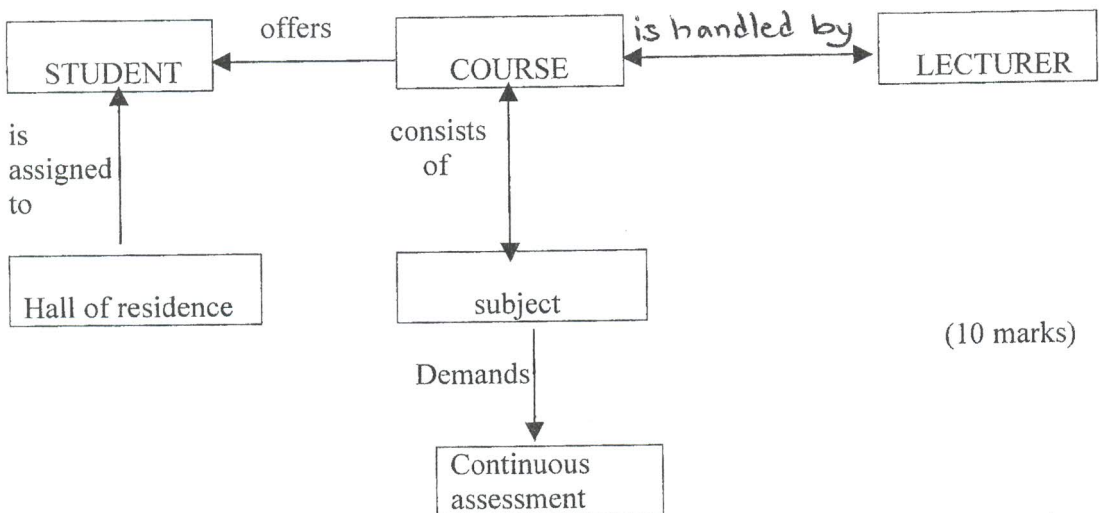   (12 marks)

(b)   Explain the purpose of a post-implementation review following a system changeover.   (8 marks)

(Total: 20 marks)

QUESTION 7

(a)   The following logical data structure has been prepared by an analyst.

You are required to describe it, using simple, clear English statements.

                                                                          (10 marks)

(b) Computer Aided Systems/Software Engineering (CASE) tools are used for systems/software development.

Describe any FIVE (5) facilities offered by CASE tools.   (10 marks)

(Total: 20 marks)