SEMETER NOTES

PROFESSIONAL BUSINESS SKILLS

3rd semester BCom finance

Prepared by :-

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BCM3A12 PROFESSIONAL BUSINESS SKILLS

Lecture Hours per week: 5, Credits 4
Internal: 20, External: 80, Examination 2.5 Hours
Objectives:
To update and expand basic Informatics skills of the students
To equip the students to effectively utilize the digital knowledge resources for their study

Module I (15 Hours, 15 marks)

Professionalism: Meaning -Definition – Characteristics - Traits and Qualities of a good professional **-** Professionalism in business **-** Professional Skills: important soft skills for business success- Professionalism in Communication: Verbal Communication: Professional Presentation - Different Presentation Postures- Written Communication: Email - Significance of Email in business – Email etiquette: format - rules – dos and don'ts - Technical Documentation: Standards – Types

Module II (12 Hours, 12 marks)

E-Learning :Introduction of electronic learning - benefits and drawbacks of e-Learning - Online education - Digital age learners - Knowledge resources on internet - E-books, Audio, Video and other means for e-learning- Introduction to e-content development and tools - Online libraries – MOOCs - The e-Learning as a service Industry - major technologies used in e-earning- different approaches for e-Learning delivery - E-learning in India

Module III (18 Hours, 18 marks)

Business Data Analysis : Features of New Generation Computers – Concept of data analysis – Business Data Analysis – Data Analyst – Types of analysts - organisation and source of data, importance of data quality, dealing with missing or incomplete data- Social Networking Analysis – Big Data Analysis - Role of Data Scientist in Business & Society - Role of Artificial Intelligence and Intelligent Agents in e-business - Ethical and Legal considerations in Business Analytics

Module IV (15 Hours,15 marks)

Socio - Cyber Informatics: IT and society - Digital Divide – Digital natives-Cyber space-New opportunities and threats - Cyber ethics - Cyber-crimes -Types - Cyber Laws – Organisations related with cyber laws-Cyber addictions - Information overload - Health issues - e-waste and Green Computing –Recent E-governance initiatives in India

Module V (20 Hours, 20 marks)

Digital Marketing : Introduction to Digital marketing Environment –meaning & Concept – Need for digital marketing – Advantages and disadvantages of digital marketing -Trends in digital marketing- Types of digital marketing – Business models in digital marketing Business to Business (B2B), Business to Customer (B2C), Customer to Customer (C2C), Business to Employees (B2E), Business to Government (B2G) - Online advertising - types of online advertising - Top e-commerce websites around the world and its scenario in India. PPC (Pay per Click) advertising – Search engine Analytics – search engine ads – social media channels and ads

References Books:

1. Professional Business Skills – Lee Pelitz 2nd Edition
2. Peter Norton, Introduction to Computers, Tata McGraw Hill Private Limited, New Delhi, 2009.
3. Alan Evans, ITL ESL, Leslie Lamport, Dolores Etter, Darren George, Kenneth C Laoudon, Gary Rogers, Rainer Handel, INFORMATICS -Technology in Action, Pearson Education, Delhi, 2009.

MODULE 1

INTRIDUCTION TO PROFESSIONALISM:

PROFESSIONALISM:

- **Meaning** of *Professionalism*: - "it is the way an individual conducts or behaves himself and his company in a positive manner".

It includes representing the company's values and serving as true representative of the company.

- Professionalism includes –

- A wide variety of personal qualities and behaviors that show commitment to effective performance in a given job

- Employees' interaction with coworkers, supervisors, customers and others.

- conducting himself with integrity and courteous.

-respectful dealing with cow9orkers and others.

- **Definition** of *professionalism:-* " professionalism is someone's inherent ability to do what is expected from them and deliver quality work due they are driven to do so"

(Eric Mochnacz)

Features or characteristics *of professionalism*

Professionalism is:

- **Specialized knowledge**- development of skills, extensive knowledge to success in the work field.

- **Competency**- professionals do the work reliable,keep their promises, focus on finding solutions ,don't makes excuses.

