

AL-WADAN PRIMARY AND SECONDARY SCHOOL

Technology

Chapter One Questions & Answers Introduction to System analysis and design

1. What are the words that technology stands for?
 - Two words
 - Techno**=Technical.
 - Logy**= Study.
2. Where the term system originally derived from?
 - The term system is originally derived from the Greek word **Systema**.
3. What is system?
 - **System** is an interconnected set of business procedures used with in one business unit working together for a purpose.
4. What are the three concepts that has system fundamentals implications?
 - A system must be designed to meet predefined targets.
 - The components have to have interrelationships and interdependence.
 - The organization's goals as a whole have a higher priority than its subsystem goals.
5. What are the characteristics of the system?
 - Interrelated components
 - Environment
 - Interfaces
 - Input
 - Output
6. What is information system? And some examples?
 - **Information systems** are combined network of hardware, software and telecommunications networks that users use to collect, create, and distribute useful data.
 - **Examples of Information system**
 - Marketing information system
 - Payroll system
 - Human resource management system
7. Tell and explain the five components of information systems?
 - **Hardware** contains everything in the physical layer of the information system. For example, servers, workstations, networks, telecommunications equipment, fiber-optic cables, cellular devices, scanners, digital capture devices.
 - **Software** the hardware desires to know what to do, and that is the role of the software. There are two types of software system software and application software
 - **Data** is a raw material that an information system transforms useful information into.
 - **People**(users) who have interest in an information system are called stakeholders.
 - **Process** is a set of actions taken to attain a desired result or objective.
8. List the purpose of information system?
 - Provide information that assists with strategic planning.
 - Better performance and increase productivity
 - Support the distribution of information to different departments of organization for operation purpose.

AL-WADAN PRIMARY AND SECONDARY SCHOOL

Technology

Chapter One Questions & Answers Introduction to System analysis and design

9. What are system analyses and design (SAD)?

- **system analyses and design (SAD)** is the mechanism by which people build automated information system.

10. Who is system analyst?

- **system analyst** is a title given to a person who studies the problems and needs of an organization looking for improvement opportunities for improving quality of service or product, reducing cost and increasing the income or profit.

Note system analyst should produce quality requirement documents which meets the expectations of the customer.

11. What are the skills should have system analyst?

- Working knowledge of IT.
- Computer programming experience and expertise.
- General business knowledge.
- Good interpersonal communication skills.
- Relations skills
- Flexibility and adaptability.

12. What is system development life cycle (SDLC)?

- **system development life cycle (SDLC)** is a conceptual model that incorporates policies and procedures to build or alter system during life cycle.

13. List stages that system analysis and design consist of?

- Planning
- Analysis
- Design
- Coding
- Testing
- Deployment
- Maintenance

14. What is planning stage?

- **Planning** is the first phase in the system development life cycle. It determines whether there is the need or not there is need for a new system to achieve the strategic goals of a company.

Note the main aim is this phase is to conduct a preliminary investigation to determine opportunity or issue relevant to the information technology.

15. What is key component of the preliminary investigation?

- The key component of the preliminary investigation is a feasibility report(studies).

16. Tell the types of feasibility studies?

- **Operational feasibility** this done to determine if the proposed solution is able to be used and will be in a proper working condition.
- **Technical feasibility** this done to determine if the proposed solution can be supported by the available technology.

AL-WADAN PRIMARY AND SECONDARY SCHOOL

Technology

Chapter One Questions & Answers Introduction to System analysis and design

- **Economic feasibility** this done to determine if the proposed solution is financial affordable and is beneficial.
- **Schedule feasibility** this done to determine if the proposed solution can be developed and made operational within the required time.

17. What is Analysis stage?

- The analysis stage starts with identification of the problem and analyzing the needs of end users in order to ensure the new proposed system can meet their requirements and expectations.

Note this stage is very essential because involves researching an existing system and requirement gathering techniques.

18. List the main objective of analysis?

- Study or gather data from the existing system
- Describe the current system
- Identify the problem within the current system
- Identify the scope of the system
- Identify and agree customer needs and requirements.
- Build logical model of new system

19. List and explain the four common methods used in fact find?

- Observation
- Interview
- Questionnaire
- Document review.

20. What is observation? And advantages and disadvantages?

- **Observation** in this technique the analyst visits the company himself and observes and understand the current state of documents, working of the existing system, the user of the system.
- **Advantages of observation**
 - The observer acquires first-hand experience of what goes on there
 - A relatively inexpensive method
 - Reliable data is collected.
- **Disadvantages of observation**
 - People under study may be uncomfortable and hence make mistakes
 - It is time consuming because the observer must be there in person
 - Tasks that violate standard procedure may not be carries out the way they are normally done, when under observation.

21. What is interview? And advantages and disadvantages?

- **Interview** this method involves a one to one question and answer session between the employee or the customer.
- **Advantages of interview**
 - It provides the opportunity to motivate the interviewee into giving open and honest answers to the analyst's
 - It allows the analysts to probe for more feedback from the interviewee.

