



Part one: Question and Answers

1. Describe system and its characteristic?

Ans: - A system is an interconnected set of business procedures used within one business unit working together for a purpose.

The characteristics of a system is: -

- ❖ interrelated components
- ❖ Environment
- ❖ Interfaces
- ❖ Input
- ❖ Output.

2. Explain the study of system concept?

Ans: - The study of system concept has three fundamentals implication:

- ❖ A system must be designed to meet predefined targets.
- ❖ The components have to have interrelationships and interdependence.
- ❖ The organizations goals as whole have a higher priority that its subsystem goals.

3. Define information system?

Ans: - Information system are combined network of hardware, software, and telecommunications networks that users use to collect, create, and distribute useful data, from organizational settings.



4. List some examples of information system?

Ans: - Examples of information systems include the following:

- ❖ Marketing information system
- ❖ Payroll system
- ❖ Human resource management system
- ❖ Library management system
- ❖ University management system
- ❖ Restaurant management system
- ❖ Accounting management system among others.

5. Identify the five-key component of information system?

Ans: - Information system have five essentials components namely: **Hardware, Software, Data, People, and Processes.**

6. Describe the purpose of information system?

Ans: - The following are some of 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.



7. List some examples of hardware?

Ans: - Hardware can consist of:

Servers, Workstations, Networks, Telecommunications equipment, Fiber Optic Cables, Cellular devices, Scanners Digital capture Devices, Different technology-based infrastructure.

8. Software can be broken down into two main categories what are they?

Ans: - The two main categories of software are:

- ❖ System Software
- ❖ Application software

9. Define system analysis and design?

Ans: - **System analysis and design** are a mechanism by which people build(automated) information systems.

10. Describe system analyst and it's the following skills?

Ans: - **System analyst** is a title given to 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.



System analyst should have the following skills:

- ❖ Working knowledge of information technology
- ❖ Computer programming experience and expertise
- ❖ General business knowledge
- ❖ General problem-solving skills
- ❖ Good interpersonal communication skills
- ❖ Good interpersonal relation skills
- ❖ Flexibility and adaptability
- ❖ Character and ethics

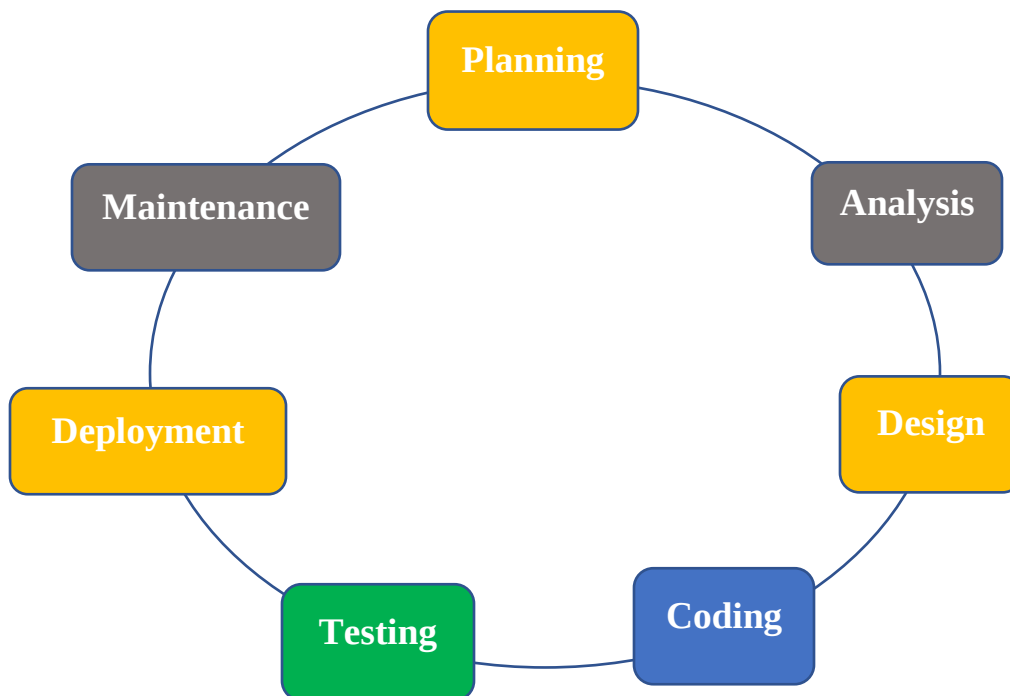
11. Describe system development lifecycle?

