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The Institute of Chartered Accountants of India
(Set up by an act of Parliament)

The Chartered Accountant STUDENT

Your monthly guide to CA news, information and events

SPECIAL ISSUE ON ENTERPRISE INFORMATION SYSTEMS

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INSIDE

SWACHH BHARAT - A STEP TOWARDS CLEANLINESS

ANNUAL SUBSCRIPTION RATES

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Dear Students,

With May 2018 exams finally concluded, you can now take a breather and relax for few days. You may utilize this time to rejuvenate yourself by pursuing a creative hobby, sports or any other engaging activity such as Yoga/meditation that invigorates you both mentally and physically. It is necessary to take a well deserving break from studies to recharge your mental faculties before the academic and professional pursuits are taken up again. After relaxation, also review, reassess and redefine your strategy to continue the dream run.

While your exams are over, after the brief leisure time, you should stick to your daily regimen to ingrain the habit of managing your time optimally, which includes planning and prioritizing down to the micro level ahead of any activity. Utilize your time to complete training programmes (ICITSS and AICITSS). Supplement your knowledge to head start your career for academic and professional longevity.

Enrich your character

Noted thinker and motivator **Steven Covey** remarked- ***Our character is a composite of our habits; sow a habit, reap a character.*** Developing a regular reading habit helps you to build your thought process besides enhancing your knowledge. Reading business dailies and magazines helps in identifying thrust areas and avenues and to stay abreast with the latest policy and economic developments in the domestic and global jurisdictions. Economic journals are a good source of **Case Studies** that help you to cultivate acumen for analytical thinking, studying issues threadbare and getting to the core of the issue to develop a professional bent of mind, preparing you to devise your own methodology to resolve complex and intricate matters later. Devote time to prepare notes, presentations on topics of your interest and curriculum. Discuss it amongst your peer group and friends to seek their comments and incorporate their suggestions. This would help in inculcating a habit of working in a team and respecting everyone's opinion.

Enhance your Knowledge

Continual enhancement of knowledge is essential to stay ahead to leverage opportunities. Knowledge empowers you to take on the world with confidence, to confront and surpass any challenge and emerging victorious in all your pursuits.

In our subject-wise knowledge enhancement series, the current issue has a capsule on Intermediate - Paper 7A: Enterprise Information Systems. The subject develops an overall understanding of the students towards technology enabled Information systems and their impact on enterprise-wide processes, risks and controls. This capsule provides a quick summary of numerous key features that covers Information systems, Financial and Accounting systems, Core banking Systems, e-Commerce and M-Commerce transactions, their business process flows along with their associated risks and controls. I am sure this capsule will help you in quickly revising the entire syllabus in a short span of time.

Empower to Excel

The institute is mindful of your academic aspirations. Those of you desirous of pursuing research will be pleased to know that **Visvesvaraya Technological University, Belagavi, Karnataka** has recognized Chartered Accountancy qualification as equivalent to post graduation for their **Ph.D** programme in Management Studies (Financial Management).

At present, 102 Universities, 6 IIMs and 2 IIT (Madras and Bombay) (110 Universities/Institutions) have recognized Chartered Accountancy qualification for pursuing doctoral programmes.

The Board of Studies, organizes many student centric activities to equip/empower you with an objective to transform you into a confident and competent young professional. One such event is the **CA Students Talent Search 2018**, a two-day programme being organized on **June 30 and July 1**, in New Delhi to showcase exquisite talent from across the country in quizzing, presentation & oratory skills, instrumental music and histrionics. As part of the programme, **a national level Quiz, Elocution, Instrumental Music and Nukkad Drama contests will be organized. The winners of Elocution and Quiz contest** will represent the ICAI at the **International SAFA Elocution/ Quiz Contest.** The event will be instrumental in bringing together the best talent in the country at one platform inspiring the entire student fraternity to cultivate their skills and chisel their personality. The event presents a wonderful opportunity to bring to fore your hidden talents, to explore your creative streak, unleashing a new dimension of your personality. Remember,***Talent is a gift from God ,what you do with it is your gift to God.***

Participating in such events enables you to hone your skills and boost your confidence. You will also get to interact with highly talented peers from other regions and getting to share knowledge and experiences. I exhort you to participate enthusiastically in the event and enthrall the audience with your knowledge, charisma, eloquence and rhetoric skills.

You must train and condition yourself for big things in life. Always remember: Big things require Big minds, Big hearts and Bigger preparation. Make consistent and concerted efforts until you succeed. You should visualize your goal on a macro level to plan and on a micro level to execute meticulously and positive results shall follow on their own. ***Let knowledge be the wind beneath your wings, surge ahead and fly!***

CA. NAVEEN N. D. GUPTA
PRESIDENT, ICAI, NEW DELHI

Kites rise highest against the wind, not with it. - Winston S. Churchill

VICE PRESIDENT'S COMMUNICATION

Dear Students,

Chartered Accountancy Examinations of May 2018 are over. My best wishes to all of you. The post examination period is considered as a period of lull, especially for those who have worked extremely hard in the past few months preparing for the examinations. While you are awaiting results, use your time wisely and in a productive manner. This interregnum is also the ideal time for you to review and redefine your goals. You can introspect on what you have achieved as a student of Chartered Accountancy till date and how far you have advanced towards achieving the targets.

In your chosen field of Chartered Accountancy, you need to acquire a deep understanding of issues and contemporary developments in the core and allied areas of the profession. Being a Chartered Accountant, you may have to confront several issues in your day-to-day professional life. Your knowledge base should be sound and strong to resolve such ticklish problems you come across. Continuous learning and innovation thus hold the password to success in any profession. The importance of the knowledge of a professional is being increasingly acknowledged world over and the profession of Chartered Accountancy is knowledge based. The barrage of knowledge that is inundating the world is large. Unless you receive and assimilate the knowledge and update your skills, you will be reduced into an anachronism. Continuous learning and constant innovation are the weapons, which will help you forge ahead. You can acquire knowledge only through reading. Read as much as you can. If you do not have the habit of reading, utilize the interval period to cultivate the habit. You should not restrict reading to the textbooks alone. In addition to the Journals of the Institute, read other journals, business magazines and newspapers. Voracious reading will also help you to enrich your vocabulary and language.

The Institute has always been proactive in its approach towards the professional growth of our students. The students should make use of all the opportunities and facilities that are being extended by the Institute. In this context, I would like to invite all of you to participate in the various students' conferences and national conventions that are being organized across the country in the coming few months. You will have the rare opportunity of interacting with a galaxy of professionals in the programmes. The benefit of such close interaction with the professionals and your colleagues is something that transcends anything that your normal experience can provide. Yours sincerely,

CA. PRAFULLA P. CHHAJED
VICE PRESIDENT, ICAI, NEW DELHI

CROSSWORD SOLUTION – MAY 2018

1P	2R	3O	F	I	T		4D	5R	6O	7N	8E
9A	B	E	T	S			10E	R	R	O	R
11S	I	C				12L	C	M		R	A
S		13D	14N	15D		16I	L		17Q	M	S
	18I		O	O		19C	I		20U	A	E
21I	N	22C	R	E	23M	E	N	24T	A	L	
25A	D	A	M		E		26E	A	T		27E
	28I	R	A	T	E			29N	E	30R	D
	31R	P	L		T		32G		33R	I	D
34C	E	O		35I		36L	I	37C		G	Y
	38C	O	S	T		39O	T	C		H	
40I	T	L	C		41Q	U	A	L	I	T	Y

The way to get started is to quit talking and begin doing. - Walt Disney

CHAIRMAN'S COMMUNICATION

Dear Students,

May 2018 Examinations are over. I hope that you all have done well in your respective examinations and I wish to convey my best wishes to you for positive results. I am sure that your hard work will definitely bear fruits. As you know, Examination is an essential tool to measure your preparation and knowledge in specific subjects in which you will specialize once you are into the profession. It is the time for you all to assess your stronger and weaker areas based on your performance in the examination and decides on your future course of action.

The post examination period is generally considered to be a period of lull, particularly for those who have worked extremely hard in the past few months preparing for the examinations. I really appreciate the need for such a break. Such change in routine can by itself provide a relaxation. But, be careful and do not get carried away in your relaxation period. As you know that in a professional course like ours, we have to go a long way in achieving our set goals.

As you know that, our course is unique in the sense that it gives you practical exposure through three years practical training along with theoretical knowledge. The properly designed practical training acts as a platform to develop a high level of understanding, which is required to produce extraordinary results in this era of cut throat competition. I, being a Chartered Accountant, very well understand the balance between the practical training and theoretical knowledge on subject areas like Accounting, Auditing, Corporate Finance, Taxation, Corporate Laws, Corporate Governance and Information System etc. Never take the practical training lightly as it gives you the best opportunity to become an outstanding professional with handful of experience and expertise.

The articled assistants completing their second year of article training should pursue Industrial Training with the consent of their respective principals. The Industrial Training will facilitate the articled assistants, real life exposure in office workings at industry and service organizations and will help develop their professional acumen. Industrial Training is highly benefitial to articled assistants in terms of practical knowledge and learning. The list of registered organizations permitted to impart Industrial Training is hosted on the Institute website. The articled assistants can also avail of Secondment during their Industrial Training. The Secondment will provide the articled assistants, the opportunity to get exposure to the practical knowledge related to Accounting, Audit, Taxation and other subjects prescribed in CA course.

I believe that maximum number of students must have benefitted by the Online e-Learning facility made available by the Board of Studies. The response we get from the students across the country is highly inspiring.

Before winding up this message, I extend my best wishes to the students appearing for the CPT examinations in June. You should also attend the Mock Tests being conducted by the respective regional/branch offices. The popularity and the demand of the Chartered Accountancy Course as well as of the Accountancy Profession have witnessed a paradigm shift. As the opportunity for the students has now become multidimensional, the responsibility also has become multilevel and diversified. I am sure that our students will be able to face these challenges and achieve the objectives in their future endeavours.

CA. DHINAL A. SHAH
CHAIRMAN, BOARD OF STUDIES, ICAI

Have no fear of perfection - you'll never reach it. - Salvador Dalí

ENTERPRISE INFORMATION SYSTEMS – A CAPSULE FOR QUICK REVISION

The capsule on Intermediate Paper 7A: Enterprise Information Systems that covers the entire syllabus of the subject is another step of Board of Studies in its endeavour to provide quality academic inputs to the Intermediate students of Chartered Accountancy Course. This concise capsule of the subject intends to assist students in their quick revision of the subject and should not be taken as a substitute for the detailed study of the subject. Students are advised to refer to the relevant Study Material and Revision Test Paper for comprehensive study and revision.

CHAPTER 1: AUTOMATED BUSINESS PROCESSES

This chapter deals with the basic concepts of Business Process, its automation and implementation; risks and controls associated with various business processes and provides comprehensive knowledge about the specific Regulatory and Compliance requirements of The Companies Act and The IT Act.

An **Enterprise Information System (EIS)** may be defined as any kind of information system which improves the functions of an enterprise business processes by integration. This means classically offering high quality services, dealing with large volumes of data and capable of supporting some huge and possibly complex organization or enterprise. All parts of EIS should be usable at all levels of an enterprise as relevant. A **Business Process** is an activity or set of activities that will accomplish a specific organizational goal.

Categories of Business Processes		
Operational Processes	**Supporting Processes**	**Management Processes**
Operational or Primary Processes deal with the core business and value chain. These processes deliver value to the customer by helping to produce a product or service. Operational processes represent essential business activities that accomplish business objectives.	**Supporting Processes** back core processes and functions within an organization. Examples of supporting or management processes include Accounting, Human Resource (HR) Management and workplace safety.	**Management Processes** measure, monitor and control activities related to business procedures and systems. Examples of management processes include internal communications, governance, strategic planning, budgeting and infrastructure or capacity management.
Example - Order to Cash (O2C) cycle.	Example- HR Process	Example - Budgeting

BUSINESS PROCESS AUTOMATION (BPA)

Business Process Automation (BPA) is the tactic a business uses to automate processes to operate efficiently and effectively.

BPA Objectives

CONFIDENTIALITY
To ensure that data is only available to persons who have right to see the same.

INTEGRITY
To ensure that no unauthorized amendments can be made in data.

AVAILABILITY
To ensure that data is available when asked for.

TIMELINESS
To ensure that data is made available at the right time.

Benefits of Automating Business Processes

QUALITY & CONSISTENCY

- Ensures that every action is performed identically - resulting in high quality, reliable results and stakeholders consistently experience the same level of service.

TIME SAVING

- Automation reduces the number of tasks employees would otherwise need to do manually, thus allowing innovation and increasing employees' levels of motivation.

VISIBILITY

- Automated processes are controlled and consistently operate accurately within the defined timeline. It gives visibility of the process status to the organization.

IMPROVED OPERATIONAL EFFICIENCY

- Automation reduces the time it takes to achieve a task, the effort required to undertake it and the cost of completing it successfully.
- Automation not only ensures systems run smoothly and efficiently, but that errors are eliminated and that best practices are constantly leveraged.

GOVERNANCE & RELIABILITY

- The consistency of automated processes means stakeholders can rely on business processes to operate and offer reliable processes to customers, maintaining a competitive advantage.

REDUCED TURNAROUND TIMES

- Eliminate unnecessary tasks and realign process steps to optimize the flow of information throughout production, service, billing and collection.
- This adjustment of processes distills operational performance and reduces the turnaround times for both staff and external customers.

REDUCED COSTS

- Manual tasks, given that they are performed one-at-a-time and at a slower rate than an automated task, will cost more. Automation allows us to accomplish more by utilizing fewer resources.

Steps involved in the Implementation of BPA

Step 1: Define why we plan to implement BPA?	The answer to this question will provide justification for implementing BPA.
Step 2: Understand rules/regulation under which it needs to comply with?	The underlying issue is that any BPA created needs to comply with applicable laws and regulations.
Step 3: Document the process, we wish to automate.	The current processes which are planned to be automated need to be correctly and completely documented at this step.
Step 4: Define the objectives/goals to be achieved by implementing BPA.	This enables the developer and user to understand the reasons for going for BPA. The goals need to be precise and clear.
Step 5: Engage business process consultant.	Once the entity has been able to define the above, the entity needs to appoint an expert, who can implement it for the entity.

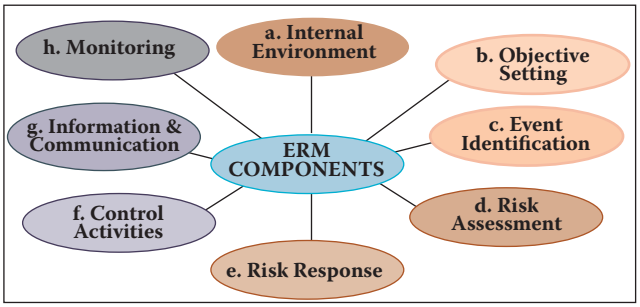
Step 6: Calculate the RoI for project.	The answer to this question can be used for convincing top management to say 'yes' to the BPA exercise.
Step 7: Development of BPA.	Once the top management grant their approval, the right business solution has to be procured and implemented or developed and implemented covering necessary BPA.
Step 8: Testing the BPA.	Before making the process live, the BPA solutions should be fully tested.

ENTERPRISE RISK MANAGEMENT (ERM)

May be defined as a process, effected by an entity's Board of Directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.

Benefits of Enterprise Risk Management (ERM)

Align risk appetite and strategy	Risk appetite is degree of risk, on a broad-based level that an enterprise is willing to accept in pursuit of its goals. Management considers the entity's risk appetite first in evaluating strategic alternatives, then in setting objectives aligned with the selected strategy and in developing mechanisms to manage the related risks.
Link growth, risk and return	Entities accept risk as part of value creation and preservation, and they expect return commensurate with the risk. ERM provides an enhanced ability to identify and assess risks, and establish acceptable levels of risk relative to growth and return objectives.
Enhance risk response decisions	ERM provides the rigor to identify and select among alternative risk responses - risk avoidance, reduction, sharing and acceptance. ERM provides methodologies and techniques for making these decisions.
Minimize operational surprises and losses	Entities have enhanced capability to identify potential events, assess risk and establish responses, thereby reducing the occurrence of surprises and related costs or losses.
Identify and manage cross-enterprise risks	Every entity faces a myriad of risks affecting different parts of the enterprise. Management needs to not only manage individual risks, but also understand interrelated impacts.
Provide integrated responses to multiple risks	Business processes carry many inherent risks, and ERM enables integrated solutions for managing the risks.
Seize opportunities	Management considers potential events, rather than just risks, and by considering a full range of events, management gains an understanding of how certain events represent opportunities.
Rationalize capital	More robust information on an entity's total risk allows management to more effectively assess overall capital needs and improve capital allocation.



a. Internal Environment	Encompasses the tone of an organization, and sets the basis for how risk is viewed and addressed by an entity's people, including risk management philosophy and risk appetite, integrity and ethical values, and the environment in which they operate.
b. Objective Setting	ERM ensures that management has a process in place to set objectives and that the chosen objectives support and align with the entity's mission/vision and are consistent with the entity's risk appetite.
c. Event Identification	Event identification includes identifying factors - internal and external - that influence how potential events may affect strategy implementation and achievement of objectives.
d. Risk Assessment	Identified risks are analyzed to form a basis for determining how they should be managed. Risks are associated with related objectives that may be affected.
e. Risk Response	Management selects an approach or set of actions to align assessed risks with the entity's risk tolerance and risk appetite, in the context of strategy and objectives.
f. Control Activities	Policies and procedures are established and executed to help ensure that the risk responses management selected, are effectively carried out.
g. Information and Communication	Relevant information is identified, captured and communicated in a form and time frame that enable people to carry out their responsibilities.
h. Monitoring	Monitoring is accomplished through ongoing management activities, separate evaluations of the ERM processes or a combination of the both.

