11. CIS AUDIT

Q.No.1. State your opinion / Comment on "the overall objective and scope of an audit does not change in a CIS Environment." (B) (PM)

OBJECTIVE AND SCOPE of AUDIT:

1. **In manual environment:**
   - **a)** The principal objective of an audit of financial statements is to express opinion on financial statements and to ensure whether they are
     - Prepared in accordance with the applicable financial reporting framework and
     - Are showing true and fair view of state of affairs of the entity.
   - **b)** The scope of an audit of financial statements is determined by the terms of the engagement and applicable laws and regulations.
2. **In Computerized Information System (CIS) environment:**
   - **a)** The overall objective and scope of an audit does not change in CIS environment
   - **b)** But the use of a computer changes the processing and storage of financial information and may affect the Organisation and procedures employed by the entity to achieve adequate internal control.
   - **c)** Accordingly, the procedures followed by the auditor to examine the internal controls and nature, timing and extent of his other audit procedures may be affected by CIS environment.
   - **d)** The computerization of accounts would also have an impact on the increase in fraud and errors.
   - **e)** Thus, when auditing in CIS environment, the auditor should need to consider the following factors to plan his engagement and to implement the auditing procedures, depending on the particular audit approach (i.e. white box or black box) adopted:
     - Sufficient knowledge of CIS with respect to its computer hardware, software and processing systems
     - Impact of CIS environment on Test of Controls to be performed and
     - Application of auditing procedures including computer-assisted audit techniques.

CONCLUSION: Thus, it is clear from the above that overall objective and scope of audit does not change irrespective of fact that whether the accounting information is generated manually or through CIS.

Q.No.2. Write about different approaches to auditing in a computerized environment. (A) (PM)

AUDIT AROUND THE COMPUTER: Audit around the computer involves forming of an audit opinion wherein the existence of computer is not taken into account. Computers are merely used as a book keeping devices.

a) The auditor views the computer as a black box, as the application system processing is not examined directly.

b) The main advantage of auditing around the computer is its simplicity. The auditor examines the output generated by the system.

c) This is also known as **Black Box Approach**

d) ADVANTAGES:

Audit around the computer is used in the following situations:

i) It can be used when the system is simple and uses generalized software that is well tested and widely used.

ii) Processing mainly consists of sorting the input data and updating the master file in sequence.

iii) Audit trail is clear. Detailed reports are prepared at key processing points within the system.

iv) Control over input transactions can be maintained through normal methods, i.e. separation of duties, and management supervision.

e) DISADVANTAGES:

i) It is not beneficial for complex systems of large scale in very large multi unit, multi locational companies, having various inter unit transactions. It can be used only in case of small organizations having simple operations.

ii) It is difficult for the auditor to assess the degradation in the system in case of change in environment, and whether the system can cope with a changed environment.

AUDIT THROUGH THE COMPUTER: **(M16 RTP, M 14 - 4M)**

In this approach the auditor examines the system and the software which is used to process the data by using some specialized tools. These tools are known as "Computer Aided Audit Techniques (CAAT)".

1) This approach is also known as "**White Box Approach**".

2) Technical and other developments that necessitated this approach include the following:

i) On-line data entry.

ii) Elimination or reduction of print-outs.

iii) Real time files updating.

3) The auditor can use the computer to test:

a) The logic and controls existing within the system; and

b) The records produced by the system.

4) Depending upon the complexity of the application system being audited, the approach may be fairly simple or require extensive technical competence on the part of the auditor.

5) ADVANTAGES:

a) The range and capability of tests that can be performed is increased and the auditor acquires greater confidence that data processing is correct.

b) By examining the system's processing, the auditor also can assess the system's ability to cope with environment change.

c) CIRCUMSTANCES WHERE AUDITING THROUGH THE COMPUTER MUST BE USED: **(N10- 6M)**

There are certain circumstances in which the audit through the computer approach is must be used as follows:

i) The application system processes large volumes of input and produces large volumes of output that make extensive direct examination of the validity of input and output difficult.

ii) Significant parts of the internal control system are embodied in the computer system.

iii) The logic of the system is complex and there are large portions that facilitate use of the system or efficient processing.

iv) When there are substantial gaps in the visible audit trail.

6) DISADVANTAGES:

a) It is very expensive.

b) The need for extensive technical expertise when systems are complex.

