

## CHUKA UNIVERSITY

### COSC 130: SYSTEM ANALYSYS AND DESIGN

ANSWER QUESTIONS ONE AND ANY OTHER TWO:

#### QUESTION ONE: 30 MARKS

- a) . Discuss THREE different ways of involving users in a development project. Comment on any problems that might arise with each of these. (4 marks)
- b) . During the design and development of a computerized information processing system, various types of documentation are produced. Explain at least two types and four functions performed by some of these documentations. (4 marks)
- c) Explain the purpose of a feasibility report, and when in the system development life cycle it should be produced. (3 marks)
- d) . Define system methodology? Explain the b-Model life cycle in detail. Also illustrate its strengths and drawbacks (4 marks)
- e) Specification documents often fail to describe the requirements clearly enough for the various people who need to read them. Describe five different types of mistakes made by specification authors. (4 marks)
- f) Describe the four values of agile systems development methodologies (3 marks)
- g) List the conditions under which you would select an agile methodology (2 marks)
- h) Assuming you are senior systems analysts working in an IT department of a large organization that currently uses the traditional SDLC as the standard for developing new systems. You have been asked by your manager to examine a number of structured systems methodologies with a view to recommending the most appropriate one to be adopted by the company. Explain five features of the structured approach to systems analysis and design (6 marks)

#### QUESTION TWO: 20 MARKS

- a). A group meeting sometimes is suggested as a useful compromise between interviews and questionnaires. In such a group meeting, one systems analyst meets with and asks questions from a number of users at one time. Discuss the advantages and disadvantages of such a group meeting. (4 marks)
- b). Explain the difference between verification and validation. Give an example of a technique that can be used for each? (4 marks)

c The following are four phases in the Systems Development Life Cycle (SDLC). For each phase identify TWO deliverables, briefly describe each of these deliverables and identify the techniques used to produce it.

i) Requirements identification (2 marks)

ii) Analysis (2 marks)

iii) Design (2 marks)

iv) Implementation (2 marks)

d). Explain how Technology can drive today's information system (4 marks)

### QUESTION THREE: 20 MARKS

a). It is possible for systems analysis involved in the introduction of new or upgraded computer systems to encounter resentment and opposition from existing employees. This may take many forms from outright opposition to active hostility toward the new system during fact finding interviews.

(i) Outline four reasons for employees to react in this manner. (3marks)

(ii) Outline four measures that can be taken by the systems analyst to alleviate this resistance.

(3 marks)

b). Differentiate between a closed and Open systems. (2 marks)

c). Explain the working PARIS Model. (3 marks)

d) What are the typical stakeholders in an information systems? What are their roles? (4 marks).

f) .In the context of computer systems, explain each of the following concepts stating their importance to systems analysts in the development of information systems:

(i) The systems approach (ii) Feedback (iv) open-loop system (v) Boundary (vi) Hierarchy (5 marks)

### QUESTION FOUR: 20 MARKS

a). Define an information system and describe its components. (4 marks)

b). Explain functional Decomposition in relation to information systems (2 marks)

c). What is prototyping? Describe the development procedure of the following types of prototypes:-

i) Operational prototypes

ii) Discardable prototypes

(4 marks)

d) A fast-food organization has expanded the number of outlets around a city. At the moment the outlets use conventional cash tills. The organization would like to implement a Point-Of-Sale (POS) system in all its outlets with linkages to a centralized computer.

Assume you are the organization's systems analyst and you have been asked to assist in the conversion process from the existing system to the new one:

(i) evaluate the change-over options that are available and recommend the most suitable method for the new system (6 marks)

(ii) construct a sequential check list for the activities to be carried out during the implementation process. (3 Marks)

#### QUESTION FIVE :20 MARKS

- a) ). Draw context diagram and data flow diagrams for a distance education university described in the following narrative. Students send in an application form containing their personal details, and their desired course. The university checks that the course is available and that the student has necessary academic qualifications. If the course is available the student is enrolled in the course, and the university confirms the enrolment by sending a confirmation letter to the student. If the course is unavailable the student is sent a rejection letter. (8 marks)
- b) .Systems analysts use a variety of techniques to search for requirements. Identify FOUR of these techniques and explain any strengths and weaknesses they may have (5 marks)
- c) Compare object-oriented analysis and design with the structured analysis and design. State the activities involved in each of the phases of the object-oriented development life cycle.. (7 marks)