- **Commitment and confidence**-
- **Responsibility dependability**
- **Honesty and integrity**
- **Initiative and accountability**

(accountability means accepting mistakes or problems and working for solution)

- **Self regulation**
- **Good image**

TRAIT AND QUALITIES OF A GOOD PROFESSIONAL

Following traits and qualities are essential to become a true professional:-

1) Excellence (2) organizational skill (3) time management (4) good communication (5) soft skills (6) positive attitude (7) focus and hard work (8) ethical behavior (9) continuous learning (10) seeks advice (11) advancing in profession (12) teaches new generation (11) appearance (12) demeanour (Polite and well spoken)

PROFESSIONALISM IN BUSINESS

Professional Ways to achieve success in business are given below:-

- Professionalism

- **Establishes proper boundaries** (explains ***what is considered appropriate and what is not,*** it will avoid conflict and misunderstanding)
- **Encourages personal improvement** (professional dress patterns, professional operations help personal and business success)
- **Promotes and maintain accountability** (professionally written reports, plans, accounts and other paper works will create a right impression about the business)
- **Establishes respect to authority, coworkers and clients**.(professional limits gossips and rumours)
- **Minimizes conflict (it** helps in keep away offending members of different cultures or back groud)
- **Increased job satisfaction**-it eliminates stress
- **Creates the sense of responsibity**
- **Helps in personal growth**

PROFESSIONAL SKILLS

- C**ommunication skills-** speaking skills, listening skills, non verbal communication skills like body language ,self confidence and respectful attitudes to others, confident communication skills (5 successful communication are :- Verbal /Non verbal like positive body language and facial expressions/aural or listening/written/visual)
- **Decision making skills** – it can be improved with seeing, leaning, experience and practice.
- **Problem solving skills .**
- **Leadership skil**ls –these are the abilities to lead, to create, to motivate, to inspire others.
- **Interpersonal skills**- maintain relationship, create rapport, use diplomacy, constructive criticism.
- **Organizational skills**- planning, coordinating materials and meeting deadlines.
- **Time management skills**-setting goals, creating schedules, making lists, using optimizing tools.
- **Stress management skills (**conflict management**)**

- **Team work (**group dynamism**)**
- **Work ethic** (commitment and honesty to the job)
- **Flexibility** (adaptability and ability to cope with changes, growth mind set)

→ **PROFESSIONALISM IN COMMUNICATION**

Experts tell that 70 - 80% of our working time isspent in some kind of communication.

Professional communication

Any written or spoken interaction that made with coworkers or/and supervisors or represents workplace is professional communication.

There are four types of professional communication

1. Writing
2. Speaking
3. Listening
4. Conducting meetings

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→ **VERBAL /ORAL COMMUNICATION**

(Verbal communication means *Any interaction that makes the use of spoken words*

Eg:- discussions, staff meetings, telephone discourses, formal and informal conversations etc.)

Effective professional verbal communication includes:-

- Ability to speak fluently
- Ability to communicate in a manner appropriate to the occasion.

Types of verbal communication:_

- **Interpersonal communication-** use of words to share information with other people.
- **Public speaking-** making a formal presentation or speech in front of people

- **Work ethic** (commitment and honesty to the job)
- **Flexibility** (adaptability and ability to cope with changes, growth mind set)

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- **Digital communication**

Use of social net working, emailing, blogging, texting, internet conferencing, research and tele conferencing are the part of digital communication.

- **Factors of effective verbal communication/ways to improve verbal communication**

1. Wide reading.
2. Preparation
3. Careful listening
4. Think in terms of listerners perspective.
5. Speak with confidence.
6. Develop communication skills by using techniques like mind mapping,workshops and online-offline communication courses.

➡ **PROFESSIONAL PRESENTATION**

3 skills should have to professional presentation:

1. **Verbal communication skills** – *voice tone, pitch, sound modulation, strong grammatical knowledge, rich vocabulary are the essentials of verbal communication while presentation.*
2. **Non – verbal communication skills**- facial expressions, eye contact with audience, gestures and body language ,use of visual cues like texts ,pictures etc.
3. **Content and organization skills -** contents should be organized and presented logically as follows :-

-With *INTRIDUCTION*
- With *BODY*
-with *SUMMARY*
- With *VISUAL AIDS*

➡ **PROFESSIONAL PRESENTATION TECHNIQUES**

1. Gather information before presenting .
2. Write down the main ideas.
3. Develop introduction and conclusion.
4. Practice the speech.
5. Choose delivery style.(use of dramatic styles, storytelling, humour..)
6. Use of podium(speech stand or rostrum)
7. Time management in lengthy speeches.