However, these disadvantages are really not that important if auditing through the computer is the only viable method of carrying out the audit.

SIMILAR QUESTIONS:

1. **Audit around the computer is applicable in certain situations. Comment. (PM)**

A. Write point no. 5(c) Advantages in "audit around the computer".

2. **State the Circumstances where auditing through the computer must be used?**

A. Refer point no. 5(c) in advantages of "audit through the computer". **(PM, RTP M16, N10 - 6M)**

3. **Write short note on Audit through the computer? (M14 – 4M)**

A. Refer **Audit through the computer** concept in above.

Q.no.3. what are the different design and procedural aspects of CIS environment that differ from manual environment? (B) (PM, MTP N17, RTP N17)

DESIGN AND PROCEDURAL ASPECTS of CIS:

a) **Consistency of Performance:** CIS systems perform functions exactly as they are programed and more reliable than manual systems.

- If a computer program is correct, the information will be consistently processed correctly (except in the event of malfunctioning of the hardware).
- If the computer is not correctly programed, it will process the data erroneously.

Thus, in auditing CIS-generated information, it is not wise to test large sample of similar transactions but it is sufficient to test the programs, changes in programs and unusual transactions.

b) **Programed Control Procedures:**

i) The nature of computer processing allows the design of internal control procedures within the computer programs itself.

ii) These procedures can be designed to provide controls with limited visibility (e.g. protection of data against unauthorized access may be provided by passwords).

iii) Other procedures can be designed for use with manual intervention, such as review of reports printed for exception and error reporting, and reasonableness and limit checks of data.

c) **Single transaction update of multiple or data base computer files**:

- A single input to the accounting system may automatically update all records associated with the transaction
- Thus, an erroneous entry in such a system may create errors in various financial accounts.

d) **System - generated transactions:**

i) In a CIS system, certain transactions may be initiated by the system itself without the need for an input document.

For example, interest may be calculated and charged to customer accounts automatically by the computer program.

ii) In these instances, authorization is not visible and is not made for each transaction but is implicit in the design of the computer system itself.

e) **Vulnerability of Programs and Data:** In a CIS environment, huge volume of data and programs are stored on portable storage media such as C.D's, hard disks etc. They are vulnerable to theft or, intentional or accidental destruction.

SIMILAR QUESTIONS:

1. **Write about the design and special characteristics / procedural aspects of EDP system.**

A. Same as above.

Q.NO.4. Why are Computer Aided Audit Techniques (CAAT) required in computerized information system (CIS) environment? What are the advantages of CAATs? (A)
(PM, N14 RTP, N11 – 8M,N17 – 4M)

COMPUTER AIDED AUDIT TECHNIQUES (CAAT): The use of computers may result in the design of systems that provide less visible evidence than those using manual procedures. CAATs are such techniques applied through the computer which are used in the verifying the data being processed by it.

1. Need for use of CAAT:

The following are the System characteristics resulting from the nature of CIS environment that demand the use of CAAT.

a) **Absence of input documents:** Data may be entered directly into the computer systems without supporting documents. In on-line transaction systems, written evidence of individual data entry authorization may not be available.

b) **Lack of visible transaction trail:** Certain data may be maintained on computer files only.

i) In a manual system, it is normally possible to verify the flow of a transaction through the system by examining source documents, books of account, records, files and reports.

ii) In CIS environment, however, the transaction trail may be partly in machine-readable form, and also it may exist only for a limited period of time.

c) **Lack of visible output:**

i) In a manual system, it is normally possible to examine visually the results of processing.

ii) In CIS environment, the results of processing may not be printed or only a summary data may be printed.

Thus, the lack of visible output may result in the need to access data retained on machine readable files.

d) **Ease of Access to data and computer programs:** Data and computer programs may be altered at the computer or through the use of computer equipment at remote locations. Therefore, in the absence of appropriate controls, there is an increased potential for unauthorized access to, and allocation of, data and programs by persons inside or outside the entity.