Ans: - The System development lifecycle (SDLC) is a conceptual model that incorporates policies and procedures to build or alter system during their lifecycles.

This method is used to provide a structure for technical and non-technical activities in order to produce high quality software that meets the standards and expectations of the customer.

12. Discuss in details the stages of system development life cycle?

Ans: - The details the stages of system development life cycle



System planning phase is the first phase in the system development lifecycle.

The aim of this phase is to conduct preliminary investigation to determine opportunity or issue relevant to the information technology.

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.



The design stage: the goal of the systems design stage is to build a physical model that will fulfill all documented requirements for the system.

System testing: the main goal of this process is to fix errors.

The deployment (Install and use) of the system which has been tested and debugged is carried out at this stage.

Maintenance: This continuous process of system modification is known as maintenance and will occur throughout the operational lifecycle of the system.

13. Explain the main objective of analysis stage?

Ans: - The main objective of this stage is to do the following activities:

- ❖ 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.

14. List the types of feasibility?

Ans: - The type of feasibility studies carried out are:

- ❖ Operational feasibility
- ❖ Technical feasibility
- ❖ Economic feasibility
- ❖ Schedule feasibility



15. Identify fact finding techniques?

Ans: - The four common methods used in fact finding include:

- ❖ Observation
- ❖ Interview
- ❖ Questionnaire
- ❖ Document review

16. What are the advantages and disadvantages of observation?

Ans: - 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.
- ❖ Task that violate standard procedures may not be carried out the way they are normally done, when under observation.

17. What are the advantages and disadvantages of interview?



Ans: - advantages of interview

- ❖ It provides the opportunity to motivate the interviewee into giving open and honest answers to the analysts.
- ❖ It allows the analysts to probe for more feedback from interviewee.
- ❖ It is possible to modify questions as interview proceeds and ask questions specific to the interviewee.

Disadvantages of interviewee

- ❖ This approach can be a time-consuming exercise.
- ❖ It is relatively expensive (use analysts time).
- ❖ The interviewee cannot remain anonymous.

18. What are the advantages and disadvantages of questionnaire?

Ans: - 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 reply immediately.



Disadvantages of questionnaire

- ❖ Respondents may misunderstand questions because of poor design and ambiguous language.
- ❖ Respondents may ignore certain questions.
- ❖ There is a risk of questionnaire fatigue if surveys are carried out too frequently.

19. What are the advantages and disadvantages of document review?

Ans: -advantages of document review

- ❖ Analyst can see for himself how the paper system operates.
- ❖ The analyst is able to review previous solution and recommendations that have been made on the system.

Disadvantages of document review

- ❖ It can be a very time-consuming exercise.
- ❖ It is fairly costly method to use.

20. List the following types of requirement specification?

Ans: -The requirement should include the following:

- ❖ Inputs
- ❖ Outputs
- ❖ Control
- ❖ Data storage
- ❖ Processing requirement



21. What is the user interface?

Ans: - User interface define how users communicate with a computer system, and involves all the hardware, software, screens, menus, functions, performance, and features that affect two-way communications between user and the system.

22. List the characteristics of a good user interface?

Ans: - The 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.

23. What is the system design?

Ans: - System design is the process of defining the architecture, components, modules, interfaces and data for a system to satisfy specified requirement of the users.

24. List types of system design?

Ans: - Types of system of design are:

- ❖ Logical design
- ❖ Physical design

25. What is the difference between logical design and physical design?



Ans: - Logical design relates to abstract representations of the inputs, outputs and data flow of the system. **To represent the logical design** of a system we use different diagram like entity relation diagram.

The physical design is related to actual input and output processes of the system.

26. What is the main goal of system construction?

Ans: - The main goal of this phase is coding of the proposed system by using an appropriate computer language.