RISKS AND CONTROLS

Risk is any event that may result in a significant deviation from a planned objective resulting in an unwanted negative consequence.

Risks of Business Process Automation		Types of Business Risks	
Input & Access	All input transaction data may not be accurate, complete and authorised.	**Strategic**	Risk that would prevent an organisation from accomplishing its objectives.
File & Data Transmission	All files and data transmitted may not be processed accurately and completely, due to network error.	**Financial**	Risk that could result in a negative financial impact to the organisation.

Risks of Business Process Automation		Types of Business Risks	
Output	Is not complete and accurate due to program error or bugs and is distributed to unauthorised personnel due to weak access control.	Reputational	Risk that could expose the organisation to negative publicity.
Processing	Valid input data may not have been processed accurately and completely due to program error or bugs.	Regulatory (Compliance)	Risk that could expose the organization to fines and penalties from a regulatory agency due to non-compliance with laws and regulations.
Data	Master data and transaction data may be changed by unauthorised personnel due to weak access control.	Operational	Risk that could prevent the organisation from operating in the most effective and efficient manner or be disruptive to other operations.
Infrastructure	All data & programs could be lost if there is no proper backup in the event of a disaster and the business could come to a standstill.		

Control	Defined as policies, procedures, practices and organisation structure that are designed to provide reasonable assurance that business objectives are achieved and undesired events are prevented or detected and corrected.
Internal Controls	• These are a system consisting of specific policies and procedures; • Designed to provide management with reasonable assurance that the goals and objectives it believes important to the entity, will be met.
An Internal Control System	• Facilitates the effectiveness and efficiency of operations. • Helps ensure the reliability of internal and external financial reporting. • Assists compliance with applicable laws and regulations. • Helps safeguarding the assets of the entity.

Components Of Internal Control	
Control Environment	Set of standards, processes, and structures that provide the basis for carrying out internal control across the organisation.
Risk Assessment	This forms the basis for determining how risks will be managed. A precondition to risk assessment is establishment of objectives, linked at different levels of entity.
Control Activities	Actions established through policies and procedures that ensure management's directives to mitigate risks to the achievement of objectives are carried out.
Information and Communication	Communication is the continual, iterative process of providing, sharing & obtaining necessary information.
Monitoring of Controls	Ongoing evaluations, separate evaluations, or some combination of two are used to ascertain whether each of five components of internal control, including controls are present and functioning.

Controls should be checked at the following three levels

Configuration

- Refers to the methodical process of defining options that are provided.
- Defines how software functions and what menu options are displayed.

Masters

- Refers to the way various parameters are set up for all modules of software like Purchase, Sales, Inventory, Finance etc.
- Set up first time during installation and these are changed whenever the business process rules or parameters are changed.
- Examples are Vendor Master, Customer Master, Material Master, Accounts Master, Employee Master etc.

Transactions

- Refers to the actual transactions entered through menus and functions in the application software, through which all transactions for specific modules are initiated, authorized or approved.
- For example: Sales transactions, Purchase transactions, Stock transfer transactions, Journal entries and Payment transactions.

BUSINESS PROCESSES - DIAGRAMMATIC REPRESENTATION

Flowcharts

Are used in designing and documenting simple processes or programs. Like other types of diagrams, they help visualize what is going on and thereby help understand a process, and perhaps also find flaws, bottlenecks, and other less-obvious features within it.

Data Flow Diagrams (DFDs)

DFD basically provides an overview of:
(a) What data a system processes;
(b) What transformations are performed;
(c) What data are stored; and
(d) What results are produced and where they flow.

REGULATORY AND COMPLIANCE REQUIREMENTS

Regulatory and Compliance Requirements

- **The Companies Act, 2013**
  - Section 134 of the Companies Act, 2013 on "Financial statement, Board's report", etc.
  - Section 143 of the Companies Act 2013, on "Powers and duties of auditors and auditing standards"
- **Information Technology Act (IT Act)**
  - Advantages of Cyber Laws
  - Computer Related Offences - Email A/c Hacking, Credit Card fraud, web defacement etc.
  - Privacy
  - Cyber Crime - Hacking, Traditional Theft etc.
  - Sensitive Personal Data Information (SPDI)

Section 134 of the Companies Act, 2013 on "Financial statement, Board's report, etc." states inter alia: The Directors' Responsibility Statement referred to in clause (c) of sub-section (3) shall state that:
The Directors had taken proper and sufficient care for the maintenance of adequate accounting records in accordance with the provisions of this Act for safeguarding the assets of the company and for preventing and detecting fraud and other irregularities;
The Directors, in the case of a listed company, had laid down internal financial controls to be followed by the company and that such internal financial controls are adequate and were operating effectively.

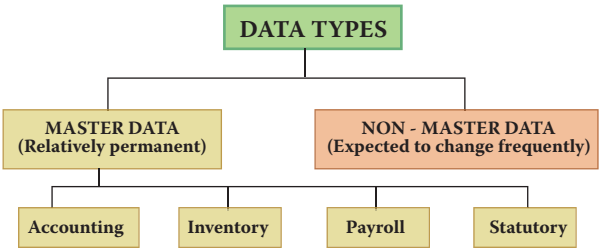
CHAPTER 2: FINANCIAL AND ACCOUNTING SYSTEMS

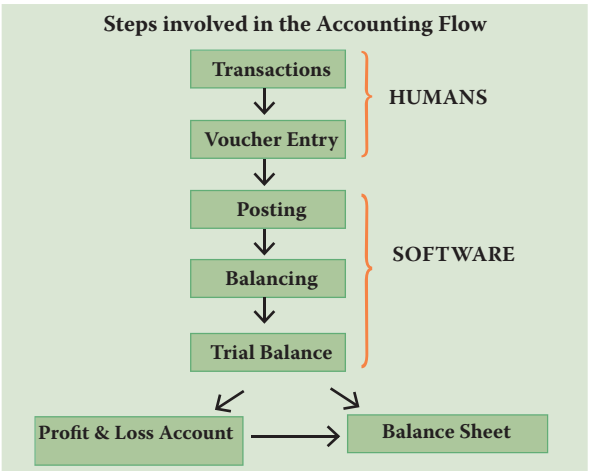
This chapter provides an in-depth knowledge about the concept of Financial and Accounting Systems, Integrated and Non-integrated Systems and further acquaint the students about Regulatory and Compliance requirements with Financial and Accounting systems.

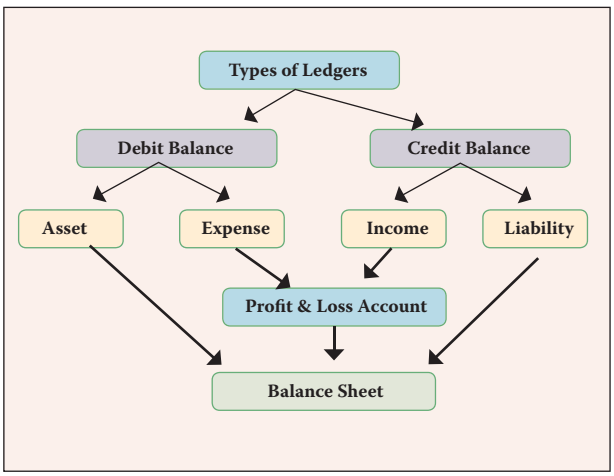
In accounting language, a **Voucher** is a documentary evidence of a transaction. There may be different documentary evidences for different types of transactions.

Voucher Types			
1	Contra	Accounting	For recording of four types of transactions as under : • Cash deposit in bank • Cash withdrawal from bank • Cash transfer from one location to another. • Fund transfer from our one bank account to our own another bank account.
2	Payment		For recording of all types of payments. Whenever the money is going out of business by any mode (cash/bank).
3	Receipt		For recording of all types of receipts. Whenever money is being received into business from outside by any mode (cash/bank)
4	Journal		For recording of all non-cash/bank transactions. E.g. Depreciation, Provision, Write-off, Write-back, discount given/ received, Purchase/Sale of fixed assets on credit, etc.
5	Sales		For recording all types of trading sales by any mode (cash/bank/credit).
6	Purchase		For recording all types of trading purchase by any mode (cash/bank/credit).
7	Credit Note		For making changes / corrections in already recorded sales / purchase transactions.
8	Debit Note		For making changes/corrections in already recorded sales/purchase transactions.
9	Memorandum		For recording of transaction which will be in the system but will not affect the trial balance.
10	Purchase Order	Inventory	For recording of a purchase order raised on a vendor.
11	Sales Order		For recording of a sales order received from a customer.
12	Stock Journal		For recording of physical movement of stock from one location to another.
13	Physical Stock		For making corrections in stock after physical counting.
14	Delivery Note		For recording of physical delivery of goods sold to a customer.
15	Receipt Note		For recording of physical receipt of goods purchased from a vendor.
16	Attendance	Payroll	For recording of attendance of employees.
17	Payroll		For salary calculations.

From a business perspective, a **Process** is a coordinated and standardized flow of activities performed by people or machines, which can traverse functional or departmental boundaries to achieve a business objective and creates value for internal or external customers.







Installed Applications Vs. Web Applications		
Particulars	**Installed Application**	**Web Application**
Installation & Maintenance	As software is installed on hard disc of the computer used by user, it needs to be installed on every computer one by one. Maintenance & updating of s/w may take lot time and efforts.	As s/w is installed on only one computer. Hence, maintenance/updating of s/w becomes extremely easy.
Accessibility	As software is installed on the hard disc of the user's computer, user needs to go to the computer only. It cannot be used from any computer.	As software is not installed on the hard disc of user's computer and its used through browser and internet, it can be used from any computer in the world 24 x 7.
Mobile App.	Using the software through mobile application is difficult in this case.	Using mobile application becomes very easy as data is available 24 x 7.
Data Storage	Data is physically stored in the premises of the user, i.e. on the hard disc of the user's server computer. Thus user has full control over data.	Data is not stored in the user's server computer. It is stored on a web server. Hence user will not have any control over the data.
Data Security	As the data is in physical control of the user, user shall have the full physical control over the data and he/she can ensure that it is not accessed without proper access.	Data security is a big challenge in case of web application as the data is not in control of the user or owner of data. It is maintained on a web server.
Performance	A well written installed application shall always be faster than web application.	As data is picked from web server using internet, speed of operation may be slower.
Flexibility	Installed applications shall have more flexibility and controls as compared to web application.	Web applications do not even compare to the flexibility of desktop applications.

ENTERPRISE RESOURCE PLANNING (ERP)

An **ERP System** is based on a common database and a modular software design. The common database can allow every department of a business to store and retrieve information in real-time. The information should be reliable, accessible, and easily shared. An ERP system supports most of the business system that maintains in a single database the data needed for a variety of business functions such as Manufacturing, Supply Chain Management, Financials, Projects, Human Resources and Customer Relationship Management.

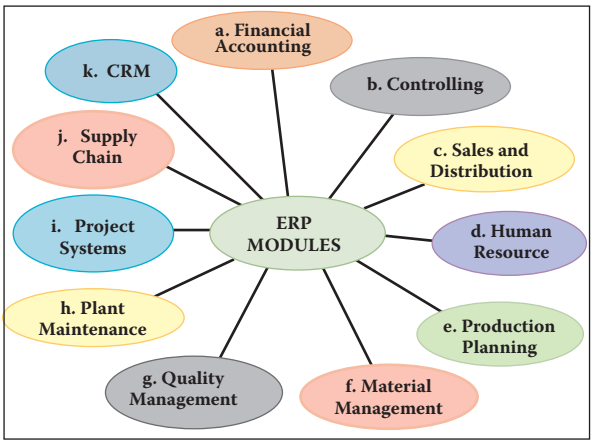
Advantages of an ERP System

- Ability to customize an organization's requirements;
- Integrate business operations with accounting & financial reporting function;
- Increased data security and application controls;
- Build strong access and segregation of duties controls;
- Automate many manual processes thus eliminating errors;
- Process huge volumes of data within short time frames; and
- Strong reporting capabilities which aids management and other stakeholders in appropriate decision making.

Features of an Ideal ERP System

- **Manufacturing:** Some of the functions include engineering, capacity, workflow management, quality control, bills of material, manufacturing process, etc.
- **Financials:** Accounts payable, accounts receivable, fixed assets, general ledger and cash management, etc.
- **Human Resources:** Benefits, training, payroll, time and attendance, etc.
- **Supply Chain Management:** Inventory, supply chain planning, supplier scheduling, claim processing, order entry, purchasing, etc.
- **Projects:** Costing, billing, activity management, time and expense, etc.
- **Customer Relationship Management (CRM):** CRM software is used to support processes, such as sales, marketing, customer service, training, professional development, performance management, HR Development, and compensation etc., storing information on current and prospective customers.
- **Data Warehouse:** Data warehouse is a repository of an organization's electronically stored data. These are designed to facilitate reporting and analysis. The process of transforming data into information and making it available to the user in a timely enough manner to make a difference is known as data warehousing.

Risks and Controls associated with ERP		
Aspect	**Risk Associated**	**Control Required**
Data Access	Data is stored centrally and all the departments access central data. This creates a possibility of access to non-relevant data.	Access rights need to be defined very carefully. Access to be given on "Need to know" and Need to do" basis only.
Data Safety	As there is only one set of data, if this data is lost, whole business may come to stand still.	Back up arrangement needs to be very strong. Also, strict physical control is needed for data.
Speed of Operation	As data is maintained centrally, gradually the data size becomes more and more and it may reduce the speed of operation.	This can be controlled by removing redundant data, using techniques like data warehousing and updating hardware on a continuous basis.
Change in process	As the overall system is integrated, a small change in process for one department may require lot of efforts and money.	All the processes must be documents carefully in beginning of implementation itself to avoid any discomfort in future.
Staff Turnover	As the overall system is integrated & connected with each other department, it becomes complicated and difficult to understand.	This can be controlled and minimized with help of proper staff training system, having help manuals, having backup plans for staff turnover, etc.
System Failure	As everybody is connected to a single system and central database, in case of failure of system, the whole business may come to stand still, may get affected badly.	This can be controlled and minimized by having proper and updated back up of data as well as alternate hardware / internet arrangements.



a. Financial Accounting Module
This module is the most important module of the overall ERP System and it connects all the modules to each other.

b. Controlling Module
This module facilitates coordinating, monitoring, and optimizing all the processes in an organization.

c. Sales and Distribution Module
This is used by organizations to support sales and distribution activities of products and services, starting from enquiry to order and then ending with delivery.

d. Human Resource Module
This module enhances the work process and data management within HR department of enterprises.

e. Production Planning (PP) Module
PP module is another important module that includes software designed specifically for production planning and management.

f. Material Management (MM) Module
MM module as the term suggests manages materials required, processed and produced in enterprises.

g. Quality Management Module
Quality Management module helps in management of quality in productions across processes in an organization

h. Plant Maintenance Module
This is a functional module which handles the maintaining of equipment and enables efficient planning of production and generation schedules.

i. Project Systems
Project systems are used for planning and managing projects.

j. Supply Chain Module
This module provides extensive functionality for logistics, manufacturing, planning, and analytics.

k. Customer Relationship Management (CRM)
Customer Relationship Management is a system which aims at improving the relationship with existing customers, finding new prospective customers, and winning back former customers.

Management Information Systems (MIS) Report	
IT is a tool that managers use to evaluate business processes and operations.	**Type of Information in an MIS Report** An MIS report for this would likely contain data such as: • The number of calls your staff takes; • The number of emails that come in each day; • The average amount of time it takes to answer a phone call or email; and • The number of questions that your staff answers correctly vs. the number that are incorrect.

The information must meet following criteria to become useful for the user:			
Relevant	**Timely**	**Accurate**	**Structured**
MIS reports need to be specific to the business area they address. This is important because a report that includes unnecessary information might be ignored.	Managers need to know what's happening now or in the recent past to make decisions about the future.	It's critical that numbers add up and that dates and times are correct. Financial information is often required to be accurate to the dollar.	Try to break long passages of information into more readable blocks or chunks and give these chunks meaningful headings.

Data Analytics
Data Analytics is the process of examining data sets to draw conclusions about the information they contain, increasingly with the aid of specialized systems and software.

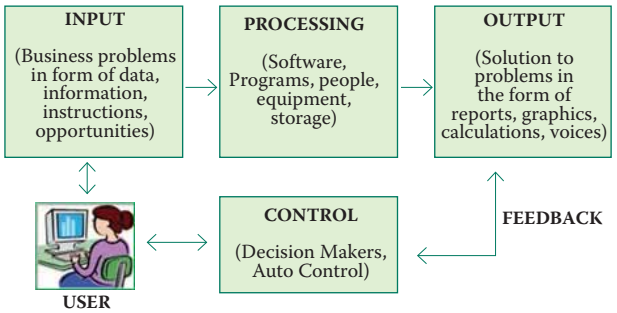
Business Intelligence (BI)
BI encompasses a wide variety of tools, applications and methodologies that enable organizations to collect data from internal systems and external sources, prepare it for analysis, develop and run queries against the data, and create reports, dashboards and data visualizations to make the analytical results available to corporate decision makers as well as operational workers.