2. Advantages of CAAT: **(M16 – 4M)**

a) **Audit effectiveness:** The effectiveness and efficiency of auditing procedures will be improved through the use of CAAT in obtaining and evaluating audit evidence,

For example:

i) Some transactions may be tested more effectively for a similar level of cost by using the computer to examine all or a greater number of transactions than in manual environment.

ii) In applying analytical review procedures, transactions or balance details may be reviewed and reports printed of unusual items more efficiently by using the computer than by manual methods.

b) **Savings in time**: The auditor can save time by reviewing the CIS controls using CAAT than through other audit procedures.

c) **Effective test checking and examination in depth**: CAAT permits effective examination in depth of selected transactions since the auditor constructs the lost audit trail.

SIMILAR QUESTIONS:

1. **What are the System characteristics resulting from the nature of CIS environment that demand the use of Computer Aided Audit Techniques (CAAT)?**

A. Refer point no.1 above

2. **What are the advantages of CAAT?** **(RTP N14)**

A. Refer point no.2 above.

3. **Why are CAAT required in CIS Audit?** **(RTP N14)**

A. Refer point no.1 above.

4. **Write about nature of processing in an EDP environment?**

A. Refer point no.1 above.

Q.No.5.what is an Audit Trail? Briefly state the special audit techniques using the computer as an audit tool. (A) **(PM, RTP N17, N16 RTP)**

AUDIT TRAIL: 'Audit trail' refers to a situation where it is possible to relate, on a "one–to–one" basis, the entire flow of a transaction through various stages from original input to the final output.**(MTP N17)**

1. In a manual accounting system, it is possible to relate the recording of a transaction of each successive stage enabling an auditor to locate and identify all documents from beginning to end for the purposes of examining transactions.
2. However in CIS environment, it is not possible to have visible audit trail for each transaction.
3. The lack of visible evidence may occur at different stages in the accounting process, for example-

   a) Input documents may be non-existent where sales orders are entered online. In addition, accounting transactions such as discounts and interest calculations may be generated by computer programs with no visible authorization of individual transactions.

   b) Output reports may not be produced by system or a printed report may only contain summary totals while supporting details are retained in computer files.

SPECIAL AUDIT TECHNIQUES:

1. In the absence of audit trail, the auditor needs the assurance that the programs are functioning correctly by using special audit techniques called Computer Assisted Audit Techniques (CAATs) i.e. using the computer as an audit tool.

2. The auditor can use the computer to test-
   a) The logic and controls existing within the system, and
   b) The records produced by the system.
3. Depending upon the complexity of the application system being audited, the approach may be fairly simple or require extensive technical competence on the part of the auditor.
4. The effectiveness and efficiency of auditing procedure may be enhanced through the use of CAATs.
5. Properly, two common types of CAATs are in vogue, viz., test pack or test data and audit software or computer audit programs.

Q.No.6. Write about internal controls in a CIS Environment? (A) (PM, N15 RTP, M10 – 5M)

INTERNAL CONTROLS IN CIS ENVIRONMENT: The internal controls over computer processing include both manual procedures and procedures designed into computer programs. Such manual and computer controls affect the CIS environment (general CIS controls) and the specific controls over the accounting applications (CIS application controls).

1. **General CIS Controls:** The purpose of general CIS controls is to establish a framework of overall control over the CIS activities and to provide a reasonable level of assurance that the overall objectives of internal control are achieved. These controls may include-
   a) **Organization and management controls:**

      They are designed to establish an organizational framework over CIS activities, including:
      i) Policies and procedures relating to control functions.
      ii) Appropriate segregation of incompatible functions.
   b) **Application systems development and maintenance controls:**

      They are designed to establish control over:
      i) Testing, conversion, implementation and documentation of new or revised systems.
      ii) Changes to application systems.
      iii) Access to systems documentation.
      iv) Acquisition of application systems from third parties.
   c) **Computer operation controls:** They are designed to control the operation of the systems and to provide reasonable assurance that:
      i) The systems are used for authorised purposes only.
      ii) Access to computer operations is restricted to authorised personnel.
      iii) Only authorised programs are used.
      iv) Processing errors are detected and corrected.
   d) **Systems software controls:**
      i) Authorization, approval, testing, implementation and documentation of new systems software and systems software modifications.
      ii) Restriction of access to systems software and documentation to authorised personnel.
   e) **Data entry and program controls:**

      They are designed to provide reasonable assurance that:
      i) An authorization structure is established over transactions being entered into the system.
      ii) Access to data and programs is restricted to authorised personnel.

iii) Offsite back-up of data and computer programs.

iv) Recovery procedures for use in the event of theft, loss or international or accidental destruction.

v) Provision for offsite processing in the event of disaster.

