



1. What are the reasons for the all-pervasive use of IT for business?

Ans.: They would be...

- A. Communication Capabilities
- B. Data and Information Management
- C. Automated Processes

2. What are the objectives of Audit?

Ans.:

- A. Existence, B. Authorization, C. Valuation, D. Cutoff, E. Compliance, F. Operational,
- G. Assisting Mgt for Internal control, H. Participating in designing controls,
- I. Determining efficient use of resources and accomplishes business objectives and goals

3. What are the differences in audit procedures between computerized audit and manual?

Ans.:

- A. Study Technical Aspects
- B. Use Unique Techniques
- C. Audit Software Usage

4. What are the IT Risks & Issues?

Ans.:

Regulations are making it mandatory for auditors to review the structure and systems of governance and risk management which is embedded in IT in most enterprises.

A key requirement of enterprises in IT deployment is to ensure that business objectives are achieved and not mere implementation of latest technology.

A key challenge in implementing IT is: "Higher the technology, Greater is the need for controls"

5. What should be included for Information Systems control procedure?

Ans.:

- A. Strategy and direction;
- B. General Organization and Management;
- C. Access to IT resources, including data and programs;
- D. System development methodologies and change control;
- E. Operation procedures;
- F. System Programming and technical support functions;
- G. Quality Assurance Procedures;
- H. Physical Access Controls;
- I. Business Continuity Planning(BCP) and Disaster Recovery Planning (DRP);
- J. Network and Communication;
- K. Database Administration; and
- L. Protective and detective mechanisms against internal and external attacks.



6. Explain - Impact of IT on Risk & Controls

Ans.:

- A. Ready access to terminals
- B. Online processing of data & validation checks
- C. Appropriate controls are not resident within the computer systems
- D. The greatest exposure of all is a failure to recognize risks or potential impacts of those risks

7. What are the auditor's concern with controls?

Ans.:

- A. Develop and apply new criteria in evaluating control weaknesses in Computerized Information Systems (CIS)
- B. Tailor (As per circumstances) testing techniques to the CIS under study
- C. Use computers to perform some portions of audit examination.

8. Explain the term - BPA

Ans.:

BPA - Removing the human element from existing business processes by automating the repetitive or standardized process components.

9. Which are the IT Processes usually involved in a typical business enterprise?

Ans.:

- A. Database access and changes
- B. File replication and data backup
- C. Systems and event log monitoring
- D. Job Scheduling
- E. Application integration
- F. File Transfers
- G. Printing

10. What are the 3 critical pillars of BPA Solutions feature?

Ans.: **IOA** - Integration, Orchestration, Automation

11. What are the steps involved in any BPA?

Ans.:

Step 1: Define why we plan to implement BPA?

Step 2: Understand the rules/ regulation under which it needs to comply with?

Step 3: Document the process, we wish to automate.

Step 4: Define the objectives/goals to be achieved by implementing BPA.

Step 5: Engage the business process consultant.

Step 6: Calculate the ROI for project.

Step 7: Development of BPA.

Step 8: Testing the BPA.



12. Explain - Five Sub-Disciplines of the Computing Field

Ans.:

- A. Computer Science - scientific and practical approach
- B. Computer Engineering - electrical engineering and computer science
- C. Information Systems - to study of complementary networks of hardware and software
- D. Information Technology - the application of computers and telecommunications
- E. Software Engineering - the application of a systematic, disciplined, quantifiable approach to the design, development, operation, and maintenance of software

13. Explain - Types of Server

Ans.:

File, Print, Network, Database, Application, Web, Mail – Server

14. Short Note - Instruction Set Architecture (ISA)

Ans.:

- A. **Instruction set** is the set of machine code instructions that the processor can carry out.
- B. **Instruction Set Architecture** is the abstract model of a computing system that is seen by a machine language programmer including the instruction set; memory address modes; processor registers & address & data formats.
- C. **Fixed and Variable length Instructions**
 - Instructions are translated to machine code.
 - In some architecture, all machine code instructions are the same length i.e. fixed length.
 - In other architectures, different instructions may be translated into variable lengths in machine code i.e. variable length.
 - Variable length instructions are commonly used on CISC machines.

D. Two Types of Instruction Sets

CISC - Single Instruction for Single Task:-

CISC design would try to finish the task in the minimum possible instructions by implementing hardware which could understand and execute series of operations.

MUL = Load + Multiplies + Stores

RISC - . More than 1 Instruction for Single Task:-

RISC processors use simple instructions that can be executed within a clock cycle.

Thus, 'MUL' instruction will be divided into three instructions.