Business Reporting
- It is the public reporting of operating and financial data by a business enterprise, or the regular provision of information to decision-makers within an organization to support them in their work.
- **XBRL (eXtensible Business Reporting Language)** is a freely available and global standard for exchanging business information. XBRL allows the expression of semantic meaning commonly required in business reporting.
- **Who uses XBRL?**
  Regulators; Companies; Governments; Data Providers; Analysts and investors and Accountants.
- **Important features of XBRL**
  - ❖ Clear Definitions
  - ❖ Testable Business Rules
  - ❖ Multi-lingual Support
  - ❖ Strong Software Support

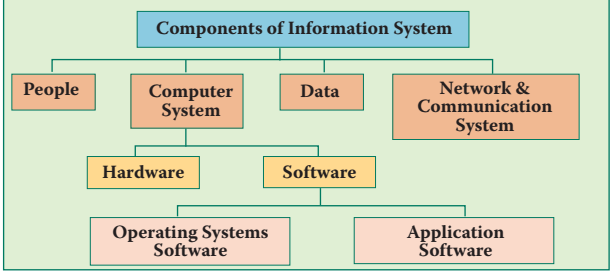
CHAPTER 3: INFORMATION SYSTEMS AND ITS COMPONENTS

This chapter provides a deep understanding about various components of an Information system and its working, types of threats and their mitigating controls and audit aspects of various components of Information Systems.

An **Information System** is a combination of people, hardware, software, communicating devices, network and data resources that processes can be storing, retrieving, transforming information) data and information for a specific purpose.

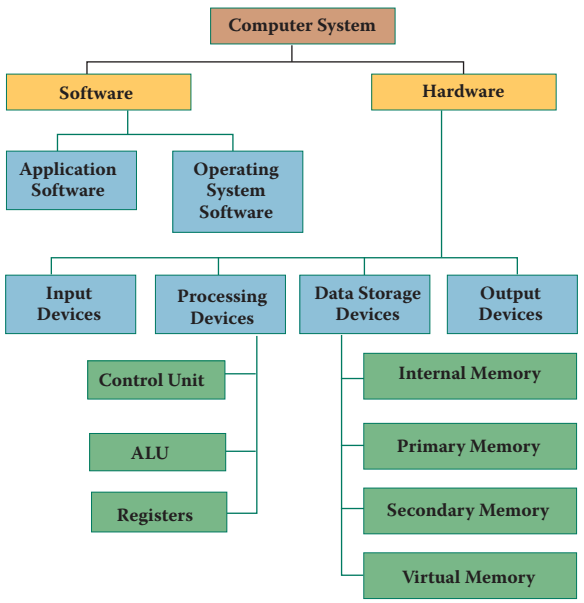


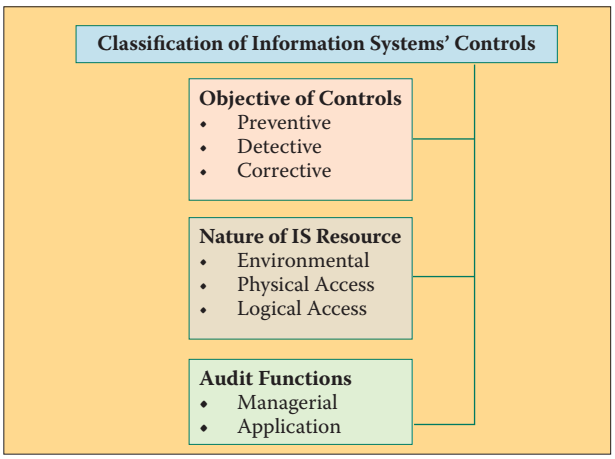
Functions of an Information System	
Input	Data is collected from an organization or from external environments and converted into suitable format required for processing.
Process	A process is a series of steps undertaken to achieve desired outcome or goal.
Output	Then information is stored for future use or communicated to user after application of respective procedure on it.
Three basic activities of an Information System that are defined above, helps enterprise in making decisions, control operations, analyze problems and create new products or services as an output. Apart from these activities, information systems also need feedback that is returned to appropriate members of the enterprises to help them to evaluate at the input stage.	



People	The people involved include users of the system and information systems personnel, including all the people who manage, run, program, and maintain the system.
Computer System	**Hardware:** Information Systems hardware is the part of Information Systems that we can touch-the physical components of technology. Computers, keyboards, hard drives, iPads and flash drives are all examples of Information Systems hardware. **Software:** Software is a set of instructions that tells the hardware what to do. Software is not tangible it cannot be touched. • **An Operating System (OS)** is a set of computer programs that manages computer hardware resources and acts as an interface with computer applications programs. • **Application software** includes all that computer software that cause a computer to perform useful tasks beyond the running of the computer itself.

Data	Data are the raw bits and pieces of information with no context. Data can either be quantitative which is numeric (the result of a measurement, count, or some other mathematical calculation) or Qualitative data which is descriptive.
Networking and Communication Systems	These consist of both physical devices and software, links the various pieces of hardware and transfers the data from one physical location to another. Computers and communications equipment can be connected in networks for sharing voice, data, images, sound and video.





Objectives of Controls	
Preventive Controls	Prevent errors, omissions, or security incidents from occurring. Examples include simple data-entry edits that block alphabetic characters from being entered in numeric fields, access controls that protect sensitive data/ system resources from unauthorised people, and complex and dynamic technical controls such as antivirus software, firewalls, and intrusion prevention systems.
Detective Controls	These controls are designed to detect errors, omissions or malicious acts that occur and report the occurrence. For example, a detective control may identify account numbers of inactive accounts or accounts that have been flagged for monitoring of suspicious activities.
Corrective Controls	These controls correct errors, omissions, or incidents once they have been detected. They vary from simple correction of data-entry errors, to identifying and removing unauthorised users or software from systems or networks, to recovery from incidents, disruptions, or disasters.
Nature of Information Systems' Resources	
Environmental Controls	These are the controls relating to IT environment such as power, air-conditioning, Un-interrupted Power Supply (UPS), smoke detection, fire-extinguishers, dehumidifiers etc.
Physical Access Controls	These are the controls relating to physical security of the tangible IS resources and intangible resources stored on tangible media etc. These include Access control doors, Security guards, door alarms, restricted entry to secure areas, visitor logged access, CCTV monitoring etc.

Logical Access Controls	These are the controls relating to logical access to information resources such as operating systems controls, application software boundary controls, networking controls, access to database objects, encryption controls etc. The key factors considered in designing logical access controls include confidentiality and privacy requirements, authorization, authentication and incident handling, reporting and follow-up, virus prevention and detection, firewalls, centralized security administration, user training and tools for monitoring compliance, intrusion testing and reporting.
Audit Functions	
Managerial Controls	The controls over the managerial functions that must be performed to ensure the development, implementation, operation and maintenance of information systems in a planned and controlled manner in an organization. The controls at this level provide a stable infrastructure in which information systems can be built, operated and maintained on a day-to-day basis.
Application Controls	These include the programmatic routines within the application program code. The objective of application controls is to ensure that data remains complete, accurate and valid during its input, update and storage. The specific controls could include form design, source document controls, input, processing and output controls, media identification, movement and library management, data back-up and recovery, authentication and integrity, legal and regulatory requirements.

MANAGERIAL CONTROLS

I. Top Mgt. & IS Mgt. Controls
Functions performed by a Senior Manager

- **Planning:** determining goals of information systems function and means of achieving these goals;
- **Organizing:** gathering, allocating, & coordinating resources needed to accomplish goals;
- **Leading:** motivating, guiding, and communicating with personnel;
- **Controlling:** Comparing actual performance with planned performance

II. Programming Mgt. Controls
To acquire and implement high-quality programs

- **Planning:** Using WBS, Gantt Charts, PERT;
- **Control:** Over software development, acquisition, and implementation tasks;
- **Design:** Systematic approach to program design
- **Coding:** Using Top-down or bottom-up approach;
- **Testing:** Could be Unit Testing, Integration Testing and Whole-of-Program Testing
- **Operation and Maintenance:** Could be Repair Maintenance, Adaptive and Perfective Maintenance

III. System Development Management Controls
Has responsibility for functions concerned with analyzing, designing, building, implementing & maintaining IS

- **System Authorization Activities:** Systems must be properly authorized to ensure their economic justification and feasibility.
- **User Specification Activities:** The user can create a detailed written description of the logical needs that must be satisfied by the system.
- **Technical Design Activities:** These translate user specifications into a set of detailed technical specifications of system that meets user's needs.
- **Internal Auditor's Participation:** Auditor's involvement should be continued throughout all phases of development process and into maintenance phase.
- **Program Testing:** All modules must be tested before they are implemented.
- **User Test and Acceptance Procedures:** Just before implementation, individual modules of the system must be tested as a unified whole.

IV. Data Resource Mgt. Controls
Data must be available to users when it is needed, in location where it is needed, and in form in which it is needed.

- **Definition Controls:** To ensure that database always corresponds and comply with its definition standards.
- **Existence Controls:** To ensure existence of database by establishing backup recovery procedures.
- **Access Controls:** Access controls are designed to prevent unauthorized individual from viewing, retrieving, computing/ destroying entity's data.
- **Update Controls:** Restrict update of database to authorized users.
- **Concurrency Controls:** Provide solutions, agreed-upon schedules and strategies to overcome the data integrity problems.
- **Quality Controls:** These controls ensure the accuracy, completeness and consistency of data maintained in database.

V. Security Mgt. Controls
Information security administrators are responsible for ensuring that information systems assets are secure.

VI. Quality Assurance Mgt. Controls
To achieve certain quality goals and standards.

VII. Operations Mgt. Controls
Responsible for the daily running of hardware and software facilities.

- Computer operation;
- Network operation;
- Data Preparation & Entry;
- Production Control;
- File Library;
- Documentation & Program Library;
- Help Desk & Technical support;
- Capacity Planning & Performance;
- Management of outsourced operations.

APPLICATION CONTROLS

I. Boundary Controls An Access control mechanism having three steps - Identification, Authentication and Authorization.

- **Cryptographic Controls:** Transforming data into codes that are meaningless for a non-authenticated person.
- **Passwords:** User identification by an authentication mechanism with personal characteristics like birth date etc.
- **PIN:** Assigned to a user by institution based on the user characteristics.
- **Identification Cards:** Used to store information required in an authentication process.
- **Biometric Devices:** Identification like thumb/ finger impression.

II. Communication Controls Responsible for transporting data among all other subsystems.

- **Physical Component Controls:** Involve Transmission Media - Guided or Unguided Media; Communication Lines; Port Protection Devices; Multiplexors and Concentrators etc.
- **Line Error Controls:** Include Error Detection & Error Correction Techniques.
- **Flow Controls:** Uses Stop - and - Wait Flow Control mechanism.
- **Link Controls:** Uses protocols - HDLC and SDLC.
- **Channel Access Controls:** Uses Polling and Contention Method.
- **Internetworking Controls:** Uses mainly three devices - Bridge, Router & Gateway.

III. Processing Controls Responsible for computing, sorting, classifying, and summarizing data.

- **Processor Controls:** Used to reduce expected losses from errors and irregularities associated with Central processors.
- **Real Memory Controls:** Seek to detect and correct errors that occur in memory cells and to protect areas of memory assigned to a program from illegal access by another program.
- **Virtual Memory Controls:** Maps virtual memory addresses into real memory addresses.
- **Data Processing Control:** Perform validation checks to identify errors during processing of data.

IV. Input Controls Responsible for ensuring the accuracy and completeness of data that are input into an application system.

- **Source Document Control:** Can be used to remove assets from the enterprise.
- **Data Coding Control:** These are put in place to reduce user error during data feeding.
- **Batch Control:** Put in place at locations where batch processing is being used to ensure accuracy and completeness of the content.
- **Validation Control:** Used to validate the accuracy of input data at different levels like – Field and Record interrogation.

V. Database Controls Protects integrity of a database when application s/w act as an interface between user and the database.

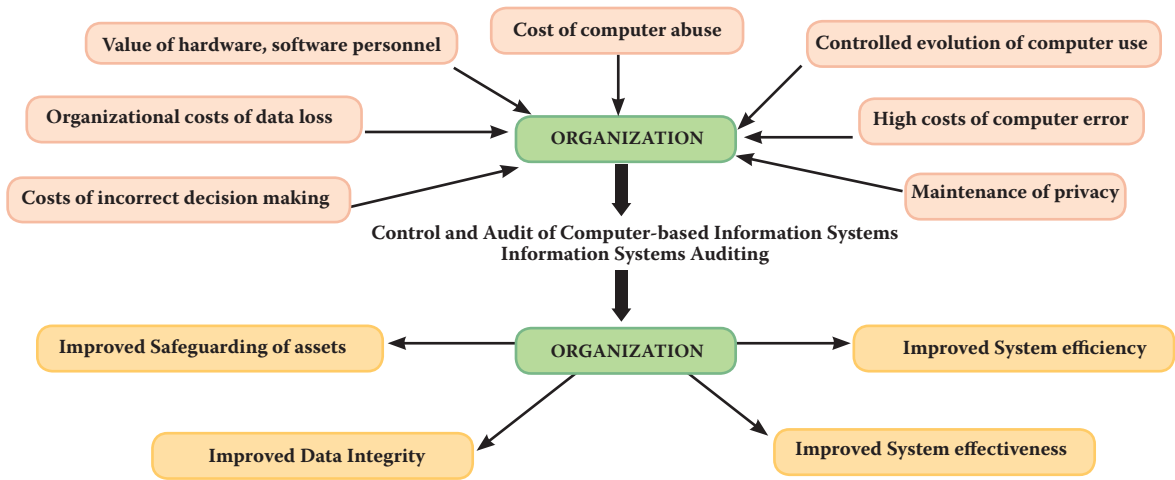
Update Controls and Report Controls: To protect the integrity of a database when application s/w acts as an interface to interact between user and database.

VI. Output Controls Ensure that data delivered to users is presented, formatted and delivered in a consistent and secured manner.

- **Storage and Logging of Sensitive and Critical Forms:** Access of pre-printed stationery to only authorized persons.
- **Logging of output program executions:** Output programs to be logged and monitored.
- **Spooling/Queuing:** To ensure that the user can continue working, while the print operation is getting completed.
- **Controls over Printing:** Unauthorized disclosure of info. is not printed.
- **Report distribution and Collection Controls:** Deals with secure way to avoid unauthorized disclosure of data.
- **Retention Controls:** Duration for which outputs to be retained before being destroyed.

INFORMATION SYSTEM'S AUDITING

It is defined as the process of attesting objectives (those of the external auditor) that focus on asset safeguarding, data integrity and management objectives (those of the internal auditor) that include effectiveness and efficiency both.



Impact of Controls and Audit influencing an organization

Need and Control of Information Systems' Audit	
Organisational Costs of Data Loss	Data is a critical resource of an organisation for its present and future process and its ability to adapt and survive in a changing environment.
Cost of Incorrect Decision Making	Management and operational controls taken by managers involve detection, investigations and correction of the processes.
Value of Computer Hardware, Software and Personnel	These are critical resources of an organisation, which has a credible impact on its infrastructure and business competitiveness.
Costs of Computer Abuse	Unauthorised access to computer systems, malwares, unauthorised physical access to computer facilities and unauthorised copies of sensitive data can lead to destruction of assets.
Controlled evolution of Computer Use	Use of Technology and reliability of complex computer systems cannot be guaranteed and the consequences of using unreliable systems can be destructive.
High Costs of Computer Error	In a computerised enterprise environment where many critical business processes are performed, a data error during entry or process would cause great damage.
Maintenance of Privacy	Data collected in a business process contains private information about an individual that needs to be maintained.
Information Systems' Audit Objectives	
Asset Safeguarding Objectives	The information system assets (hardware, software, data information etc.) must be protected by a system of internal controls from unauthorised access.
Data Integrity Objectives	Data integrity important from the business perspective of the decision maker, competition and the market environment.
System Effectiveness Objectives	Effectiveness of a system is evaluated by auditing the characteristics and objective of the system to meet business and user requirements.
System Efficiency Objectives	To optimize the use of various information system resources along with the impact on its computing environment.

TYPES OF AUDIT TOOLS

Snapshots

Tracing a transaction is a computerized system that can be performed with the help of snapshots or extended records. The snapshot software is built into the system at those points where material processing occurs which takes images of the flow of any transaction as it moves through the application. These images can be utilized to assess the authenticity, accuracy, and completeness of the processing carried out on the transaction.

Integrated Test Facility (ITF)

The ITF technique involves the creation of a dummy entity in the application system files and the processing of audit test data against the entity as a means of verifying processing authenticity, accuracy, and completeness. This test data would be included with the normal production data used as input to the application system.