AL-WADAN PRIMARY AND SECONDARY SCHOOL

Technology

Chapter One Questions & Answers Introduction to System analysis and design

- It is possible to modify questions as interview proceeds and ask questions specific to the interviewee.
 - **Disadvantages of interview**
 - This approach can be a time-consuming exercise
 - It is relatively expensive (use of analyst's time)
 - The interviewee cannot remain anonymous.
22. What is questionnaire? And advantages and disadvantages?
- **Questionnaire** this approach includes the distribution of questionnaires to the workforce, customers or system users to find out their views on the existing system and to find out how some of the key tasks are carried out.
 - **Advantages of questionnaire**
 - It is relatively easy to analyze
 - You can contact a wide sample of the population at a relatively low cost
 - Respondents of survey have time to think about their answers; they are not usually required to replay immediately.
 - **Disadvantages of questionnaire**
 - The respondents may misunderstand questions because of a poor design and ambiguous language
 - Respondents may ignore certain questions
 - There is a risk of questionnaire fatigue if surveys are carried out too frequently.
23. What is document review? And advantages and disadvantages?
- **Document review** this method is extremely important because it involves investigating the current system documentations.
 - **Advantages of document review**
 - Analyst can see for himself how the paper system operates
 - The analyst is able to review previous solutions and recommendations that have been made on the system.
 - **Disadvantages of document review**
 - It can be a very time-consuming exercise
 - It is a fairly costly method to use.
24. What is requirement specification?
- The deliverable for analysis stage is the system requirements document therefore the requirement should include the following;
 - Input
 - Outputs
 - Control
 - Data storage
 - Processing requirement
25. Define **design** stage?
- The goal of system design is to build a physical model that will fulfill all documented requirements for the system.
26. What is user interface design?
- **The user interface design** is the design of user interface for system which focuses on the usability of the software.

AL-WADAN PRIMARY AND SECONDARY SCHOOL

Technology

Chapter One Questions & Answers Introduction to System analysis and design

27. List characteristics of a good user interface?
- Consistent layout
 - User friendly
 - Build user interface which is simple and easy to use
 - Enhance user productivity
 - Make the user interface easy for users to seek support or fix errors.
28. Define system design?
- System design is the process of defining the architecture, component, modules interfaces and data for a system to satisfy specified requirement of the users.
 - There are two types of system design **Logical design** and **physical design**.
29. What is **coding stage**?
- **Coding stage** or **system construction** the main goal of this phase is coding of the proposed system by using and appropriate computer programming language.
30. What is testing stage?
- The main goal of this stage is to fix errors in planning, coding and requirement are corrected.
 - There are many ways of testing system some of the are follows **unit testing, integration testing, system testing** and **acceptance testing**.
31. What is **deployment** stage?
- **Deployment** (install and use) of the system which has been tested debugged is carried out at this stage.
 - There are different deployment approaches of deploy a system. They are follows **direct deployment, parallel deployment, pilot deployment** and **phased deployment**.
32. What is **maintenance** stage?
- Maintenance is continuous process of system modifications is known as maintenance and will occur throughout the operational life cycle of the system.
 - The following three activities will occur **bug (error) fixing, upgrade** and **enhancement**.
33. *List various system development methodologies?*
- Waterfall model
 - Agile method
 - Raped application development (RAD).
34. *What is waterfall model?*
- The waterfall model was the first methodology to be introduced and also consists of several stages of a linear development.
 - You need the following consideration
 - First identify requirements
 - Complete one stage fore going to the next phase
 - The result of the developed system is found at the final stage.
35. *List different phases of waterfall model?*
- **Requirement, design, development, testing, deployment** and **maintenance**.

AL-WADAN PRIMARY AND SECONDARY SCHOOL

Technology

Chapter One Questions & Answers Introduction to System analysis and design

36. *What are the advantages and disadvantages of waterfall model?*

▪ **Advantages of waterfall model**

- Easy and simple to understand and use
- Easy to handle due to model stiffness
- Phases are processed and finished one at a time
- Fits well for smaller projects where there is a clear understanding of the specifications
- Phases are clearly described and milestones well known
- Activities easy to manage and process and results are well documented.

▪ **Disadvantages of waterfall model**

- High risk and uncertainty levels
- Not a suitable model for object-oriented and complex projects
- Poor methodology for long and ongoing projects
- Progress within stages can be difficult to measure
- Cannot changing requirements

37. *What is agile method?*

- **Agile method** is a mechanism in which a team can manage a project by breaking it into many stages and requiring continuous collaboration with stakeholders and continual development and iteration at each stage.

38. *List the most common examples of agile method?*

- Scrum
- Extreme programming (XP)
- Feature driven development (FDD)
- Dynamic systems development method (DSDM)
- Adaptive software development (ASD)
- Crystal and
- Lean software development (LSD).

39. *What is Rapid Application Development (RAD)?*

- Rapid Application Development (RAD) is team-based method which accelerates the development of information system and produces a functioning information system.

40. *List five steps or phases in RAD?*

- Define and finalize project requirements
- Begin build prototypes
- Gather user feedback
- Test
- Present your system