



UGANDA INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY

END OF SEMESTER I EXAMINATIONS

ACADEMIC YEAR 2018/2019

DEPARTMENT : ICT

YEAR OF STUDY : TWO

PROGRAMME : ITB, ITS,CT

COURSE : SYSTEMS ANALYSIS AND DESIGN

COURSE CODE : IT 215

DATE : DECEMBER 12, 2018

TIME : 2:00PM

DURATION : 3 HOURS

INSTRUCTIONS:

- i) **Section A is compulsory**
- ii) **Attempt any THREE (3) questions from section B.**
- iii) **All questions in section B carry equal marks**
- iv) **DO NOT write anything on this question paper**
- v) **Credit will be given for use of relevant examples and illustrations**
- vi) **Mobile phones are NOT allowed in the examination room**

SECTION A [40 MARKS]

Attempt **ALL** the Questions in this Section.

1. can be defined as data that has been processed into a form that is meaningful to the recipient and is of real or perceived value in current or prospective decisions.
A. System B. Information C. Technology D. Service
2. SDLC stands for
A. System Development Life Cycle B. Structured Design Life Cycle
C. System Design Life Cycle D. Structured development Life Cycle
3. Which of the following is **not** a task for a Systems Analyst?
A. Designing training materials for new system users
B. Writing job descriptions and work specifications for people to be hired with the new system.
C. Seeking financial resources to pay for the proposed system.
D. None of these
4. Which of the following items of information is unlikely to be found in a feasibility analysis?
A. A projected schedule for undertaking the project.
B. A list of the operational problems for the current system.
C. A list of potential intangible benefits that may be gained by undertaking the project.
D. An analysis of the potential risk involved in undertaking the project.
5. can be defined as the most recent and perhaps the most comprehensive technique for solving computer problems.
A. System Analysis B. System Data C. System Procedure D. System Record
6. refers to the collection of information pertinent to a system Project.
A. Data transfer B. Data gathering C. Data Embedding D. Data Request
7. is a group of interrelated components working together towards a common goal by accepting inputs and producing outputs in an organized transformation process.
A. System B. Network C. Team D. System Unit
8. The main ingredient of the report documenting the is the cost benefit analysis.
A. System Analysis B. Feasibility Study
C. System Implementation D. System Design
9. The key considerations involved in the feasibility analysis include
(i) Economical (ii) Technical (iii) Behavioral (iv) Personal
A. i, ii, iv B. i, ii, iii C. ii, iii, iv D. All these

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21. External Entities may be a
- A. Source of input data only
 - B. Source of input data or destination of results
 - C. Destination of results only
 - D. Repository of data
22. Data store in a DFD represents
- A. a sequential file
 - B. a disk store
 - C. a repository of data
 - D. a random access memory
23. A data flow can
- A. Only enter a data store
 - B. Only leave a data store
 - C. Enter or leave a data Store
 - D. Either enter or leave a data store but not both
24. Data cannot flow between a store and
- (i) a store
 - (ii) a process
 - (iii) an external entity
- A. i and iii
 - B. i and ii
 - C. ii and iii
 - D. ii
25. The characteristics of a well designed system are
- (i) Practical
 - (ii) Effective
 - (iii) Secure
 - (iv) Reliable
 - (v) Flexible
 - (vi) Economical
- A. i, ii, iii and iv
 - B. i, iii, iv and v
 - C. i, ii, iii, v and vi
 - D. All these
26. represents the flow of the data through an organization or a company or series of tasks that may or may **not** represent computerized processing.
- A. System process
 - B. System flowchart
 - C. System design
 - D. Structured System
27. The Design Phase consists of
- (i) Identifying the functions to be performed
 - (ii) Designing the input/output and file design
 - (iii) Defining basic parameters for system design
- A. i and ii
 - B. ii and iii
 - C. I and iii
 - D. All these
28. A context diagram
- A. Describes the context of a system
 - B. is a DFD which gives an overview of the system
 - C. is a detailed description of a system
 - D. is not used in drawing a detailed DFD
29. The output of the problem definition stage is
- A. Master Development Plan
 - B. Terms of reference
 - C. Feasibility report
 - D. Final product
30. A context diagram is used
- A. as the first step in developing a detailed DFD of a system.
 - B. in systems analysis of very complex systems.
 - C. as an aid to system design.
 - D. as an aid to programmer.