27. List and identify the various types of system testing?

Ans: - The various types of system testing:

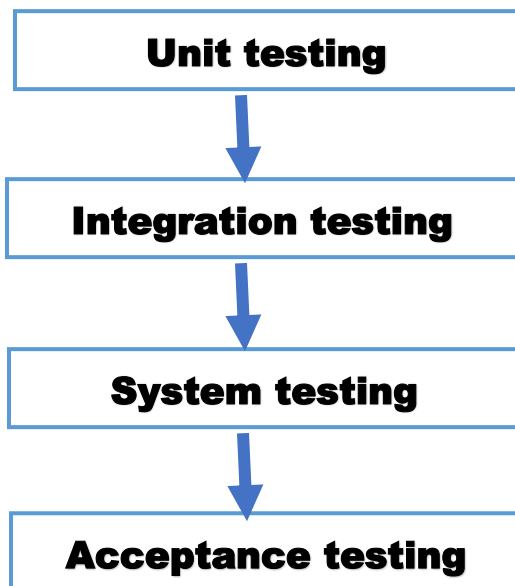


Figure 1.8 System Testing



- ❖ **Unit testing:** - Each unit in the system is tested.
- ❖ **Integration testing:** - Unit already tested and debugged are integrated to form the complete system and the integrated system is tested at this stage.
- ❖ **System testing:** - This is the complete system is tested for its outputs for the given inputs.
- ❖ **Acceptance testing:** - Acceptance or user acceptance testing is carried out at the late stages of testing.

28. What are the different types of deployment system?

Ans: -There are d/f deployment approaches to deploy a system. They are as follows:

- ❖ Direct deployment
- ❖ Parallel deployment
- ❖ Pilot deployment
- ❖ Phased deployment

29. Maintenance has three the following activities what are they?

Ans: - the following three activities occur:

- ❖ **Bug(error)** fixing bugs are reported because of situations that are not being checked at all.
- ❖ **Upgrade-** Upgrading the application to the latest software versions.
- ❖ **Enhancement-** Adding some new functionality to the current software.

30. List and identify system development methodologies?

Ans: -The various system development methodologies including waterfall model, agile method, and Rapid application development (RAD).

