



**CICT PART II SECTION 3**

**SYSTEMS ANALYSIS AND DESIGN**

**WEDNESDAY: 28 November 2018.**

**Time Allowed: 3 hours.**

**Answer ALL questions. Marks allocated to each question are shown at the end of the question.**

**QUESTION ONE**

- (a) ABC Ltd. is a company that manufactures motor cycles. The company has computerised system that allows customers to place their orders over the internet. ABC Ltd. sells to cycle shops not individuals, therefore they invoice and collect payment after delivery of the cycles.

**Required:**

- (i) Compose a use-case description for the normal scenario "place - an order". (7 marks)
- (ii) Citing a reason why it might occur, explain the meaning of an alternative scenario in a use case description. (2 marks)
- (iii) Describe three alternative scenarios for the use-case description in (a) (i) above. (3 marks)
- (b) A company has decided to purchase commercial off the shelf (COTS) software to handle the financial aspects of its business.

**Required:**

- (i) Describe five general criteria that should be used to decide which COTS software could be suitable for the company. (5 marks)
- (ii) Suggest three other options that the company could employ to obtain a suitable software. (3 marks)
- (Total: 20 marks)**

**QUESTION TWO**

- (a) A local library has posted an advert in the local media inviting members of the public to apply for membership. Those who apply are given an application form to complete and return to the reception desk. The reception desk produces a membership card and sends it to the new member. The completed application form is then filed in the member's file. If the details of a member changes, the member informs the librarian who makes the amendment and updates the member's file. If a member wishes to stop his/her membership, he/she informs the librarian who deletes the member's details and updates the member's file.

**Required:**

- Draw a Level 1 Data Flow Diagram (DFD) to illustrate the above scenario. (8 marks)
- (b) One way of investigating a proposal for information systems project whose benefits or feasibility are not absolutely clear is through soft systems methodology (SSM).  
Discuss three features of the SSM. (6 marks)
- (c) (i) Describe two common mistakes in the project management phase of information systems. (2 marks)
- (ii) Propose solutions to each of the mistakes described in (c)(i) above. (2 marks)
- (d) Summarise two reasons why it might be difficult to determine correct user requirements. (2 marks)
- (Total: 20 marks)**

**QUESTION THREE**

- (a) Discuss three levels of quality assurance that need to be performed in order to certify a software product. (6 marks)
  - (b) Summarise four objectives of output design. (4 marks)
  - (c) Examine how a CASE tool could help to improve the quality of a system being developed. (5 marks)
  - (d) As a systems analyst, prepare five guidelines to be followed when carrying out system testing. (5 marks)
- (Total: 20 marks)**

**QUESTION FOUR**

- (a) (i) Describe why a stakeholder matrix could help a systems analyst to collect information in an organisation. (2 marks)
  - (ii) Highlight three disadvantages of collecting information using stakeholder matrix. (3 marks)
  - (b) Citing an example in each case, describe three types of system maintenance. (6 marks)
  - (c) Describe five objectives of conducting a system audit. (5 marks)
  - (d) Assess when pilot conversion method would be preferred over a parallel method during systems implementation. (4 marks)
- (Total: 20 marks)**

**QUESTION FIVE**

- (a) Citing an example in each case, assess three types of standards used in an information systems project. (6 marks)
  - (b) Describe four internet communication channels that could be used by a systems analyst. (4 marks)
  - (c) Discuss the user interface design process in information systems development. (5 marks)
  - (d) (i) Explain joint application design (JAD) in the context of information systems development. (1 mark)
  - (ii) Describe four participants of joint application design (JAD) session. (4 marks)
- (Total: 20 marks)**
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