System Control Audit Review File (SCARF)

The SCARF technique involves embedding audit software modules within a host application system to provide continuous monitoring of the system's transactions. The information collected is written onto a special audit file- the SCARF master files. Auditors then examine the information contained on this file to see if some aspect of the application system needs follow-up.

Continuous and Intermittent Simulation (CIS)

This is a variation of the SCARF continuous audit technique. This technique can be used to trap exceptions whenever the application system uses a database management system.

Audit Hooks

There are audit routines that flag suspicious transactions. For example, internal auditors at Insurance Company determined that their policyholder system was vulnerable to fraud every time a policyholder changed his or her name or address and then subsequently withdrew funds from the policy.

AUDIT TRAILS

Audit Trails are logs that can be designed to record activity at the system, application, and user level. When properly implemented, audit trails provide an important detective control to help accomplish security policy objectives.

- The **Accounting Audit Trail** shows the source and nature of data and processes that update the database.
- The **Operations Audit Trail** maintains a record of attempted or actual resource consumption within a system.

Managerial Controls and their Audit Trails

Managerial Controls	Scope	Audit Trails
Top Management and Information Systems Management Controls	Discusses the top management's role in planning, organizing, leading and controlling the information systems function. Also, provides advice to top management in relation to long-run policy.	• **Planning:** Auditors need to evaluate whether top management has formulated a high-quality IS's plan that is appropriate to the needs of an organization or not. • **Organizing:** Auditors should be concerned about how well top management acquires and manages staff resources. • **Leading:** Auditors examine variables that often indicate when motivation problems exist or suggest poor leadership. • **Controlling:** Auditors must evaluate whether top management's choice to the means of control over the users of IS services is likely to be effective or not.
System Development Management Controls	Provides a contingency perspective on models of the information systems development process that auditors can use as a basis for evidence collection and evaluation.	• **Concurrent Audit:** Auditors assist the team in improving the quality of systems development for the specific system they are building and implementing. • **Post-implementation Audit:** Auditors seek to help an organization learn from its experiences in the development of a specific application system. • **General Audit:** Auditors seek to determine whether they can reduce extent of substantive testing needed to form an audit opinion about management's assertions relating to financial statements for systems effectiveness and efficiency.
Programming Management Controls	Discusses the major phases in the program life cycle and the important controls that should be exercised in each phase.	• **Planning:** Auditors must evaluate how well the planning work is being undertaken. • **Control:** Auditors must evaluate whether the nature of and extent of control activities undertaken are appropriate for different types of s/w that are developed or acquired.

Managerial Controls	Scope	Audit Trails
		• **Design:** Auditors should find out whether programmers use some type of systematic approach to design. • **Coding:** Auditors should seek evidence to check whether programmers employ automated facilities to assist them with their coding work. • **Testing:** Auditor's primary concern is to see that unit testing; integration testing of the system testing has been undertaken appropriately. • **Operation & Maintenance:** Auditors need to ensure effectively & timely reporting of maintenance needs that occur & maintenance is carried out in a well-controlled manner.
Data Resource Management Controls	Discusses the role of database administrator and the controls that should be exercises in each phase.	Auditors should determine what controls are exercised to maintain data integrity. They might employ test data to evaluate whether access controls and update controls are working.
Quality Assurance Management Controls	Discusses major functions that quality assurance management should perform to ensure that development, implementation, operation, and maintenance of information systems conform to quality standards.	Auditors might use interviews, observations and reviews of documentation to evaluate how well Quality Assurance (QA) personnel perform their monitoring role.
Security Management Controls	Discusses major functions performed by operations by security administrators to identify major threats to IS functions and to design, implement, operate, and maintain controls that reduce expected losses from these threats to an acceptable level.	Auditors must evaluate whether security administrators are conducting ongoing, high-quality security reviews or not.
Operations Management Controls	Discusses the major functions performed by operations management to ensure the day-to-day operations of the IS function are well controlled.	Auditors should pay concern to see whether the documentation is maintained securely and that it is issued only to authorized personnel.

Application Controls And Their Audit Trails

Application Controls	Accounting Audit Trail	Operations Audit Trail
BOUNDARY CONTROLS This maintains the chronology of events that occur when a user attempts to gain access to and employ systems resources. This includes Identity of the would-be user of the system; Authentication information supplied; Resources requested; Action privileges requested; Terminal Identifier; Start and Finish Time; Number of Sign-on attempts; and Resources provided/ denied.	Action privileges allowed/ denied.	• Resource usage from log-on to log-out time. • Log of Resource consumption.
INPUT CONTROLS This maintains the chronology of events from the time data and instructions are captured and entered into an application system until the time they are deemed valid and passed onto other subsystems within the application system.	• The identity of the person (organisation) who was the source of the data; • The identity of the person (organisation) who entered the data into the system; • The time and date when the data was captured; • The identifier of the physical device used to enter the data into the system; • The account or record to be updated by the transaction; • The standing data to be updated by the transaction; • The details of the transaction; and • The number of the physical or logical batch to which the transaction belongs.	• Time to key in a source document or an instrument at a terminal; • Number of read errors made by an optical scanning device; • Number of keying errors identified during verification; • Frequency with which an instruction in a command language is used; and • Time taken to invoke an instruction using a light pen versus a mouse.
COMMUNICATION CONTROLS This maintains a chronology of the events from the time a sender dispatches a message to the time a receiver obtains the message.	• Unique identifier of the source/sink node; • Unique identifier of each node in the network that traverses the message; Unique identifier of the person or process authorizing dispatch of the message; Time and date at which the message was dispatched; • Time and date at which the message was received by the sink node; • Time and date at which node in the network was traversed by the message; and • Message sequence number; and the image of the message received at each node traversed in the network.	• Number of messages that have traversed each link and each node; • Queue lengths at each node; Number of errors occurring on each link or at each node; Number of retransmissions that have occurred across each link; Log of errors to identify locations and patterns of errors; • Log of system restarts; and • Message transit times between nodes and at nodes.
PROCESSING CONTROLS The audit trail maintains the chronology of events from the time data is received from the input or communication subsystem to the time data is dispatched to the database, communication, or output subsystems.	• To trace and replicate the processing performed on a data item. • To follow triggered transactions from end to end by monitoring input data entry, intermediate results and output data values. • To check for existence of any data flow diagrams or flowcharts that describe data flow in the transaction, and whether such diagrams or flowcharts correctly identify the flow of data. • To check whether audit log entries recorded the changes made in the data items at any time including who made them.	• A comprehensive log on hardware consumption – CPU time used, secondary storage space used, and communication facilities used. • A comprehensive log on software consumption – compilers used, subroutine libraries used, file management facilities used, and communication software used.

Application Controls	Accounting Audit Trail	Operations Audit Trail
DATABASE CONTROLS The audit trail maintains the chronology of events that occur either to the database definition or the database itself.	• To confirm whether an application properly accepts, processes, and stores information. • To attach a unique time stamp to all transactions. • To attach before-images and after-images of the data item on which a transaction is applied to the audit trail. • Any Modifications or corrections to audit trail transactions accommodating the changes that occur within an application system. • To not only test the stated input, calculation, and output rules for data integrity, but also should assess the efficacy of the rules themselves.	• To maintain a chronology of resource consumption events that affects the database definition or the database.

Application Controls	Accounting Audit Trail	Operations Audit Trail
OUTPUT CONTROLS The audit trail maintains the chronology of events that occur from the time the content of the output is determined until the time users complete their disposal of output because it no longer should be retained.	• What output was presented to users; • Who received the output; • When the output was received; and • What actions were taken with the output?	• To maintain the record of resources consumed – graphs, images, report pages, printing time and display rate to produce the various outputs.

Segregation of Duties (SoD) ensures that single individuals do not possess excess privileges that could result in unauthorized activities such as fraud or the manipulation or exposure of sensitive data. Segregation of Duties (SoD) Controls are Preventive and Detective controls that should be put into place to manage segregation of duties matters. Some examples of SoD Controls are Transaction Authorization, Split custody of high-value assets, workflow and periodic reviews.

CHAPTER 4: E-COMMERCE, M-COMMERCE AND EMERGING TECHNOLOGIES

This chapter provides an insight about meaning, components and architecture of E-Commerce, various risks and controls associated with e-commerce and applicable laws and guidance governing e-commerce. The chapter further deals with the emerging technologies like Cloud Computing, Mobile Computing, Green Computing etc. and their perspectives.

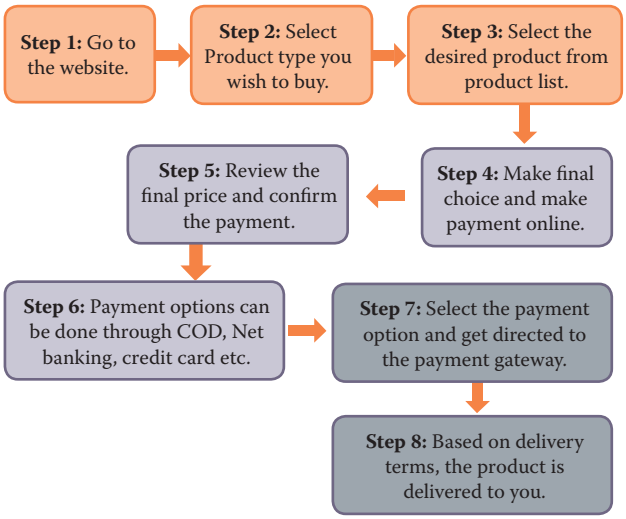
TRADITIONAL COMMERCE Vs. E-COMMERCE

Base For Comparison	Traditional Commerce	E-Commerce
Definition	Includes all those activities which encourage exchange, in some way or the other of goods / services which are manual and non-electronic.	Means carrying out commercial transactions or exchange of information, electronically on the internet.
Transaction Processing	Manual	Electronically
Availability for commercial transactions	For limited time. This time may be defined by law. Like special stores which may run 24 hours, but in general available for limited time.	24 × 7 × 365
Nature of purchase	Goods can be inspected physically before purchase.	Goods cannot be inspected physically before purchase.
Customer interaction	Face-to-face.	Screen-to-face.
Business Scope	Limited to particular area.	Worldwide reach
Information exchange	No uniform platform for exchange of information.	Provides a uniform platform for information exchange.
Resource focus	Supply side	Demand side

Base For Comparison	Traditional Commerce	E-Commerce
Marketing	One way marketing	One-to-one marketing
Payment	Cash, cheque, credit card, etc.	Credit card, fund transfer, Cash in Delivery, Payment Wallets, UPCI application etc.
Delivery of goods	Instantly	Takes time, but now e-commerce websites have created options of same day delivery, or delivery within 4 hours.
Layers of Delivery (Profit Impact)	Reduced layers of delivery from manufacturer to customers.	(i) Increases profit margin of manufacturers. (ii) Above (i) allow manufacturers to give discounts to customers. (iii) Customers get better prices.
Layers of Delivery (Time Impact)	Reduced layers of delivery from manufacturer to customers.	(i) This helps customers get faster product deliveries. (ii) Manufacturers can have better inventory management. As they will always know what products customers are buying. They shall be able to maintain inventory on JIT (Just in Time) basis.

ENTERPRISE INFORMATION SYSTEMS

Illustration of E-Commerce Transaction



Benefits of E-Commerce

Benefits to Customer / Individual / User

- Convenience
- Various Options
- Coupon and Deals
- Time saving
- Easy to find reviews
- Anytime Access

Benefits to Business / Sellers

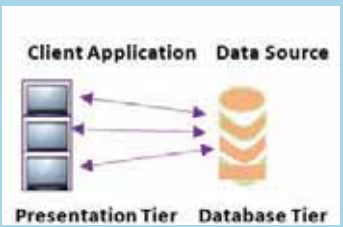
- Increased Customer Base
- Instant Transaction
- Reduction in costs
- Creation of new markets
- Better quality of goods
- Recurring payments made easy
- Provides a dynamic market
- Efficiency improvement
- Easier entry into new markets
- Elimination of Time Delays

Benefits to Government

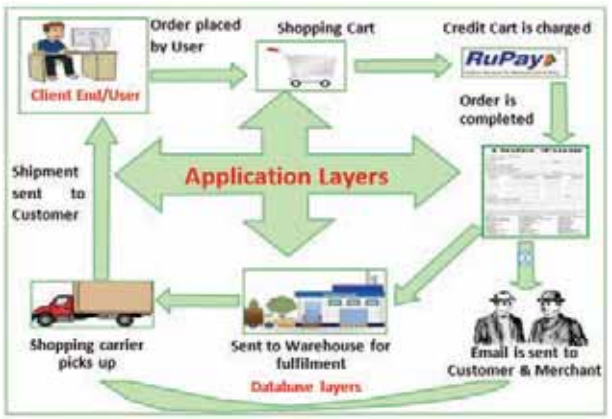
- Instrument to fight corruption
- Reduction in use of ecologically damaging materials

ARCHITECTURE OF NETWORKED SYSTEMS

Architecture is a term to define the style of design and method of construction used in generally for buildings and other physical structures. In e-commerce, it denotes the way network architectures are built.

Advantages	Two-Tier Architecture	Disadvantages
• The system performance is higher because business logic and database are physically close. • More users could interact with system. • It is easy to setup and maintain entire system smoothly.	 • **Presentation Tier (Client Application/Client Tier):** This is the interface that allows user to interact with the e-commerce / m-commerce vendor. • **Database Tier (Data Tier):** The product data / price data / customer data and other related data are kept here.	• Performance deteriorates if number of users increases. • There is restricted flexibility and choice of DBMS since data language used in the server is proprietary to each vendor.
Advantages	**Three Tier Architecture**	**Disadvantages**
• Clear separation of user-interface-control and data presentation from application-logic. • Dynamic load balancing possible if bottlenecks in terms of performance occurs. • Change management is easy and faster.	 • **Presentation Tier:** Occupies the top level and displays information related to services available on a website. • **Application Tier:** Also, called the Middle Tier, Logic Tier, Business Logic or Logic Tier; it controls application functionality by performing detailed processing. • **Database Tier:** This tier houses the database servers where information is stored and retrieved.	• Increased need for network traffic management, server load balancing, and fault tolerance. • Current tools relatively immature and more complex. • Maintenance tools currently inadequate.

E-Commerce Architecture Vide Internet



- **Client / User Interface:** This layer e-commerce connects to help the customer and e-commerce merchant.
- **Application Layer:** Through these application's customer logs to merchant systems. This layer allows customer to check the products available on merchant's website.
- **Database Layer:** This layer is accessible to user through application layer.

Risks and Controls

Risk is possibility of loss. The same may be result of intentional or un-intentional action by individuals. Risks associated with e-commerce transactions are high compared to general internet activities. These include the following:

Infrastructure	Quality issues	Delay in goods and Hidden Costs
Repudiation of contract	Security and credit card issues	Problem of anonymity
Lack of authenticity of transactions	Needs Access to internet and lack of personal touch	Data Loss or theft or duplication
Attack from hackers	Denial of Service	Non-recognition of electronic transactions
Lack of audit trails	Problem of piracy	Privacy and Security

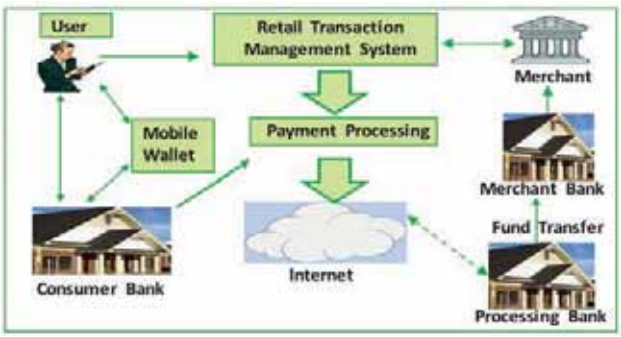
Digital Payment

Digital Payment is a way of payment which is made through digital modes. In digital payments, payer and payee both use digital modes to send and receive money. It is also called electronic payment. No hard cash is involved in the digital payments.

Advantages of Digital Payments	Drawbacks of Digital Payments
• Easy and convenient • Pay or send money from anywhere • Discounts from taxes • Written record • Less Risk	• Difficult for a Non-technical person • Risk of data theft • Overspending

E-Commerce Architecture Vide Mobile Apps

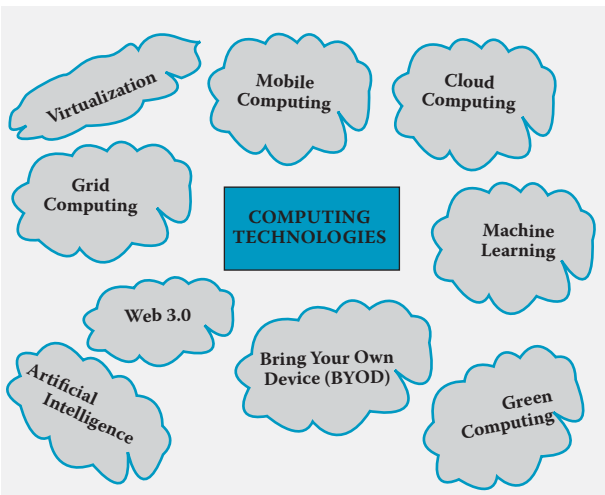
M-Commerce (Mobile Commerce): M-commerce is the buying and selling of goods and services through wireless handheld devices such as cellular telephone and personal digital assistants (PDAs). M-commerce enables users to access the Internet without needing to find a place to plug in.