2. **CIS Application Controls:** The purpose of CIS application controls is to establish specific control procedures over the accounting applications to provide reasonable assurance that all transactions are authorised and recorded, and are processed completely, accurately and on a timely basis. These include: **(M15 RTP)**

a) **Controls over input:**

They are designed to provide reasonable assurance that:

i) Transactions are properly authorized before being processed by the computer. The access control is operated through use of password and logging procedures.

ii) The system should devise controls to check that data input are accurate.

iii) The input document should be reviewed and verified by another person after preparation.

iv) Transaction should be accurately converted into machine readable language and recorded in a computer data file.

v) The transactions are not lost, duplicated, or changed without authorization.

vi) There should be validity and cross reference checks inbuilt in the system to throw light on errors which appear in the process of feeding input.

vii) Incorrect transactions rejected, corrected and if necessary, resubmitted on a timely basis

viii) The serial control may be used in inputting data that are to follow serial sequence. Any deviation in serial sequence will have to be automatically signaled out.

b) **Controls over processing and computer data files:**

They are designed to provide reasonable assurance that:

i) Transactions, including system generated transactions, are properly processed by the computer.

ii) Transactions are not lost, added, duplicated or improperly changed.

iii) Processing errors are identified and corrected on a timely basis.

c) **Controls over output:**

They are designed to provide reasonable assurance that:

i) Results of processing are accurate.

ii) Access to output is restricted to authorised personnel.

iii) Output is provided to appropriate authorised personnel on a timely basis.

SIMILAR QUESTIONS:

1. **State any four important elements of input control in processing of a data in a computerized accounting system. (RTP N17, PM)**

A. Refer point no. 2(a) above " CONTROLS OVER INPUT".

2. **The internal controls over computer processing, which help to achieve the overall objectives of internal control, include both manual procedures and procedure designed into computer programmes. Such manual and computer controls affect the CIS environment and the specific controls over the accounting applications. Explain those internal controls in CIS Environment? (RTP N15)**

A. Refer above answer.

Q.No.7. 'Doing an audit in CIS environment is simple since the Trial Balance always tallies'. Comment (A) (PM, RTP N17, N15 RTP, N16 -5M, M10 – 5M)

Though it is true that in CIS environment the trial balance always tallies, the same cannot imply that the job of an auditor becomes simpler. There can still be some accounting errors like

1. Omission of certain entries,
2. Compensating errors,
3. Duplication of entries,
4. Errors of commission in the form of wrong account head is posted.
5. Possibility of "window dressing" and/or "creation of secret reserves" where the trial balance tallied.

At present, due to complex business environment the importance of trial balance cannot be judged only up to the arithmetical accuracy but the nature of transactions recorded in the books and appear in the trial balance should be focused.

The emergence of new forms of financial instruments like options and futures, derivatives, off balance sheet financing etc have given rise to further complexities in recording and disclosure of transactions. In an audit, besides the tallying of a trial balance, there are also other issue like

1. Estimation of provision for depreciation,
2. Valuation of inventories,
3. Obtaining audit evidence,
4. Ensuring compliance procedure and
5. Carrying out substantive procedure,
6. Verification of assets & liabilities their valuation etc.

which still requires judgment to be exercised by the auditor?

Responsibility of expressing an audit opinion and objectives of an audit are not changed in the audit in CIS environment.

CONCLUSION: Therefore, it can be said that simply because of CIS environment and the trial balance has tallied it does not mean that the audit would become simpler.

Q.No.8.To prepares an audit plan in CIS environment an auditor should gather information. Mention such important information which he has to collect. (B) (PM, N15 RTP, M13 – 4M)

The auditor should gather information about the CIS environment that is relevant to the audit plan, including information as to-

1. How the CIS function is organized and the extent of concentration or distribution of computer processing throughout the entity.
2. The computer hardware and software used by the entity.
3. Each significant application processed by the computer, the nature of the processing (e.g. batch, on-line), and data retention policies.
4. Planned implementation of new applications or revisions to existing applications.
5. When considering his overall plan the auditor should consider matters, such as:
   a) Determining the degree of reliance, if any, he expects to be able to place on the CIS controls in his overall evaluation of internal control.

b) Planning how, where and when the CIS function will be reviewed including scheduling the works of CIS experts, as applicable.

c) Planning auditing procedures using computer-assisted audit techniques.