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31. Information can be categorized into
- i) Environmental information ii). Competitive information
 - iii). Government information iv). Internal information
- A. i, ii and iii B. i, ii and iv C. ii, iii and iv D. i, iii and iv
32. Which of the following is/are the sources for project requests?
- A. Request from Department managers B. Request from senior executives
- C. Request from system Analyst D. All of these
33. A DFD is normally leveled because
- A. It is a good idea in design
 - B. It is recommended by many experts
 - C. it is easy to do it
 - D. It is easier to read and understand a number of smaller DFDs than one large DFD
34. is a tabular method for describing the logic of the decisions to be taken.
- A. Decision tables B. Decision tree
- C. Decision Method D. Decision Data
35. State True or False.
- i) Terms of reference is the final output of Feasibility Study
 - ii) Design specification report is the final output of System Analysis
- A. i true, ii true B. i false, ii true C. i true, ii false D. i false, ii false
36. Which of the following items is **not** an appropriate behaviour for a good interviewer?
- A. Showing good listening skills
 - B. Objectivity
 - C. Being able to sell the new system to its future users
 - D. None of these
37. Cardinality in an Entity-Relationship diagram
- A. refers to the number of higher level entities that are used in the ER model
 - B. is used to show the average number of items that might typically be involved in a relationship
 - C. is used to show the ratio of one entity in relationship to another entity
 - D. None of these
38. The advantage of system flowcharts is
- A. Effective communication B. Effective analysis
 - C. Easier visualization of group or relationships D. All these

39. Which of the following is **not** an advantage of prototyping?
- A. It promises to eliminate excess development costs and design flows that occur when requirements are not fully captured the first time round.
 - B. Valuable for the design of the end user interface of an IS.
 - C. It is more likely to produce a system that will fulfill user requirements, especially when it is used for decision-support applications.
 - D. None of these
40. Which of the following is an example of a system's non-functional requirement?
- A. The system shall be designed in a way that makes it easy to update and easy to use.
 - B. The system shall provide appropriate views for the user to read documents in the document store.
 - C. Only direct managers can see the personnel records of their staff.
 - D. None of these

SECTION B [60 MARKS]

Attempt **only three** Questions in this Section.

Question 1

- (a) List any **five** stakeholders of a system under development. **(5 marks)**
- (b) Describe any **four** duties of a Systems Analyst. **(4 marks)**
- (c) List any **five** qualities of a Systems Analyst. **(5 marks)**
- (d)** Describe any **three** causes of a system development project. **(3 marks)**
- (e) Do you agree that users have a right to influence systems design? Explain. **(3 marks)**

Question 2

- (a) Refer to facts finding techniques used in SDLC:
Interviews, Questionnaires and Observation.
 - (i) Briefly explain how they are conducted
 - (ii) Give **two** advantages and one disadvantage for each **(18 marks)**
- (b) Describe **two** circumstances under which questionnaires may be preferable to interviews during system investigation. **(2 marks)**

Question 3

- (a) Differentiate between the following requirements determination sub-activities:
Requirements anticipation and requirements elicitation
Requirements Assurance and requirements specification **(4 marks)**
- (b) The PIECES Framework is a model that focuses on the actual work of doing requirements determination through classifying identified requirements into
- (c) one of six subject areas:- Performance, Information, Economy, Control, Efficiency, and Services. Using examples, clarify each of the subject areas of the PIECES Framework. **(12 marks)**
- (d) Describe how the information needs of an individual manager in an organization can be established through the decision analysis method. **(4 marks)**

Question 4

- (a) Discuss any **five** challenges likely to be encountered during system investigation. **(5 marks)**
- (b) Describe any **four** circumstances under which we may say a system development project was not a total success. **(4 marks)**
- (c) Give any **five** reasons that may lead to the failure of a system development project. **(5 marks)**
- (d) Identify any **three** critical factors of successful information system implementation from an organizational change perspective. **(6 marks)**

Question 5

- (a) Differentiate between the following types of software testing:
(i) Black box and White box testing (ii) Alpha and Beta testing **(4 marks)**
- (b) Give any **two** key characteristics of the interface models:
(i) Desktop metaphor (ii) Menu systems (iii) Command-line interfaces **(6 marks)**
- (c) System implementation may be fulfilled using different system conversion strategies. Briefly explain the following system conversion approaches giving one advantage and one disadvantage in each case:
(i) Direct conversion (ii) Parallel conversion (iii) Pilot conversion **(9 marks)**
- (d) Explain any one factor upon which software engineers may base their system conversion strategy on. **(1 mark)**

END