Digital Payment (contd..)

All the transactions in digital payments are completed online. It is an instant and convenient way to make payment; resulting in absolute trasparency and involvement of minimal processes.

New Methods of Digital Payment	Traditional Methods of Digital Payment
• Unified Payment Interface (UPI) Apps • Immediate Payment Service (IMPS) • Mobile Apps - BHIM (Bharat Interface for Money) • Mobile Wallets • Aadhar Enabled Payment Service(AEPS) • Un-structure Supplementary Service Data (USSD)	• E-Wallet • Cards - Credit Cards, Debits Cards • Net Banking



I. Virtualization

Virtualization means to create a virtual version of a device or resource, such as a server, storage device, network or even an operating system where the framework divides the resource into one or more execution environments. This refers to technologies designed to provide a layer of abstraction between computer hardware systems and the software running on them.

Application Areas

- Server Consolidation
- Disaster Recovery
- Testing and Training
- Portable Applications
- Portable Workspaces

Types of Virtualization

Hardware Virtualization	Network Virtualization	Storage Virtualization
This refers to the creation of a virtual machine that acts like a real computer with an operating system. The basic idea of Hardware virtualization is to consolidate many small physical servers into one large physical server so that the processor can be used more effectively. For example, a computer that is running Microsoft Windows may host a virtual machine that looks like a computer with the Linux operating system; based software that can be run on the virtual machine.	It is a method of combining the available resources in a network by splitting up the available bandwidth into channels, each of which is independent from the others, and each of which can be assigned (or reassigned) to a particular server or device in real time. It is intended to optimize network speed, reliability, flexibility, scalability, and security.	It is the apparent pooling of data from multiple storage devices, even different types of storage devices, into what appears to be a single device that is managed from a central console. It helps the storage administrator perform the tasks of backup, archiving, and recovery more easily and in less time by disguising the actual complexity of a Storage Area Network (SAN).

II. Grid Computing:

It is a computer network in which each computer's resources are shared with every other computer in the system. It is a distributed architecture of large numbers of computers connected to solve a complex problem. In the grid computing model, servers or personal computers run independent tasks and are loosely linked by the Internet or low-speed networks.

Benefits	Types of Resources	Security
❖ Making use of Underutilized Resources. ❖ Resource Balancing. ❖ Parallel CPU Capacity. ❖ Access to additional resources. ❖ Virtual resources and virtual organizations for collaboration. ❖ Reliability. ❖ Management.	❖ Computation. ❖ Storage. ❖ Communications. ❖ Software and Licenses. ❖ Special equipment, capacities, architectures, and policies.	❖ Single Sign-on. ❖ Protection of Credentials. ❖ Interoperability with local security solutions. ❖ Exportability ❖ Support for secure group communication. ❖ Support for multiple implementations.

III. Cloud Computing: Cloud Computing

is both, a combination of software and hardware based computing resources delivered as a networked service. This model of IT enabled services enables anytime access to a shared pool of applications and resources. These applications and resources can be accessed using a simple front-end interface such as a Web browser, and thus enabling users to access the resources from any client device including notebooks, desktops and mobile devices.

Characteristics

- ❖ Elasticity & Scalability
- ❖ Pay-Per-Use
- ❖ On-demand
- ❖ Resiliency
- ❖ Multi-Tenancy
- ❖ Workload Movement

Advantages

- ❖ Achieve economies of scale
- ❖ Reduce spending on technology infrastructure
- ❖ Globalize the workforce
- ❖ Streamline business processes
- ❖ Reduce capital costs
- ❖ Pervasive accessibility
- ❖ Monitor projects more effectively
- ❖ Less personnel training is needed
- ❖ Minimize maintenance & licensing software
- ❖ Improved flexibility

Types of Cloud			
Private Cloud	**Public Cloud**	**Community Cloud**	**Hybrid Cloud**
It resides within the boundaries of an organization and is used exclusively for the organization's benefits. Private Clouds can either be private to the organization and managed by the single organization (On-Premise Private Cloud) or can be managed by third party (Outsourced Private Cloud).	It is the cloud infrastructure that is provisioned for open use by the general public. It may be owned, managed, and operated by a business, academic, or government organizations, or some combination of them. Typically, public clouds are administrated by third parties or vendors over the Internet, and the services are offered on pay-per-use basis.	It is the cloud infrastructure that is provisioned for exclusive use by a specific community of consumers from organizations that have shared concerns (eg. mission security requirements, policy, and compliance considerations). It may be owned, managed, and operated by one or more of the organizations in the community, a third party or some combination of them, and it may exist on or off premises.	This is a combination of both, at least one private (internal) and at least one public (external) cloud computing environments - usually, consisting of infrastructure, platforms and applications. The usual method of using the hybrid cloud is to have a private cloud initially, and then for additional resources, the public cloud is used.

Characteristics of Cloud Computing			
❖ Secure ❖ Central Control ❖ Weak Service Level Agreements (SLAs)	❖ Highly Scalable ❖ Affordable ❖ Less Secure ❖ Highly available ❖ Stringent SLAs	❖ Collaborative & Distributive maintenance ❖ Partially secure ❖ Cost effective	❖ Scalable ❖ Partially Secure ❖ Stringent SLAs ❖ Complex Cloud Management

Cloud Computing Service Models		
Infrastructure as a Service (IaaS)	**Platform as a Service (PaaS)**	**Software as a Service (SaaS)**
IaaS, a hardware-level service, provides computing resources such as processing power, memory, storage, and networks for cloud users to run their application on-demand.	PaaS provides the users the ability to develop and deploy an application on the development platform provided by the service provider.	SaaS provides ability to the end users to access an application over the Internet that is hosted and managed by the service provider.
This allows users to maximize the utilization of computing capacities without having to own and manage their own resources.	PaaS changes the application development from local machine to online.	SaaS is delivered as an on-demand service over the Internet, there is no need to install the software to the end-user's devices.
Different instances are - Network as a Service (NaaS), Storage as a Service (STaaS), Database as a Service (DBaaS), Backend as a Service (BaaS), and Desktop as a Service (DTaaS).	PaaS providers may provide programming languages, application frameworks, databases, and testing tools apart from some build tools, deployment tools and software load balancers as a service in some cases.	Different instances of SaaS include Testing as a Service (TaaS), API as a Service (APIaaS), Email as a Service (EaaS), Communication as a Service (CaaS), Data as a Service (DaaS), Security as a Service (SECaaS), and Identity as a Service (IDaaS).

IV. Mobile Computing: This refers to technology that allows transmission of data via a computer without having to be connected to a fixed physical link.

Components	Limitations	Benefits
❖ **Mobile Communication**: Refers to infrastructure put in place to ensure that seamless and reliable communication goes on. ❖ **Mobile Hardware**: This includes mobile devices/device components that range from Portable laptops, Smart Phones, Tablet PCs, and Personal Digital Assistants (PDA). ❖ **Mobile Software**: It is the actual programme that runs on the mobile hardware and deals with the characteristics and requirements of mobile applications.	❖ Insufficient Bandwidth ❖ Security Standards ❖ Power consumption ❖ Transmission interferences ❖ Potential health hazards ❖ Human interface with device.	❖ Mobile workforce with remote access to work order details. ❖ Enables mobile sales personnel to update work order status in real-time. ❖ Facilitates access to corporate services and information at any time. ❖ Provides remote access to the corporate knowledge base at job location. ❖ Enables to improve management effectiveness by enhancing information quality, information flow, and ability to control a mobile workforce.

IV. Green Computing: Green Computing or **Green IT** refers to the study and practice of environmentally sustainable computing or IT. In other words, it is the study and practice of establishing / using computers and IT resources in a more efficient and environmentally friendly and responsible way.

Best Practices	❖ Develop a sustainable Green Computing plan ❖ Recycle ❖ Make environmentally sound purchase decisions ❖ Reduce Paper Consumption ❖ Conserve Energy

V. BYOD (Bring Your Own Device): This refers to business policy that allows employees to use their preferred computing devices, like smart phones and laptops for business purposes. It means employees are welcome to use personal devices (laptops, smart phones, tablets etc.) to connect to the corporate network to access information and application.

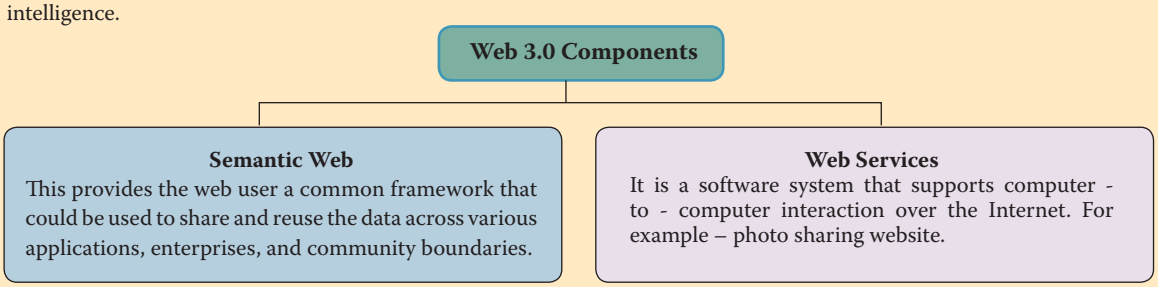
Advantages	**Emerging BYOD Threats**
❖ Happy Employees ❖ Lower IT budgets ❖ IT reduces support requirement ❖ Early adoption of new Technologies ❖ Increased employee efficiency	❖ **Network Risks:** It is normally exemplified and hidden in '**Lack of Device Visibility**'. As BYOD permits employees to carry their own devices (smart phones, laptops for business use), the IT practice team is unaware about the number of devices being connected to the network. As network visibility is of high importance, this lack of visibility can be hazardous. ❖ **Device Risks:** It is normally exemplified and hidden in '**Loss of Devices**'. A lost or stolen device can result in an enormous financial and reputational embarrassment to an organization as the device may hold sensitive corporate information. ❖ **Application Risks:** It is normally exemplified and hidden in '**Application Viruses and Malware**'. Organizations are not clear in deciding that 'who is responsible for device security – the organization or the user'. ❖ **Implementation Risks:** It is normally exemplified and hidden in '**Weak BYOD Policy**'. The effective implementation of the BYOD program should not only cover technical issues mentioned above but also mandate the development of a robust implementation policy.

VI. Web 3.0 Technology

❖ Known as the **Semantic Web**, this describes sites wherein the computers will generate raw data on their own without direct user interaction.

❖ Web 3.0 standard uses semantic web technology, drag and drop mash-ups, widgets, user behaviour, user engagement, and consolidation of dynamic web contents depending on the interest of the individual users.

❖ Web 3.0 Technology uses the "Data Web" Technology, which features the data records that are publishable and reusable on the web through query-able formats. The Web 3.0 standard also incorporates the latest researches in the field of artificial intelligence.



Example: The application that uses content management systems along with artificial intelligence. This helps to achieve a more connected open and intelligent web applications using concepts of natural language processing machine learning, machine reasoning and autonomous agents.

VII. Internet of Things (IoT)

System of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers

Ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.

Risks
❖To product manufacturer
❖To user of these products
❖Technology Risk
❖Environmental Risk

Application Areas
❖Home Appliances
❖Office Machines

VIII. Artificial Intelligence may be defined as the ability to use memory, knowledge, experience, understanding, reasoning, imagination and judgement to solve problems and adapt to new situations. Applications Areas include Medical diagnosis; in cancer research; Predicting the chances of an individual getting ill by a disease; Creating art such as poetry; Proving mathematical theorems; Playing games (such as Chess or Go) and predicting the outcomes etc.

IX. Machine Learning is a type of Artificial Intelligence (AI) that provides computers with the ability to learn without being explicitly programmed. Machine learning focuses on the development of computer programs that can change when exposed to new data. The process of machine learning is similar to that of data mining. For example: Machine learning has been used for image, video, and text recognition, as well as serving as the power behind recommendation engines.

CHAPTER 5: CORE BANKING SYSTEMS

This chapter deals with components and architecture of Core Banking Systems (CBS) and impact of related risks and controls, discusses the functioning of core module of banking and business process flow. The chapter also provides a detailed understanding on the regulatory and compliance requirements applicable to CBS such as Banking Regulations Act, RBI regulations, Prevention of Money Laundering Act and Information Technology Act.

Banking is the engine of economic growth specifically in a rapidly developing country like India with its diverse background, practices, cultures and large geographic dispersion of citizens. The core of banking functions is acceptance of deposits and lending of money. Further, specific services such as demand drafts, bank guarantees, letter of credits, etc. are also provided. The key features of a banking business are as follows:

- The custody of large volumes of monetary items, including cash and negotiable instruments, whose physical security should be ensured.
- Dealing in large volume (in number, value and variety) of transactions.
- Operating through a wide network of branches and departments, which are geographically dispersed.
- Increased possibility of frauds as banks directly deal with money making it mandatory for banks to provide multi-point authentication checks and the highest level of information security.

PRODUCTS & SERVICES RENDERED BY COMMERCIAL BANKS

I. Acceptance of Deposits

Commercial banks accept deposits in various forms such as term deposits, savings bank deposits, current account deposits, recurring deposit, saving-cum-term deposit and various others innovative products.

II. Granting of Advances

Advances constitute a major source of lending by commercial banks. The type of advances granted by commercial banks take various forms such as cash credit, overdrafts, purchase/ discounting of bills, term loans, etc.

III. Remittances

Involves transfer of funds from one place to another. Two of most common modes of remittance of funds are demand drafts & Telegraphic/ Mail Transfers (TT/ MT).

IV. Collections

Collections involve collecting proceeds on behalf of the customer. Customers can lodge various instruments such as cheques, drafts, pay orders, travelers' cheques, dividend and interest warrants, tax refund orders, etc.

V. Clearing

This involves collecting instruments on behalf of customers of bank.

VI. Letters of Credit (LC)

It is an undertaking by a bank to the payee to pay to him, on behalf of the applicant any amount up to the limit specified in the LC, provided the terms and conditions mentioned in the LC are complied with.

VII. Guarantees

These are required by the customers of banks for submission to the buyers of their goods/services to guarantee performance of contractual obligations undertaken by them or satisfactory performance of goods supplied by them, or for submission to certain departments like excise and customs, electricity boards, or to suppliers of goods, etc. in lieu of the stipulated security deposit.

VIII. Credit Cards

Most credit cards issued by banks are linked to one of the international credit card networks like VISA, Master etc.

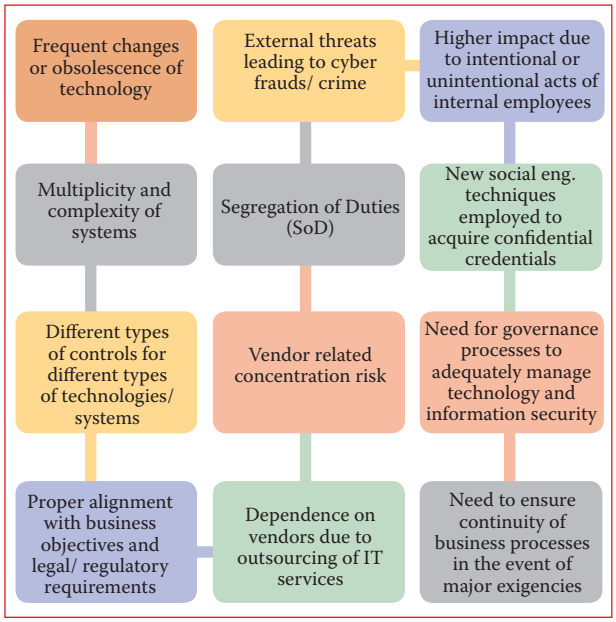
IX. Debit Cards

Debit Cards facilitates customers to pay at any authorized outlet as well as to withdraw money from an ATM from their account.

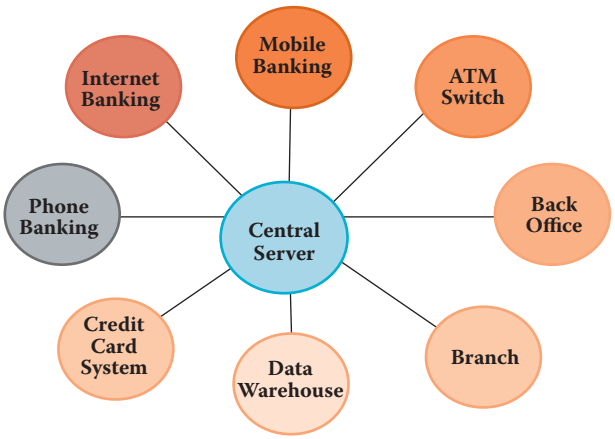
X. Other Banking Services

These include Back operations, Retail Banking, High Net-worth Individuals (HNI), Risk Management and Specialized Services such as insurance broking, claims, underwriting, life insurance, non-life insurance, etc.

The business processes and standards adapted by Banks should consider these new set of IT risks and challenges:



Key Modules of Core Banking System (CBS)



RISKS AND CONTROLS

- **Risk** can be defined as "the potential harm caused if a threat exploits a particular vulnerability to cause damage to an asset."
- **Risk Analysis** is defined as the process of identifying security risks and determining their magnitude and impact on an organization.