Separate Instruction for – LOAD, PROD & STORE

15. Explain - Micro Architecture

Ans.:

Micro Architecture, also known as Computer Organization, is a lower level detailed description of the system that is sufficient for completely describing the operation of all parts of the computing system, and how they are inter-connected and inter-operate in order to implement the ISA.



16. Explain - System Design

Ans.:

It includes all of the other hardware components within a computing system such as

- A. System interconnects – Computer buses & Switches
- B. Memory Controllers & Hierarchies
- C. CPU off loads mechanisms – DM A – Direct Memory Access
- D. Issues Multi-Processing, Virtualization, Software features etc.

17. What are the phases of Machine Cycle?

Ans.:

Fetch, Decode, Execute & Store

These phases, fetch and decode are done by Control Unit (CU) whose job is to understand and explain to Arithmetic Logic Unit (ALU) whose job is to execute and results are stored in Register. This is machine cycle - the basis of computing.

18. How many layers are involved any Information System?

Ans.:

Application, DBMS, System, Hardware, Network & People

19. Explain - Types of network

Ans.:

Connection Oriented Network (Similar to Circuit Switching)

Connectionless Network (Similar to Packet Switching)

20. What are the issues addressed by any Networks modeled?

Ans.:

Routing, Bandwidth, Resilience, Contention

21. Explain - Benefits of Computer Network

Ans.:

- A. Distributed nature of information
- B. Resource sharing
- C. Computational power
- D. Reliability
- E. User Communication

22. Explain - Basic parts of CPU / Processing unit

Ans.:

- A. **Control Unit** - CU controls the flow of data and instruction to and from memory, interprets the instruction and controls which tasks to execute and when.
- B. **ALU** - Performs arithmetic operations such as addition, subtraction, multiplication, and logical comparison of numbers: Equal to, Greater than, Less than, etc.
- C. **Register** - These are high speed memory units within CPU for storing small amount of data (mostly 32 or 64 bits).



Registers could be:

Accumulators: They can keep running totals of arithmetic values.

Address Registers: They can store memory addresses which tell the CPU as to where in the memory an instruction is located.

Storage Registers: They can temporarily store data that is being sent to or coming from the system memory.

Miscellaneous: These are used for several functions for general purpose.

23. Explain - Types of Memory

Ans.:

A. Internal Memory:

Processor Registers - Registers are internal memory within CPU, which are very fast and very small

Cache Memory - There is a huge speed difference between Registers and Primary Memory, to bridge these speed differences we have cache memory. which allows improving substantially the effective memory access time in a computer system

B. Primary Memory / Main Memory:

RAM – Volatile in nature means Information is lost as soon as power is turned off – Read & Write

ROM – Non-volatile in nature (contents remain even in absence of power) – Read only

C. Secondary Memory:

USB Pen Drives, Floppy drive, Hard Drive, CD, DVD, Blue ray Disks, Smart cards etc

D. Virtual Memory:

Virtual storage systems extend primary memory by treating disk storage as “A Logical Extension of RAM”.

By allowing programs to be broken up into smaller parts, and by allowing only certain parts to be in main memory at any one time, virtual memory enables computers to get done by with less main memory than usual.

Of course, during page swapping in multiprogramming environments, the system may switch to other programs and tasks

24. What is System Software?

Ans.:

System software is computer software that is designed to operate the computer hardware and to give and maintain a platform for running application software. One of the most important and widely used system software is computer operating systems.

An Operating System (OS) is a set of computer programs that manages computer hardware resources and acts as an interface with computer applications programs



25. What are the activities executed by Operating systems?

Ans.:

- A. Performing hardware functions
- B. User Interfaces (GUI)
- C. Hardware Independence
- D. Memory Management
- E. Task Management
- F. Networking Capability
- G. Logical access security
- H. File management

26. Explain - DBMS

Ans.:

Objectives of DBMS

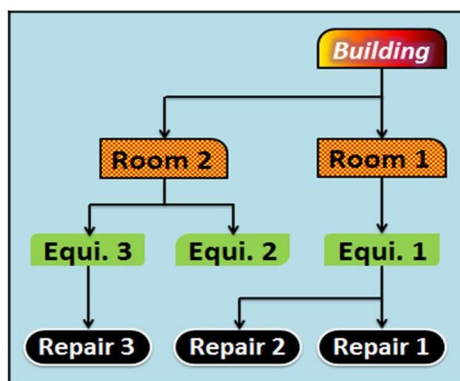
- A. Knowing its information needs;
- B. Acquiring that information;
- C. Organizing that information in a meaningful way;
- D. Assuring information quality; and
- E. Providing software tools so that users in the enterprise can access information they require.