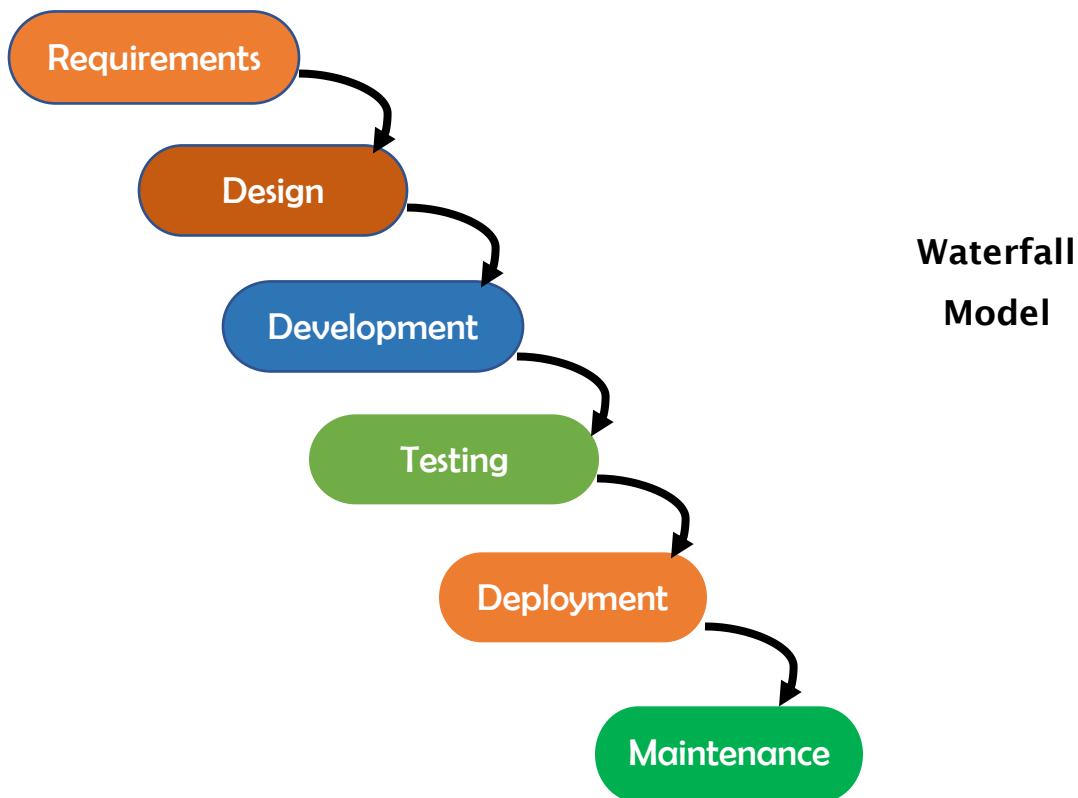


31. Differentiate between waterfall model and agile method?

Ans: - The waterfall model was the first methodology to be introduced. It also consists of several stages of a linear development. It is really easy to understand and use in waterfall model.

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

32. List the different phases of waterfall model?





33. List the following consideration of waterfall model?

Ans: - In waterfall model you need the following consideration:

- ❖ First identify requirements
- ❖ Complete one stage before going to the next phase.
- ❖ The result of the developed system is found at the final stage.

34. What are the advantages and disadvantages of waterfall model?

Ans: - the advantage 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.
- ❖ Phases are clearly described and the milestones well known.
- ❖ Activities easy to manage and process and result 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 meet changing requirements.

35. What is agile method?

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



36. List the most common examples of agile method?

Ans: - the most common examples of agile method are SCRUM, Extreme programming (XP), Feature Drive Development (FDD), Dynamic System Development Method (DSDM), Adaptive Software Development (ASD), Crystal and Lean Software Development (LSD).

37. What are the advantages and disadvantages of agile method?

Ans: - advantages of agile method

- ❖ Customer satisfaction is quick, continuous development and delivery of usable application.
- ❖ Product is produced rapidly and delivered regularly.
- ❖ A face to face conversation is the best method of communication.
- ❖ Frequent adaptation to changing circumstances.
- ❖ Even late changes in requirements are welcomed.

Disadvantages of agile method

- ❖ Less predictability.
- ❖ More time and commitment.
- ❖ Greater demands on developers and clients.
- ❖ Lack of necessary documentation.
- ❖ Project easily falls off track.



38. Explain the concept of RAD model?

Ans: - the concept of Rapid application development it is a team-based method which accelerates the development of information systems and produces a functioning information system.

39. List five steps or phases in RAD?

Ans: - the five steps or phases in RAD

- ❖ **Step 1.** Define and finalize project requirements
- ❖ **Step 2.** Begin building prototypes
- ❖ **Step 3.** Gather user feedback
- ❖ **Step 4.** Test, test, test
- ❖ **Step 5.** Present your system

40. What are the advantages and disadvantages of RAD?

Ans: - advantages of RAD are:

- ❖ Enhanced flexibility and adaptability as developers can make adjustments quickly during the development process.
- ❖ Quick iteration that reduce development time and speed up delivery
- ❖ Encouragement of code reuse



Disadvantages of RAD are:

- ❖ Need strong team and individual performance for identifying business requirement.
- ❖ Not all applications can be modulated using or be built using RAD.
- ❖ It requires highly skilled developers or designers.
- ❖ High dependency on modeling skills.
- ❖ Less time can cause problem.