IT Risk Management is as follows:

- **Avoid:** Eliminate the risk by not taking up or avoiding the specific business process which involves risk.
- **Mitigate:** Implement controls (e.g. acquire and deploy security technology to protect the IT infrastructure).
- **Transfer:** Share risk with partners or transfer to insurance coverage.
- **Accept:** Formally acknowledge that the risk exists and monitor it.

Control refers to the policies, procedures, practices and organization structures that are designed to provide reasonable assurance that business objectives are achieved and undesired events are prevented, detected or corrected.

General Controls: Also, known as Infrastructure Controls, these are pervasive controls and apply to all systems components, processes, and data for a given enterprise or systems environment.

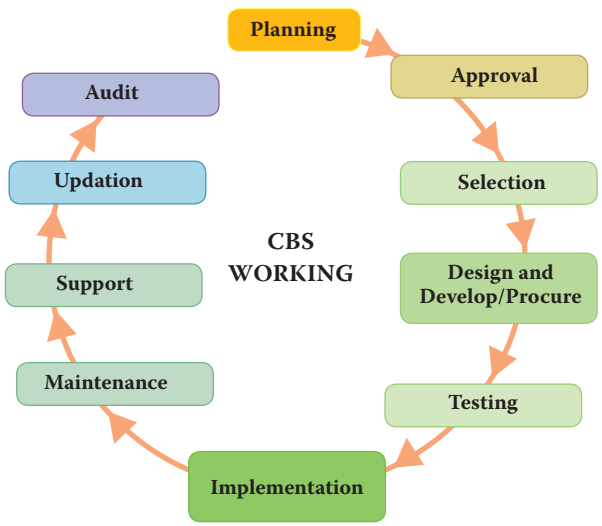
Application Controls: These are implemented in an application to prevent or detect and correct errors. Application controls ensure that all transactions are authorized, complete and accurate.

General Controls include, but are not limited to:

- Information Security Policy
- Administration, Access, and Authentication;
- Separation of key IT functions;
- Management of Systems Acquisition and Implementation;
- Change Management;
- Backup, Recovery & Business Continuity;
- Proper Development and Implementation of Application S/w;
- Confidentiality, Integrity & Availability of Software & data files; and
- Incident response and management.

Some examples of Application controls are as follows:

- Data edits (editing of data is allowed only for permissible fields);
- Separation of business functions (e.g., transaction initiation versus authorization);
- Balancing of processing totals (debit and credit of all transactions are tallied);
- Transaction logging (all transactions are identified with unique id and logged);
- Error reporting (errors in processing are reported); and
- Exception Reporting (all exceptions are reported).



Planning

Implementation of CBS should be done as per strategic and business objectives of bank.

Approval

The decision to implement CBS must be approved by the Board of Directors as high investment and recurring costs are involved.

Selection

Bank should select the right solution considering various parameters as defined by the bank to meet their specific requirements and business objectives.

Design/Develop or Procured

Currently, most of the CBS deployment are procured. There should be appropriate controls covering the design or development or procurement of CBS for the bank.

Testing

The testing is to be done at different phases at procurement stage to test suitability to data migration to ensure all existing data is correctly migrated and testing to confirm processing of various types of transactions of all modules produces the correct results.

Implementation

CBS must be implemented as per pre-defined and agreed plan with specific project milestones to ensure successful implementation.

Maintenance

CBS must be maintained as required. E.g. program bugs fixed, version changes implemented, etc.

Support

CBS must be supported to ensure that it is working effectively.

Updation

CBS modules must be updated based on requirements of business processes, technology updates and regulatory requirements.

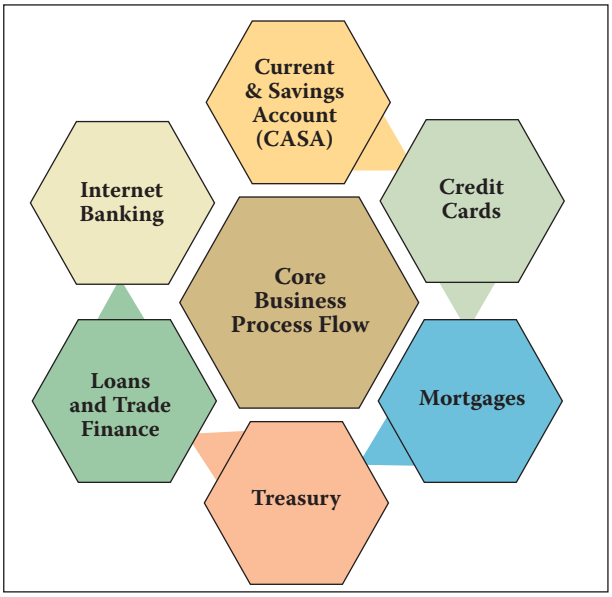
Audit

Audit of CBS must be done internally and externally as required to ensure that controls are working as envisaged.

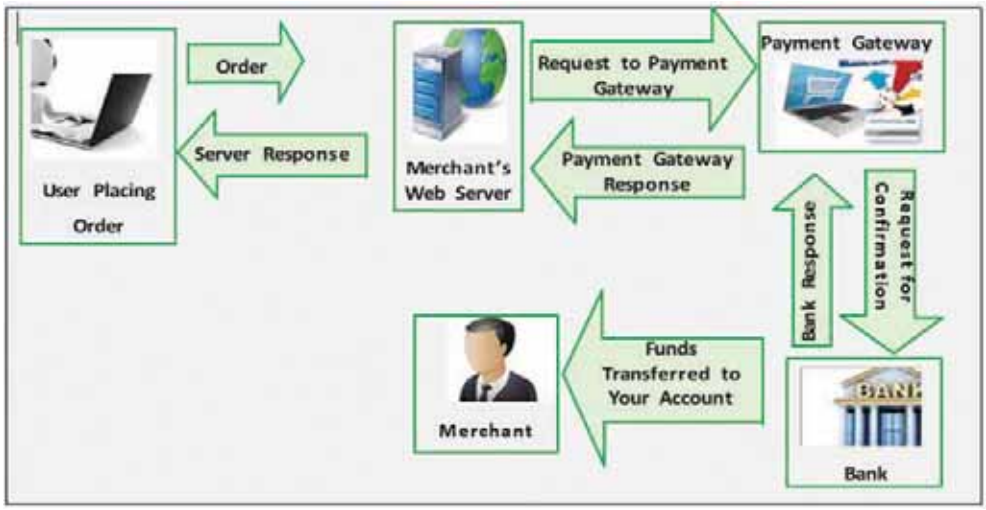
CBS IT ENVIRONMENT

The CBS facilities providing banking services for branches of a bank which are networked and connected to common data center. This facilitates staff to process transactions of customers of any branch. The Server is a sophisticated computer that accepts service requests from different machines called clients. The requests are processed by the server and sent back to the clients. There are different types of servers used in deploying CBS which are as follows:

CBS SERVERS	FUNCTIONING
Application Server	The application software, resides in the application server and is always the latest version as accepted after adequate testing.
Database Server	The Database Server of Bank contains entire data of Bank which would consist of various accounts of customers & master data.
ATM Channel Server	This server contains the details of ATM account holders. Soon after the facility of using the ATM is created by the Bank, the details of such customers are loaded on to the ATM server.
Internet Banking Channel Server (IBCS)	IBCS software stores the name and password of the entire internet banking customers. IBCS server also contains the details about the branch to which the customer belongs.
Internet Banking Application Server (IBAS)	The Internet Banking Software which is stored in IBAS authenticates customer with the login details stored in IBCS.
Web Server	The Web Server is used to host all web services and internet related software Web server is a program that uses HTTP (Hypertext Transfer Protocol) to serve the files that form Web pages to users, in response to their requests, which are forwarded by their computers' HTTP clients.
Proxy Server	A Proxy Server is a computer that offers a computer network service to allow clients to make indirect network connections to other network services.
Anti-Virus Software Server	The Anti-Virus Server is used to host anti-virus s/w which is deployed for ensuring all the s/w deployed are first scanned to ensure that appropriate virus/ malware scans are performed.



e-Commerce Transaction flow for approval of payments



RISKS ASSOCIATED WITH CBS

Ownership of Data/ Process

Data resides at the Data Centre. Establish clear ownership.

Authorization Process

Anybody with access to the CBS, including the customer himself, can enter data directly. What is the authorization process?

Authentication Procedures

These may be inadequate and hence the user entering the transaction may not be determinable or traceable.

Several software interfaces across diverse networks

A Data Centre can have as many as 75-100 different interface and application software.

Maintaining Response Time

Maintaining the interfacing software and ensuring optimum response time and up time can be challenging

User Identity Management

This could be a serious issue. Some Banks may have more than 5000 users interacting with the CBS at once.

Access Controls

Designing and monitoring access control is an extremely challenging task.

Incident handling procedures

These may not be adequate considering the need for real-time risk management.

Change Management

At application level and data level – Master files, Transaction files and Reporting software.

IT Related Risks

From a business perspective, the risks that can be classified based on following Information criteria are as follows:

Efficiency

Response is delayed resulting in dissatisfied stakeholder.

Effectiveness

Process is ineffective and multiple runs consume time.

Reliability

Users lose confidence in information system.

Confidentiality

Due to loss of critical data.

Integrity

Incomplete or inaccurate data due to errors in input or processing.

Availability

Information system is not available when required.

Compliance

The information system does not comply with legal, regulatory, contractual or internal compliance requirements.

Applicable Regulatory and Compliance Requirements

Negotiable Instruments Act-1881 (NI Act) Under NI Act, Cheque includes electronic image of truncated cheque and a cheque in the electronic form. The truncation of cheques in clearing has been given effect to and appropriate safeguards in this regard have been set forth in the guidelines issued by RBI from time to time.

I. The Reserve Bank of India (RBI) was established on April 1, 1935 in accordance with the provisions of the Reserve Bank of India Act, 1934. The basic functions of the Reserve Bank as: "to regulate the issue of Bank Notes and keeping of reserves with a view to securing monetary stability in India and generally to operate the currency and credit system of the country to its advantage."

II. Money Laundering is the process by which the proceeds of the crime and the true ownership of those proceeds are concealed or made opaque so that the proceeds appear to come from a legitimate source.

- **Prevention of Money Laundering Act (PMLA)**
- **Three stages of Money Laundering**
  - ❖ **Placement:** Involves the Placement of proceeds derived from illegal activities – the movement of proceeds, frequently currency, from the scene of the crime to a place, or into a form, less suspicious and more convenient for the criminal.
  - ❖ **Layering:** Involves the separation of proceeds from illegal source using complex transactions designed to obscure the audit trail and hide the proceeds.
  - ❖ **Integration:** Involves conversion of illegal proceeds into apparently legitimate business earnings through normal financial or commercial operations.
- **Anti-Money Laundering (AML) using Technology**
- **Financing of Terrorism**

Information Technology (IT) Act

The Information Technology Act was passed in 2000, amended in 2008 and the Rules were passed in 2011.

- The Act provides legal recognition for transactions carried out by means of electronic data interchange and other means of electronic communication, commonly referred to as "electronic commerce", which involve the use of alternatives to paper-based methods of communication and storage of information, to facilitate electronic filing of documents with the Government.
- The Act provides the legal framework for electronic governance by giving recognition to electronic records and digital signatures. It also deals with cybercrime and facilitates electronic commerce. It also defined cyber-crimes and prescribed penalties for them.
- The Amendment Act 2008 provides stronger privacy data protection measures as well as implementing reasonable information security by implementing ISO 27001 or equivalent certifiable standards to protect against cyber-crimes.
- **Cyber Crimes:** Also known as computer crime, it is defined as: "Offences that are committed against individuals or groups of individuals with a criminal motive to intentionally harm the reputation of the victim or cause physical or mental harm, or loss, to the victim directly or indirectly, using modern telecommunication networks such as Internet (Chat rooms, emails, notice boards and groups) and mobile phones".

Some examples of offences in IT Act which could impact Banks

Section 43 provides for Penalty and compensation for damage to computer, computer system, etc.	**Section 65:** Tampering with Computer Source Documents	**Section 66:** Computer Related Offences	**Section 66-B:** Punishment for dishonestly receiving stolen computer resource or communication device	**Section 66-C:** Punishment for identity theft	**Section 66-D:** Punishment for cheating by personation by using computer resource	**Section 66-E:** Punishment for violation of privacy

Sensitive Personal Data Information (SPDI)

The IT Act has a specific category, "Sensitive Personal Data or Information," which consists of password, financial information (including bank account, credit card, debit card or other payment details), physical, physiological and mental health conditions, sexual orientation, medical records, and biometric information. This legally obligates all stakeholders (i.e., any individual or organization that collects, processes, transmits, transfers, stores or deals with sensitive personal data) to adhere to its requirements.

TAXATION OF COMPENSATION TO EMPLOYEES ON TERMINATION – SCENARIO AFTER FINANCE ACT, 2018

I'll get Compensation, upon my Termination!
But what will happen to its taxation? Would you help me in interpretation?

Nikhilesh Jain
(CRO0584689)

Malvika Mathur
(CRO0554405)

The word compensation has not been defined under the Income Tax Law. In general parlance, the term Compensation simply means *"Something, typically money, awarded to someone in recognition of loss, suffering, or injury".* However, the Income Tax has its own jargon, that can only be decoded after taking into consideration various interpretations and judgments of the Judicial Authorities.

In view of the above, the term 'Compensation' has been explained in the case of ***Income Tax Officer (TDS)-2(2) vs. Kuwait Airways Corporation, ITAT Mumbai Bench 'A',*** extracts of which are as follows:

'It has to be in the nature of something awarded to compensate for loss, suffering or injury. When translated in the context of employment, it would imply a monetary and non-monetary amount to be given to the employee in return for some services rendered by him. Inherent in this would be the ***obligation*** *of the employer to pay some amount to the employee to "compensate" him. It would also mean that the employee gets a* ***vested right*** *to get such an amount."*

Before the amendments introduced in the Finance Act, 2018, compensation received by an employee was taxable under the head 'Salaries' as Profit in Lieu of Salary.

Relevant portion of Section 17(3) of the Income Tax Act, 1961 is produced below:

"Profits in Lieu of Salary" includes—

(i) the amount of any compensation due to or received by an assessee from his **employer or former employer** at or in connection with the termination of his employment or the modification of the terms and conditions relating thereto;

(iii) any amount due to or received, whether in lump sum or otherwise, by any assessee from any person—
(A) before his joining any **employment** with that person; or
(B) after cessation of his **employment** with that person.

Need of Introducing Section 56(2)(Xi)

On the basis of the interpretations of the word compensation, as discussed above, the following types of compensations received by employees sneaked exemption, resulting in revenue leakages for the Government:

- An amount paid by an employer to his employees, which is in the nature of **ex-gratia payments,** or a mutually agreed amount **to bring an end to a litigation** in the court, would not be termed as compensation, in the absence of any obligation on the part of the employer. This is because the employee did not get the vested right to receive the payment. Therefore, such payments get ruled out from the ambit of 'Profit in Lieu of Salary'.
  Various judgments of the courts have regarded such payments as **Capital Receipts**(as they result in loss of **source of income** of the recipient) in the hands of employees. As a general rule of Income Tax, capital receipts are never taxable unless expressly provided under the Income Tax. As these payments were not expressly covered under the Income Tax, they were outside the ambit of Income Tax.
- In order to be classified as 'Profit in Lieu of Salary', the existence of **employer-employee relationship** between the giver and the receiver is necessary. It was held in the case of ***CIT vs. Pritam Das Narang [2015] 61 taxmann.com 322/235 Taxman 358 (Delhi)*** that the existence of employer-employee relationship is a must to get covered under Section 17(3)(iii).
  For instance, a sum received by a terminated employee from a person, other than his own employer, (say, the Holding Company of his employer company) would not be covered under the said provision and thus, would escape tax.

Since the above payments were exempt in the hands of the receiver, the payer was not liable to deduct any TDS on them.

In order to bring such payments under the purview of the Income Tax, the Finance Act,2018 has inserted clause (xi) to sub section (2) of section 56,which brings into taxation:-

*"**any** compensation or **other payment**, due to or received **by any person, by whatever name called,** in connection with the **termination** of his employment or the modification of the terms and conditions relating thereto."*

Consequently, the definition of "Income" under section 2(24) of the Income Tax Act, 1961 has also been amended with an addition of parallel words "any compensation or other payment referred to in clause (xi) of sub-section (2) of Section 56". Thus, compensations that were exempt earlier will now

be taxable under the head Income from Other Sources.

Although, there has been only a slight variation in the recently introduced provision, a brief comparison of the two scenarios is as follows:-

17(3)- Profit in Lieu of Salary	**56(2)(xi) – Income from Other Sources**
Any Compensation	Any Compensation **or other Payment**
Due to or received by an assessee **from his employer or former employer**	Due to or received by **any person**
Eligible for relief under section 89(1)	Since it is not an income under the head Salaries, relief u/s 89(1) is not available

However, no amendment has been made under section 17(3), so it can be interpreted that the Section 56(2)(xi) will cover only **those compensations that are not taxable as profits in lieu of salary.**

Let's analyze it further:

Employer-Employee Relationship-The new provision has widened its scope and covers not only the payments received from employer/past employer, but also from any other person. **However, the payment should be made on account of termination or modification of Terms and Conditions (T&C) of employment.** Thus, in the above example, any payment received by an employee from the Holding Company of the employer, on account of termination or modification of T&C of employment, will become taxable.