What is Database?

- A. Database : This is a collection of Files (i.e. Master Files).
- B. File : This is a collection of Records.
- C. Record : This is a collection of Fields.
- D. Field : This is a collection of Characters.
- E. Characters : These are a collection of Bits.

Database Structures:-

1. Hierarchical Database Structure



- A hierarchically structured database is arranged logically in an Inverted Tree Pattern.
- All records in hierarchy are called nodes.
- Each parent record may have one or more child records but no child record have more than one parent record.
- The top parent record in the hierarchy is called the Root Record.

**Chapter – 2 : IS & IT Fundamentals**

2. Network Database Structure		• A network database structure views all records in sets. • Each set is composed of an owner record and one or more member records. • This is analogous (Similar) to the hierarchy's parent-children relationship. • The network model implement... As: <u>1-2-1</u>, <u>1-2-M</u>, <u>M-2-1</u>, <u>M-2-M</u>
Difference between above two	• The network model also permits a record to be a member of more than one set at one time. • Network databases generally implement the set relationships by means of Pointers that directly address the location of a record on disk	
3. Relational Database Structure		Relational database structure is dependent on the both hierarchical & network database structure. A relational database allows the definition of data and their structures, storage and retrieval operations and integrity constraints that can be organized in a Table Structure. Key Terms: Relation, Attributes & Domains
4. Object Oriented Data Base Model (OODBMS)	• It is based on the concept that the world can be modeled in terms of objects and their interactions. • Objects are entities conveying some meaning for us and possess certain attributes to characterize them and interacting with each other. • An Object-oriented database provides a mechanism to store complex data such as images, audio and video, etc. • An object oriented database (also referred to as object-oriented database management system or OODBMS) is A set of objects	

Advantages of DBM S:

- A. Permitting data sharing
- B. Minimizing Data Redundancy
- C. Integrity can be maintained
- D. Program & file consistency
- E. User friendly
- F. Improved Security
- G. Achieving Program / Data Independence
- H. Faster Application Development



Disadvantages of DBM S:

- A. Cost – Expensive & Time consuming
- B. Security – high security required

27. Explain - Application Software

Ans.:

Application software includes all those computer software that cause a computer to perform useful tasks beyond the running of the computer itself.

The different Types of Application Software are

- A. Application Suite – MS Office
- B. Enterprise Software – ERP
- C. Enterprise Infrastructures Software – Email Servers
- D. Information Worker Software – Spreadsheet, CAAT
- E. Content Access Software – Media Players etc
- F. Educational Software – Examination Test CDs
- G. Media Development Software – Desktop Publishing, Video Editing etc.

Benefit of AS

- A. Addressing user needs
- B. Less threat from virus
- C. Regular updates
- D. Disadvantages of AS
- E. Development is costly
- F. Infection from malware

28. Information System Life Cycle

A. Investigate -

‘What is the problem and is it worth solving’?

Feasibility Study:

Technical, Financial, Economic, legal, Operational, Schedule – Feasibility

B. Analyze –

‘What must the Information System do to solve the problem’?

Gathering information by...

Interviewing Staff, Examine Current Business, Sending Out Questionnaires, Observation of Current Procedures

C. Design –

‘How will the Information System do that it must do to obtain the solution to the problem’?

Specifies the technical aspects of proposed system in terms of...

Hardware Platform, Software, Outputs, Inputs, User Interface, Modular Design, Test Plan, Conversion Plan, Documentation



D. Implement –

‘How will the Solution be put into effect’?

A. Direct Changeover:

The user stops using the old system one particular day and starts using the new system from thereon, usually over a weekend or during a slack period.

B. Parallel Conversion:

The old system continues alongside the new system for a few weeks or months.

C. Phased Conversion:

Used with larger systems that can be broken down into individual modules which can be implemented separately at different times.

D. Pilot Conversion:

New system will first be used by only a portion of the enterprise, for example at one branch or factory.

E. Maintenance & Review –

Evaluates results of solution and modifies the system to meet the changing needs.

Types of System Maintenance:

A. Perfective Maintenance:

This implies that while the system runs satisfactorily, there is still room for improvement.

B. Adaptive Maintenance:

All systems will need to adapt to changing needs within a company.

C. Corrective Maintenance:

Problems frequently surface after a system has been in use for a short time, however thoroughly it was tested. Any errors must be corrected.

29. Recent Technologies / Devices

- A. Bluetooth
- B. Wifi
- C. Laptop – Notebook
- D. Tablet Computer / Tablet
- E. SmartPhone
- F. Touchpad
- G. Ipad
- H. Ipod
- I. Ultra-mobile PC
- J. Android

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