MULTIPLE CHOICE

1. -----: is an interconnected set of business procedures used within one business unit working together for a purpose.
A) System B) Information system C) Data
2. -----: - works together with information systems to collect process, store and disseminate information to support decision making.
A) Information system B) interrelated components C) Interfaces
3. -----: - it refers to the state of a computer determined by which programs are running on basic hardware and software characteristics.
A) Input B) Interfaces C) Environment
4. -----: -it is a device or a program that allows users to communicate with a computer.
A) Interfaces B) Output C) Input



5. -----: -means to provide or give something to the computer or any other electronic device.
- B) Data B) Input C) Output
6. -----: -any information that is processed by and sent out from a computer or any other electronic devices.
- A) System B) Input C) Output
7. -----: -are a combined network of hardware, software, and telecommunications networks that users use to collect, create, and distribute useful data, from organizational settings.
- A) Information system B) Interfaces C) System
8. -----: -contains everything in the physical layer of the information system.
- A) Hardware B) Software C) Data
9. -----: -refers to the programs that manage the hardware and produce the favored information or result.
- A) Hardware B) Software C) Information
10. Software can be broken down into two main categories _____ & _____
- A) System software B) Application Software C) A & B
11. The core piece of system software is the _____ such as windows or other operating systems which manages the hardware's operation.
- A) OS B) Data C) System
12. -----: -is intended for specific tasks, such as handling a spreadsheet creating document, or designing a web page.
- A) System software B) Application software C) Data



13. -----: -is the raw material that an information system transforms useful information into.
- A) System B) Information C) Data
14. An information system can store the data at different locations called _____
- A) Table B) information C) System
15. People who have interest in an information system are called _____
- A) Interfaces B) Stakeholders C) Process
16. -----: -is a set of actions taken to attain a desired result or objective.
- A) People B) Data C) Process
17. -----: -is a title given to a person who studies the problems and needs of an organization looking for improvement opportunities for improving qualities of service or product, reducing cost and increasing the income or profit.
- A) System Analyst B) System Analysis C) SDLC
18. -----: -is conceptual model that incorporates policies and procedures to build or alter system during their lifecycle.
- A) System Analyst B) SDLC C) System
19. -----: -is the first phase in the system development lifecycle.
- A) System Analysis B) System Design C) System Planning
20. A key component of the preliminary investigation is a _____
- A) Feasibility Report B) Technical Report C) System
21. -----: -this is done to determine if the proposed solution is able to be used and will be in proper working condition.
- A) Technical feasibility B) Economic feasibility C) Operational feasibility



22. -----: -this is done to determine if the proposed solution can be supported by the available technology.
A) Technical feasibility B) Economic feasibility C) Operational feasibility.
23. -----: -this is done to determine if the proposed solution is financially affordable and is beneficial.
A) Technical feasibility B) Economic feasibility C) Operational feasibility.
24. -----: -this is done to determine if the proposed solution can be developed and made operational within required time.
A) Schedule feasibility B) Economic feasibility C) Operational feasibility.
25. -----: -define how users communicate with a computer system, and involves all the hardware, software, screens, menus, functions, performance, and features that affect two-way communications between the user and the system.
A) System B) Information System C) User Interface
26. -----: -is the design of user interface for systems which focuses on the usability of the software.
A) User Interface Design B) Output Design C) User Friendly
27. -----: -this process involves creating structure files and storages that will accommodate input data and results of processing.
A) Process Design B) Control Design C) Data Storage Design
28. -----: -this involves coming up with policies that guide data processing and user interaction with the system.
A) Control Design B) Data Storage Design C) Output Design



29. -----: -is the process of defining the architecture, components, modules, interfaces and data for a system to satisfy specified requirement of the users.

- A) System analyst B) System Design C) User Interface

30. -----: -this method involves the old system being completely dropped and a new system being completely implemented at the same time.

- A) Parallel deployment B) Phased deployment C) Direct deployment

31. -----: -this method involves both the old system and its potential replacement are run together for a time until everyone is assured that the new one functions correctly.

- A) Parallel deployment B) Direct deployment C) Phased deployment

32. The continuous process of system modifications is known as _____

- A) Testing B) System Design C) Maintenance

33. -----: -was the first methodology to be introduced.

- A) Waterfall Model B) RAD Model C) Agile Method

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

- A) Agile Method B) Waterfall Model C) RAD Model

35. -----: -it is a team-based method which accelerates the development of information systems and produces a functioning information system.

- A) Waterfall Model B) RAD Model C) Agile Method



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Subject: Technology Summary Chapter One

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THANK ALL STUDENTS
PREPARED BY TEACHER
C SALAAM MCD
SUBJECT TECHNOLOGY
CHAPTER ONE SUMMARY