Taxability of Capital Receipts–It is noteworthy that the proposed Clause (xi) of Subsection (2) of Section 56 does not specifically mention about taxability of capital receipts in the form of compensation on termination. The same has also not been expressly stated in the amended definition of income. However, the Finance Minister had given the following explanation w.r.t taxability of such compensation in the

Memorandum of Budget, 2018:-

*"It is further proposed that any compensation received or receivable, whether in the nature of **revenue or capital,** in connection with the termination or the modification of the terms and conditions of any contract relating to its employment shall be taxable under section 56 of the Act."*

Thus, it can be interpreted that employees will not be able to avoid tax on any amount received on their termination, on the plea that it was a capital receipt.

Earlier, there were a few payments which remained exempted since there was no obligation of the payer. These can now be taxed under the head Income from Other Sources, as the new provision covers "compensation or **other payment**". Thus the new provision is broader in scope and covers any other payment also (whether or not given in the nature of compensation).

Assembling the disseminated pieces:

Considering all the above interpretations of the amendment, it is now important to collectively apprehend the scenario. Let us consider a few possible events of compensation received by the employee and examine their taxability in the light of the existing as well as the proposed provisions. Consider the following table:

S. No.	Compensation Amount (in Rs.)	Received From	Before Amendment	After Amendment
1	5,00,000	Employer	Taxable as profit in lieu of salary	
2	**5,00,000**	2,00,000/- (received from Employer)	Taxable as Profit in Lieu of Salary	
		3,00,000/- (received from any other person)	Not taxable (no employer-employee relationship)	Taxable as Income from Other Sources
		3,00,000/- (received from any other person)	Not taxable (no employer-employee relationship	

Deduction of TDS on compensation paid to employees on termination after new provision:-

- **If taxed under the head salaries:-** If the compensation falls within the meaning of profit in lieu salary and is taxed as salary income, then the payer will be liable to deduct TDS under section 192 at the average rate of income tax. The TDS shall be worked out after taking into account relief under section 89(1).

- **If taxed as Other Sources Income:-** Clearly this payment is not liable to TDS under section 192 since it is not income under the head salaries. Since this payment does not fall within the purview of any other sections of TDS, it can be interpreted that it is not liable for TDS.

Wrapping Up:

Recently, provisions have been incorporated in Income Tax Law to avoid possible tax leakages. Taxing of compensation payments and making certain provisions of ICDS, part of the Income Tax Act itself are certain examples.

However, taxing of compensations/ payments may be viewed as a straight measure. Such payments are not essentially in the nature of income of the assessee in its true sense. Compensation is only the means of subsistence after someone's termination. Rather, it is a payment received on losing the very source of income of the assessee. Taxing them may result in undue hardship to the assessee.

Nevertheless, it is commendable to see that the Government, nowadays, is proactive in addressing the flaws and loopholes in the mammoth system of revenue collections. It not only imposes taxes, but also springs relief, wherever possible.

There is still a long way to go, before our nation emerges as a superpower. The participation of the tax - payers is of utmost importance in the nation building.

(**Disclaimer**: *The views expressed or implied in the article are that of the authors and may not necessarily represent the views of ICAI*)

CA Students Conference - AHMEDNAGAR

23rd & 24th JUNE, 2018

ICAI BHAWAN, AHMEDNAGAR

Organized by: Board of Studies, ICAI
Hosted by: Ahmednagar Branch of WIRC of ICAI & WICASA of ICAI
THEME: ***"KNOWLEDGE & TRAINING WITH ETHICAL QUOTIENT – PATHWAY TO PROFESSIONAL EXCELLENCE"***

DAY-1	
10.00 am to 10.30 am	**Inaugural Session**
10.30 am to 12.15 pm	**Technical Session : I: Accounting Standards**
12.15pm to 1.00 pm	**Special Session: I: BOS Presentation and Interaction with Board of Studies**
01.00 pm to 01.45 pm	**Special Session: II : Motivational Session** on **"How CA Profession helps students reach the Self-Actualisation stage"**
02.30 pm to 04.00 pm	**Technical session : II : GST**
04.00 pm to 05.00 pm	**Special Session : III : Importance of Article Training**
DAY- 2	
10.00 am to 11.30 am	**Technical Session : III : Capital Gains under Income Tax Act**
11.30 am to 12.30 pm	**Special Session: IV : Success Stories**
12.30 pm to 01.45 pm	**Technical Session : IV: Practical Aspects under Company Law**
02.30 pm to 04.00 pm	**Technical Session : V: Basics of Stock Market & Investment**

Registration Fee	₹ 500 /- per student	**Accommodation (if required) @ ₹ 750/- per student**
Registration on the Portal	**The student has to register & make the payment online on the Portal itself, the link will be provided shortly.**	

CA. Dhinal Ashvinbhai Shah, Chairman, BOS; **CA. Vijay Kumar Gupta,** Vice-Chairman, BOS; **CA. Anil Satyanarayan Bhandari,** Central Council Member, Conference Director; **CA. Dnyanesh Kulkarni,** Chairman, Ahmednagar Branch of WIRC of ICAI & **CA. (Dr.) Paresh Bora,** Chairman, Ahmednagar Branch of WICASA of ICAI, Conference Coordinators.

Attend Student Conferences across the Country
The Board of Studies has planned the following Conferences for CA Students as on date For June, 2018-2019

S. No.	Regional Council/Branch	Nomenclature of the Programme	Approved Dates
1)	Jaipur	National Conference	23-24 June, 2018
2)	Chandigarh	National Conference	23-24 June, 2018

Students Eligible to attend the Students Conference: Students who have registered as IPCC/Intermediate Students/ Students who are pursuing their Articleship Training/ Students who have completed their Practical Training but could not qualify their final examinations may attend the conference till next one year from the date of completion of Practical Training. (CPT Students and Students who have completed one year beyond their Articleship training will not be eligible to register for these Conferences)

It may however be noted that during April, 2018 - March, 2019, the students can be Paper Presenters for max. 2 Students Conferences. Best paper presenters (overall category) of National Conference can be permitted to present technical papers in International CA Students Conference where the limit of two programmes per year will not be applicable.

CA Students Conference - AURANGABAD

7th & 8th JULY, 2018

SANT TUKARAM NATYA GRUH, CIDCO, AURANGABAD

Organized by: Board of Studies, ICAI
Hosted by: Aurangabad Branch of WIRC of ICAI & WICASA of ICAI
THEME: "KNOWLEDGE & TRAINING WITH ETHICAL QUOTIENT – PATHWAY TO PROFESSIONAL EXCELLENCE"

DAY-1	
08:30 am to 09:30 am	**Registration and Breakfast**
09.30 am to 10.30 am	**Inaugural Session**
10.30 am to 11.30 am	**Special Session : I : Interactive session with Board of Studies followed by Elective Paper-Choose the right Option and Open Book Exam**
11.30 am to 1.30 pm	**Technical Session: I : Threat of data theft and Financial Frauds through Mobiles**
02.15 pm to 03.45 pm	**Technical Session: II : GST-Road ahead, E-Way Bill a web to increase tax net, Divergence between Income Tax and GST**
04.00 pm to 05.30 pm	**Technical session : III : IndEco 10 trillion in 10 years. India vs. China, an era of Economic War**
DAY- 2	
10.00 am to 12.00 pm	**Technical Session : IV: Auditing-Bringing theory into practical**
12.00 pm to 01.45 pm	**Technical Session : V: Need of ICDS, Future of Direct Tax Practice, Income Tax Act Vs New Direct Tax Code**
02.30 pm to 03.35 pm	**Special Session : II: Articleship-Biggest Compulsion or Greatest Opportunity**
04.00 pm to 05.00 pm	**Special Session: III: Believe in yourself, Never give up. Remember Tough time never lasts but tough people do last.**

Registration Fee	₹ 750/- per student.	**Accommodation (if required) @ ₹ 1,000/- per student**
Registration on the Portal	**The student has to register & make the payment online on the Portal itself, the link will be provided shortly.**	

CA. Dhinal Ashvinbhai Shah, Chairman, BOS; **CA. Vijay Kumar Gupta,** Vice-Chairman, BOS; **CA. Anil Satyanarayan Bhandari,** Central Council Member, Conference Director; **CA. Sachin Lathi,** Chairman, Aurangabad Branch of WIRC of ICAI & **CA. Pankaj Soni,** Chairman, Aurangabad Branch of WICASA of ICAI, Conference Coordinators.

CA Students Conference - BARODA

29th & 30th JUNE, 2018

PANDIT DINDAYAL HALL, AJWA ROAD, BARODA

Organized by: Board of Studies, ICAI
Hosted by: Baroda Branch of WIRC of ICAI & WICASA of ICAI
THEME: "KNOWLEDGE & TRAINING WITH ETHICAL QUOTIENT – PATHWAY TO PROFESSIONAL EXCELLENCE"

DAY-1	
8:00 am-9:30 am	**Registration & Breakfast**
9.00 am-10.30 am	**Inaugural Session**
10.30 am-12.15 pm	**Technical Session : I : Goods & Service Tax -** E-Way Bill provision- is it really leading towards Ease of Doing Business; Reconciliation of GST vis a vis Financial Statements; Emerging opportunities in Gulf Countries – After introduction of VAT
12.15 pm-1.00 pm	**Special Session: I: BOS Presentation and Interaction with Board of Studies**
01.00 pm- 01.45 pm	**Special Session: II : Motivational Session and Interactive talk on "How CA Profession helps students reach the Self-Actualisation stage"**
02.30 pm-04.00 pm	**Technical session : II : Contemporary Topics -**Fugitive Economic offenders bill, 2018/Corporate Valuation; RERA Post implementation effect/ Ranking of Economies- Doing Business; IBC code vis a vis BIFR/SARFESI/SICA- Comparative model, Change in Waterfall provision
4.00 pm- 5.00 pm	**Special Session : III : Mock Parliament/Mock GST search**
DAY- 2	
10.00 am to 11.30 am	**Technical Session: III: Accounting & Auditing-** Forensic Audit – A big Term?; Post IND AS Effects – Impact Analysis; "Auditor is a watchdog and not a blood hound" – Is this still acceptable to the Society?
11.30 am to 12.30 pm	**Special Session: IV : Success Stories**
12.30 pm to 01.45 pm	**Technical Session : IV : Direct Tax -** Base Erosion and Profit Shifting; Indian Taxation vs. BRICS Taxation – Comparison of overall Tax Structure
02.30 pm to 04.00 pm	**Technical Session : V : Information Technology-** Impact of Big Data and Data analytics in Business Development; Future of Crypto Currencies/ Crypto Currency Mining; Data Leaks; Apps professional should have in mobile.

Students Eligible to attend the Students Conference: Students who have registered as IPCC/IntermediateStudents/ Students who are pursuing their Articleship Training/ Students who have completed their Practical Training but could not qualify their final examinations may attend the conference till next one year from the date of completion of Practical Training. (CPT Students and Students who have completed one year beyond their Articleship training will not be eligible to register for these Conferences).

Registration Fee	₹ 999/-per student.	**Accommodation (if required) @ ₹ /- per student**
Registration on the Portal	**The student has to register & make the payment online on the Portal itself, the link will be provided shortly.**	

CA. Dhinal Ashvinbhai Shah, Chairman, BOS; **CA. Vijay Kumar Gupta,** Vice-Chairman, BOS; **CA. Tarun Jamnadas Ghia,** Central Council Member, Conference Director; **CA. Dhiren Parikh,** Chairman, Baroda Branch of WIRC of ICAI & **CA. Hitesh Agrawal,** Chairman, Baroda Branch of WICASA of ICAI, Conference Coordinators.

CA Students Conference - ERNAKULAM

6th & 7th JULY 2018

FINE ARTS HALL, ERNAKULAM

Organized by: Board of Studies, ICAI
Hosted by: Ernakulam Branch of SIRC of ICAI and Ernakulam Branch of SICASA
THEME: "KNOWLEDGE & TRAINING WITH ETHICAL QUOTIENT – PATHWAY TO PROFESSIONAL EXCELLENCE"

DAY-1	
10.00 am to 10.30 am	**Inaugural Session**
10.30 am to 12.15 pm	**Technical Session : I Topic :** Ind AS Presentation of Financial Statements – Balance Sheet – Assets & Related notes; Ind AS Presentation of Financial Statements – Balance Sheet – Liability & Related notes; Ind AS Presentation of Financial Statements – Statement of Profit and Loss & Related notes
12.15 pm to 1.00 pm	**Special Session: I :** BOS Presentation and Interaction with Board of Studies.
01.00 pm to 01.45 pm	**Special Session: II : "Success Stories" or "Opportunities"**
02.30 pm to 03.30 pm	**Special Session : III : Topic :** Importance of Article Training; How to crack CA Examination; Ethical Values in the Profession
03.30 pm to 05.00 pm	**Technical session : II : Topic:** Discussion on Income Computation and Disclosure Standards (ICDS I to ICDS V); Discussion on Income Computation and Disclosure Standards (ICDS VI to ICDS X); Restrictions on Cash Transactions under Income Tax Act, 1961
DAY- 2	
10.00 am to 11.00 am	**Special Session: IV : Motivational Session on "How CA Profession helps students reach the Self-Actualization stage"**
11.00 am to 12.30 pm	**Technical Session : III : Topic: GST : E-Way Bill;** GST Audit: Provisions, Operations and Future Prospects; GST: "Composition Scheme under GST"
12.30 pm to 01.45 pm	**Technical Session : IV : Topic:** Companies Act 2017- Amendments; Insolvency and Bankruptcy Code, 2016; Corporate Insolvency Resolution and Voluntary Liquidation (IBC 2016)
02.30 pm to 04.00 pm	**Technical Session : V : Topic:** Need for Documentation (SA 230); Audit of a Company - Key considerations; Engagements to Compile Financial Information (SRS 4410)

Registration Fee	₹ 500 /- per student, ₹ 1000/- for others.	**Accommodation (if required) @ ₹ Rs. 1,500/- per student**
Registration on the Portal	**The student has to register & make the payment online on the Portal itself, the link will be provided shortly.**	

CA. Dhinal Ashvinbhai Shah, Chairman, BOS; **CA. Vijay Kumar Gupta,** Vice-Chairman, BOS; **CA. Babu Abraham Kallivayalil,** Central Council Member, Conference Director; **CA. P.T. Joy,** Chairman, Ernakulam Branch of SIRC of ICAI & **CA. Paulose Paul,** Chairman, Ernakulam Branch of SICASA of ICAI, Conference Coordinators.

CA Students Conference - INDORE

29th & 30th JUNE, 2018

DAVV AUDITORIUM, KHANDWA ROAD, INDORE

Organized by: Board of Studies, ICAI
Hosted by: Indore Branch of CIRC of ICAI and CICASA of ICAI
THEME: "KNOWLEDGE & TRAINING WITH ETHICAL QUOTIENT – PATHWAY TO PROFESSIONAL EXCELLENCE"

DAY-1	
10.00 am to 10.30 am	**Inaugural Session**
10.30 am to 12.15 pm	**Technical Session : I : Topic:** Practice- The way Ahead Non-traditional Areas of Practice; Avenues of CA in Insolvency Practice; Technology and startups for budding professionals
12.15 pm to 1.00 pm	**Special Session: I on BOS Presentation and Interaction with Board of Studies.**
01.00 pm to 01.45 pm	**Special Session: II : Motivational Session** on **"How CA Profession helps students reach the Self-Actualization stage"**
02.30 pm to 04.00 pm	**Technical session : II : Topic:** NFRA; Auditors responsibilities regarding Related Party Transactions; How is the work of a Forensic Auditor different from a Traditional Auditor; Risk Based Audit
4.00 pm- 5.00 pm	**Special Session : III : Topic :** Ethical Values in the Profession
DAY- 2	
10.00 am to 11.30 am	**Technical Session : III : Topic:** Critical aspects of Place of supply; Input Tax Credit- Apportionment and Block Credit; E-Way Bill
11.30 am to 12.30 pm	**Special Session: IV: Session on Self-Motivation.**
12.30 pm to 01.45 pm	**Technical Session : IV: Topic:** Issues in presumptive taxation; Critical analysis of Section 56 of Income Tax Act; Restrictions on cash transactions under Income Tax Act
02.30 pm to 04.00 pm	**Technical Session : V: Topic:** Acceptance of deposits & Loan to Director; Auditor's responsibilities under Companies Act; Ind AS- Presentation of Financial Accounts

Registration Fee	₹ 500 per student	**Accommodation (if required) @ ₹ 2000/- per student**
Registration on the Portal	**The student has to register & make the payment online on the Portal itself, the link will be provided shortly.**	

CA. Dhinal Ashvinbhai Shah, Chairman, BOS; **CA. Vijay Kumar Gupta,** Vice-Chairman, BOS; **CA. Kemisha Soni, CA. Prakash Sharma, CA. Shyam Lal Agarwal, CA. Manu Agrawal and CA. Mukesh Singh Kushwah,** Central Council Members & Conference Directors; **CA. Abhay Sharma,** Chairman, Indore Branch of CIRC of ICAI & **CA. Kirti Kumar Joshi,** Chairman, Indore Branch of CICASA of ICAI, Conference Coordinators.