SIMILAR QUESTIONS:

1. **The management of Gee Aar Ltd. decided to convert its manual accounting system into computerized accounting system from the current financial year. The company also appointed VC & Co., a firm of Chartered Accountants, as auditor for the said financial year. The auditors are told that as the audit is simpler in Computerized Information System (CIS) Environment since Trial Balance always tallies, the fees shall be reduced up to some extent comparative to the industry norms. You are required to analyze the contention of the management with respect to audit in CIS Environment. (RTP N15)**

A. Refer above answer.

Q.No.9. How would you assess the reliability of internal control system in computerized information system? (A) (PM, RTP N16, RTP M15,MTP-M17)

RELIABILITY OF INTERNAL CONTROL SYSTEM IN CIS ENVIRONMENT:

For evaluating the reliability of internal control system in CIS environment, the auditor would consider the following-

1. That authorized, correct and complete data is made available for processing.
2. That it provides for timely detection and corrections of errors.
3. That in case of interruption due to mechanical, power or processing failures, the system restarts without distorting the completion of entries and records.
4. That it ensures the accuracy and completeness of output.
5. That it provides security to application softwares & data files against fraud etc.
6. That it prevents unauthorized amendments to programs.

SIMILAR QUESTIONS:

1. **You are allotted an Information system audit of 6 branches of Oriental bank of commerce. How would you assess the reliability of internal control system in computerized information system? (RTP N16)**

A. Refer above answer

Q.No.10. What are the specific risks related to internal control in an IT environment? (B) (M 16 – 5M)

Risks related to internal control in IT environment: The specific risks related to internal control in an IT environment includes the following:

1. Reliance on systems or programs that are inaccurately processing data, processing inaccurate data, or both.
2. Unauthorized access to data that may result in destruction of data or improper changes to data, including the recording of unauthorized or non-existent transactions, or inaccurate recording of transactions. Particular risks may arise where multiple users access a common database.
3. The possibility of IT personnel gaining access privileges beyond those necessary to perform their assigned duties thereby breaking down segregation of duties.

4. Unauthorized changes to data in master files.
5. Unauthorized changes to systems or programs.
6. Failure to make necessary changes to systems or programs.
7. Inappropriate manual intervention.
8. Potential loss of data or inability to access data as required.

Q.NO.11. "Installation of Computer Operating System has created both benefits and problems for auditors". Explain the Statement. (C) (PM) (FOR STUDENTS SELF STUDY)

COMPUTER OPERATING SYSTEM AND THE AUDITOR:

1. The installation of computer operating system is an integral and absolutely essential part of a computer. In fact it is difficult to visualize a computer to be operational without installation of the operating system.
2. With the advancement of technology, the operating systems are part of the server or hard disc and provide lots of options and flexibility to the user.
3. The provision of all these built-in-features is quite beneficial to user and the auditor alike. The data stored in the system can be extracted depending upon the requirement, e.g., records relating to students can be region-wise, city-wise, examination center-wise, etc. to compare the performance.
4. At the same time, these advanced features of operating systems have given rise to several general hazards associated with it. In these circumstances, it becomes essential to restrict the access to data by ensuring proper security system such as passwords and other access controls, etc.
5. However, such system at time can be hacked and then the entire data base is vulnerable to manipulation. Thus, from the auditor's point of view installation of operating system have created both benefits and problems.
6. The major benefits flow from the fact of examination of execution of transactions, taking samples, etc. while problems might arise to potential manipulation of the data. It may however, be noted that benefits from the operating system for outweigh the problems associated with it.

PRACTICAL QUESTIONS

Q.NO.1. When auditor delegates work to assistants or uses work performed by other auditors or experts, the auditor should have sufficient knowledge of Computerized Information Systems". Discuss. (RTP M17)

Work Performed by Others: The auditor is never able to delegate his responsibility for forming important audit conclusions or for forming and expressing his opinion on the financial information. Accordingly, when he delegates work to assistants or uses work performed by other auditors or experts, the auditor should have sufficient knowledge of CIS to direct, supervise and review the work of assistants with CIS skills or to obtain reasonable assurance that the work performed by other auditors or experts with CIS skills is adequate for his purpose, as applicable.

THE END