CA Students Conference - JAMNAGAR

23rd & 24th JUNE, 2018

SHRI DHIRUBHAI AMBANI VANIJYA BHAWAN, JAMNAGAR

Organized by: Board of Studies, ICAI
Hosted by: Jamnagar Branch of WIRC of ICAI & WICASA of ICAI
THEME: " KNOWLEDGE & TRAINING WITH ETHICAL QUOTIENT – PATHWAY TO PROFESSIONAL EXCELLENCE"

DAY-1	
08.30 am to 9.30 am	**Registration & Kit Distribution**
09.30 am to 10.00 am	**Inaugural Session**
10.00 am to 10.45 am	**Special Session: I: Insights on Importance of Article training.**
10.45 am to 12.30 pm	**Technical Session : I : Income Tax Act, 1961- Presumptive Taxation under the IT Act, 1961 – Case Study** (Suggestive Coverage: Case Studies on Sections 44AA, 44AB, 44AD, 44ADA, 44AE, etc.); **Cardinal Principles w.r.t. Interpretation of Taxing Statutes** (Suggestive Coverage: General Principles of Interpretation, Rules of - Literal Interpretation, Beneficial Construction, Harmonious Construction, Ejusdem Generis, Internal and External Aids to Interpretation, etc.)
12.30 pm to 1.30 pm	**Special Session : II : Motivational Session** on **"How CA Profession helps students reach the Self-Actualization stage"**.
02.15 pm to 04.00 pm	**Technical Session : II : Goods and Services Tax - E-Way Bill – The Way Forward** (Suggestive Coverage: Object, Applicability, Procedures, Recent Notifications, etc.); **Advance Ruling in GST**(Suggestive Coverage: What is Advance Ruling, Objective, Scope, Composition of AAR, Procedures, Implications, etc.)
04.15 pm to 5.00 pm	**Special Session : III : Kaun Banega Champ – 'KBC' (Quiz based on CA Syllabus, Current Affairs, General Knowledge, etc by involving all the student participants in KBC style viz. fastest figure first, life lines, etc)**
DAY- 2	
09.30 am to 11.15 am	**Technical Session: III: Professional Ethics – Code of Conduct for Chartered Accountants - Code of Conducts for Member in practice** (Related Schedules and Case Studies/Examples, etc.)**; Code of Conduct for Member in Service** (Related Schedules and Case Studies/Examples, etc.).
11.30 am to 01.00 pm	**Special Session : IV: Performance of Mock Tribunal (By the Students)**
01.45 pm to 03.30 pm	**Technical Session : IV : Wealth Management- Personal Finance – Growing your Own Wealth** (Suggestive Coverage: Savings Habits, Investment Preferences, Insurance, Retirement Plans, etc.); **Project Finance – Growing your Organization's Wealth** (Suggestive Coverage: Concept, Planning and Balancing Organic and Inorganic Growth, Means of Finance, etc.)
03.30 pm to 05.00 pm	**Technical Session : V : Audit- Audit Documentation – How To Get It Right?** (Suggestive Coverage : Need of Documentation; What, How & Where (physical/digital storage) to Document; Types of Audit Files; Ownership; Storage tenure; etc.)**; Effective Internal Control Systems – An Aid to Audit** (Suggestive Coverage : Concept; Object; Types of Internal Controls; Impact of Internal Controls on the Risk Assessment, Scope of Audit and Auditor's responsibilities, etc.)

Registration Fee	₹ 500 per student	**Accommodation** (Kindly inquire on 0288-2713333, if required)
Registration on the Portal	**The student has to register & make the payment online on the Portal itself, the link will be provided shortly.**	

CA. Dhinal Ashvinbhai Shah, Chairman, BOS; **CA. Vijay Kumar Gupta,** Vice-Chairman, BOS; **CA. Tarun Jamnadas Ghia,** Central Council Member, Conference Director; **CA. Amit H. Mehta, Chairman,** Jamnagar Branch of WIRC of ICAI & **CA. Shraddha B. Mehta,** Chairperson, Jamnagar Branch of WICASA of ICAI, Conference Coordinators.

National Conference - KOLKATA

7th & 8th JULY, 2018
KALA MANDIR, KOLKATA

Organized by: Board of Studies, ICAI
Hosted by: EICASA & EIRC of ICAI
THEME: Knowledge & Training with Ethical Quotient – Pathway to Professional Excellence

DAY-1	
10.00 am to 10.30 am	**Inaugural Session**
10.30 am to 12.00 Noon	**Technical Session: I: Company Law-** Companies (Amendment) Act, 2017; Anti-Money Laundering – combating the financing of illegal activities; Insolvency and Bankruptcy Code 2016- Avenues for CA Professional.
12.00 Noon to 1.00 pm	**Special Session: I : Interaction with Board of Studies**
01.45 pm to 02.45 pm	**Special Session: II :** Ethical Values in the Profession by a CA who is also a lion
02.45 pm to 04.15 pm	**Technical session : II : GST -** E-Way Bill; Sectoral Impact of GST- Tourism and Construction; Sectoral Impact of GST- Hotel and Logistics
04.30 pm to 05.30 pm	**Special Session : III : Motivational Session**
DAY- 2	
10.00 am to 11.30 am	**Technical Session : III :** Accounting Standards - Ind-AS – Financial Asset and liabilities Practical perspective; Ind-AS – Group Accounting – changing the control; Ind-AS – Disclosure – Quantitative vs Qualitative
11.30 am to 12.30 pm	**Special Session: IV : Success Stories : by successful CA s in industry/ practice / Rank Holders (AIR)**
12.30 pm to 02.00 pm	**Technical Session : IV :** Income Tax- Provision in relation to limitation of Cash transactions; Alternate Minimum tax –International Perspective; Discussion on Income Computation and Disclosure Standards (ICDS)
02.45 pm to 4.15 pm	**Special Session: V:** Motivational Session on How to clear CA exams.

Registration Fee	₹ 500 per student.	**Accommodation** (if required) @ ₹ 500 per student per day over & above delegate fees. Outstation Students who wish to join, as delegates are required to register within 15th June to enable to make necessary stay arrangements.
Registration on the Portal	**The student has to register & make the payment online on the Portal itself, the link will be provided shortly.**	

CA. Dhinal Ashvinbhai Shah, Chairman, BOS; **CA. Vijay Kumar Gupta,** Vice-Chairman, BOS; **CA. (Dr.) Debasish Mitra, CA. Sushil Kumar Goyal, CA. Ranjeet Kumar Agarwal,** Central Council Members, Conference Directors; **CA. Sonu Jain,** Chairperson EIRC of ICAI & **CA. Sumit Binani ,** Chairman EICASA, Conference Coordinators.

National Conference - NAGPUR

9th & 10th JULY, 2018
IMA HALL, NAGPUR

Organized by: Board of Studies, ICAI
Hosted by: Nagpur Branch of WIRC of ICAI & WICASA of ICAI
THEME: "KNOWLEDGE & TRAINING WITH ETHICAL QUOTIENT – PATHWAY TO PROFESSIONAL EXCELLENCE"

DAY-1	
10.00 am to 11.30 am	**Inaugural Session**
11.30 am to 01.00 pm	**Technical Session : I : Topic:** Ind AS – Presentation of Final Accounts; Mergers and Acquisitions; With a recent case study; Forensic audit and its importance
01.00 pm to 2.00 pm	**Special Session: I : BOS presentation and interaction with Board of Studies.**
03.00 pm to 4.45 pm	**Technical session : II:** Topic: Insolvency and bankruptcy code 2016; Real Estate Regulatory Authority 2017 (RERA); Prevention of money laundering Act 2002
4.45 pm to 5.45 pm	**Special Session : II:** Ethical values in the profession
DAY- 2	
10.00 am to 11.45 am	**Technical Session : III: Topic:** Analysis of Income Computation and Disclosure Standards (ICDS); Recent Issues In transfer pricing; EXPORT/ IMPORT rules under GST regime
11.45 am to 01.00 pm	**Special Session: III: Special Address on Effective Presentation Skills & Creating A Leader In You**
02.00 pm to 03.45 pm	**Technical Session: IV: Topic:** 1. Role of practical training in developing competent professionals; "Innovative ways of startup funding"; Are you a victim of digital frauds
03.45pm to 05.30 pm	**Valedictory Session followed by Certificates & price distribution**

Registration Fee	₹ 700 per student	**Accommodation(if required) @ ₹ 1500/- per student**
Registration on the Portal	**The student has to register & make the payment online on the Portal itself, the link will be provided shortly.**	

CA. Dhinal Ashvinbhai Shah, Chairman, BOS; **CA. Vijay Kumar Gupta,** Vice-Chairman, BOS; **CA. Nihar Niranjan Jambusaria,** Central Council Member, Conference Director; **CA. Umang Agrawal,** Chairman, Nagpur Branch of WIRC of ICAI & **CA. Jiten Saglani,** Chairman, Nagpur Branch of WICASA of ICAI, Conference Coordinators.

National Conference - SALEM

16th & 17th JUNE, 2018

SENTHIL PUBLIC SCHOOL, SALEM

Organized by: Board of Studies, ICAI
Hosted by: Salem Branch of SIRC of ICAI and Salem Branch of SICASA of ICAI
THEME: :"KNOWLEDGE AND TRAINING WITH ETHICAL QUOTIENT- PATHWAY TO PROFESSIONAL EXCELLENCE"

DAY-1	
09.30 am-10.30 pm	**Inaugural Session**
10.30 am - 12.00 Noon	**Technical Session: I: Topic: Company Law-** Qualifications and Disqualifications of Directors; CARO; Managerial Remuneration.
12.15 pm- 01.00 pm	**Special Session : I: BOS presentation and Interaction with BOS**
01.00 pm - 01.45 pm	**Special Session: II: Motivational Session –"How CA Profession helps students reach the Self-Actualisation stage".**
02.30 pm - 04.00 pm	**Technical Session: II: Topic: Income Tax-** Restrictions on Cash Transactions under Income Tax Act; Capital Gain on Capital Market Transactions; Taxation of Gifts.
04.15 pm - 05.15 pm	**Special Session : III: Ethical Values in the Profession**
DAY- 2	
10.00 am - 11.30 am	**Technical Session : III: Topic: GST-** Input Tax Credit; E-way Bill; GST on Service Sector
11.45 am - 01.00 pm	**Special Session : IV: Success Stories and Opportunities**
02.00 pm - 03.30 pm	**Technical Session : IV: Topic: Accounting Standards-** AS 10-Property, Plant and Equipment; AS 11- The Effect on Changes in Foreign Exchange Rates; IndAS- Applicablity and Advantages

Registration Fee	₹ 500 per student.	**Accommodation (if required) @ ₹300/- per student**
Registration on the Portal	**The student has to register & make the payment online on the Portal itself, the link will be provided shortly.**	

CA. Dhinal Ashvinbhai Shah, Chairman, BOS; **CA. Vijay Kumar Gupta,** Vice-Chairman, BOS; **CA. Babu Abraham Kallivayalil & CA. M. P. Vijay Kumar,** Central Council Members, Conference Directors; **CA. S. Suresh Kumar, Chairman,** Salem Branch of SIRC of ICAI **& CA. A.V. Arun,** Chairman, Salem Branch of SICASA of ICAI, Conference Coordinators.

National Conference - VASAI

30th JUNE & 1st JULY, 2018

MAXUS BANQUET HALL, TEMBA ROAD, BHAYANDER, VASAI (WEST)

Organized by: Board of Studies, ICAI
Hosted by: Vasai Branch of WIRC & WICASA of ICAI
THEME: :KNOWLEDGE & TRAINING WITH ETHICAL QUOTIENT – PATHWAY TO PROFESSIONAL EXCELLENCE

DAY-1	
10.00 am - 10.30 am	**Inaugural Session**
10.30 am - 12.15 pm	**Technical Session : I : Topic: Taxation-** Base erosion and profit shifting : A Global challenge; Cash Transactions under Income Tax Laws; GST – Place and Time of supply
12.30 pm - 01.15 pm	**Special Session: I: BOS Presentation and Interaction with Board of Studies.**
02.00 pm - 03.00 pm	**Special Session: II : Topic- Motivational session.**
03.00 pm - 04.45 pm	**Technical session : II : Topic: Accounts & Auditing -** The Evolution of IND-AS; Role of Bank Auditors in current scenario; Accounting for E-Commerce Business
DAY- 2	
10.00 am - 11.45 am	**Technical Session: III :Topic: Information Technology-** Artificial Intelligence; Social Media boon or bane; Carrier in IT for a CA.
12.00 Noon - 01.00 pm	**Special Session: III Topic: What after CA?**
02.00 pm - 03.00 pm	**Special Session : IV: Topic: CA's in Revenue Service**
03.15 pm - 05.00 pm	**Technical Session : IV: Topic: Management & Leadership**- ONE + ONE = Eleven – Synergy; An Idea can change your life; CA can be a good leader

Registration Fee	₹ 500 per student.	**Accommodation (if required) @ ₹1500 per student**
Registration on the Portal	**The student has to register & make the payment online on the Portal itself, the link will be provided shortly.**	

CA. Dhinal Ashvinbhai Shah, Chairman, BOS; **CA. Vijay Kumar Gupta,** Vice-Chairman, BOS; **CA. Jay Chhaira,** Central Council Member, Conference Director; **CA. Sumeet Doshi, Chairman,** Vasai Branch of WIRC of ICAI & **CA. Bhanwar Borana,** Chairman, Vasai Branch of WICASA of ICAI, Conference Coordinators.

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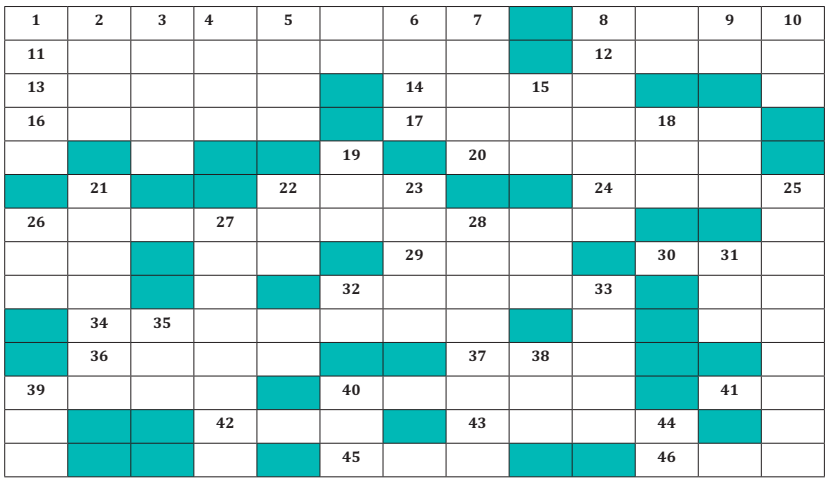
CROSSWORD - JUNE 2018



ACROSS:

1. Assign to a lower position
8. An expression used to express the joy one feels in knowing that the work week has officially ended and that they have two days off with which to enjoy.
11. Trite
12. Ceremonial act or procedure
13. ----------wise Pound foolish.
14. ---------is a government non-profit company established in 2003 to provide neutral internet exchange point services in India.
16. Iroquois enemies
17. Blemish
20. ---------is the eighteenth letter of Greek alphabet.
22. A method of finding price elasticity.
24. An ____ number is an integer which is "evenly divisible" by two.
26. The application which allows one to collect subscriptions and view them all in one site.
29. The amount of funds that the banks have to keep with the RBI.
30. Ticket, Lable.
32. Name of a non-trading company used as a vehicle for various financial maneuvers or kept dormant for future use for some other capacity.
34. -----means a very slight difference or variation in color or tone.
36. A socialist state in Eurasia that existed from 1922 to 1991.
37. Looked
39. Dress.
40. The Law of demand states an inverse relationship between ___ and quantity demanded.
41. Opposite of come
42. Cake candle count
43. Geek
45. Jest.
46. Away from the inside

DOWNWARD

1. Lassos
2. Always
3. Name of a Russian legendary leader
4. Sea eagle
5. Men
6. Name of muscle stimulator
7. Corrects
8. A----------is a special kind of a store procedure that executes in response to certain action on the table like insertion, deletion or updating of data.
9. A student of ICAI is supposed to do two trainings on ___ during his studentship.
10. Gave nourishment.
15. Roman numeral for 12.
18. Roman numeral of 2005
19. Anger
21. ---------- is the income that a business has from its normal business activities, usually from the sale of goods and services to customers.
22. Economics is an ___ as well a science.
23. A memory buffer used to accommodate a speed differential is called--------
25. The ____ Clause125 of the Lisbon treaty makes it illegal for one member to assume the debts of another.
26. Gross National Product minus depreciation is __ National Product.
27. It is the current fastest super computer in India.
28. Window ____.
31. Copy
32. The highest court in India
33. Below something
35. One of major trade partners of India.
38. Expert
39. ___ the dog.
40. for each
44. Perform

If undelivered, please return to: The Institute of Chartered Accountants of India, ICAI Bhawan, Indraprastha Marg, New Delhi-110104