8. Create good eye contact
9. Create good voice/soud modulation
10. Speak calmly
11. Question and answer session.

➡ **DIFFERENT PROFESSIONAL PRESENTATION POSTURES :-**

1. *STANDING* posture. (indicates strong mind set)
2. Gestures with *HANDS*
3. *HOLDING HANDS* posture.(indicates confidence and control)
4. *PALMS UP* posture(indicate openness and Honesty)
5. *PALMS DOWN* posture(indicate strength ,authority and assertiveness)
6. *STEEPLE THE HANDS (*indicates confidence)
7. *CHANGING POSITIONS* (indicates attraction *)*

➡ **WRITTEN COMMUNICATION**

(Verbal communication means *the sending messages ,orders or instructions in writing through letters, circulars, manuals, reports, office memos, bulletins* etc.)

● **FORMS OF WRITTEN COMMUNICATION**

1. Letters.
2. Memo
3. Notice
4. Circular
5. Report
6. Minutes

ADVANTAGES OF WRITTEN COMMUNICATION

1. Permenant record
2. Authoritative document
3. Accuracy
4. Legal document
5. Long distance communication
6. Easy understand
7. Suitable for long messages.
8. Delegation of authority.
9. Less possibility for distortion
10. Develops confidence
11. Goodwill and image building.

➡ **E- MAIL**

Electronic Mail – message transferring via internet.

SIGNIFICANCE OF E-MAIL IN BUSINESS

1. Easy and fast
2. Easy retrieval.
3. Economical.
4. Marketing purpose.
5. Privacy and confidentiality.
6. Security.
7. Internal communication.
8. Diversity to work groups.
9. Alternative use of physical documents.

E- MAILETIQUETTE

E mail etiquette refers to the principles of behavior that one should use when wring or answering E mail messages. It is the code of conduct for Email communication. It is implemented in business organization for 3 reasons:_

1. To convey professional image of the organization.
2. To create efficiency in messaging.
3. To protect from liabilities and legal proceedings.

BASIC E-mail ETTIQUETTE

1. Identify the relevance.
2. Find the **TO** line(people/peoples who directly receive the mail)
3. Find the **CC** line (carbon copy line)- the email is copied to one or more recipients
4. Find **BCC** line(blind carbon copy)-hererecipents are invisible to other recipients
5. Find **SUBJECT** line.
6. Put **SALUTATIONs**
7. Consider **CONTENTS** of Email.
8. Keep considering **DECENT TONE** in Emailing .
9. **STANDARD LANGUAGE.**
10. **WRING A COMPLAINT**
11. **PRIVACY**
12. CHECK and review option
13. Response time
14. Closing options with friendly clauses.

TECHNICAL DOCUMENTATION

Technical documents use the facts, proof, evidences to name just some specialist areas that require technical documentation, and are designed by technicians like system analyst, statisticians, designers, programmers, economists, and stockbrokers etc.

- Technical documentation includes:-

1. Investment analysis
2. Cash flow projections
3. Tenders
4. Agent contracts
5. Leases
6. Marketing research statistics
7. Staff needs forecasts
8. Annual general reports.

TYPES OF DOCUMENTS

1. **Description document**-(it provides a detailed overview on system and software required and the services offered. End users can decide whether it is the software they are looking for.)

2. **Installation document**(it provide information on how to install, to operate the system and how the configuration files should be customized and how to establish the permanent files)

3. **Configuration document**(provides information on how to configure the system, software for the end user)

4. **User manuals (**provides instructions of hoe to get started and how to use the various applications)

5. **System reference document(**provide information on the system facilities ,hoe to usethose facilities, list about errors and recovery options)

DOCUMENTATION STANDARDS

- Documentation standards provide guidelines for producing documents like contents, writing style, format of the documents.

- **Standards of documentation -**

1. Clarity
2. Simple language
3. Avoid jargons (jargons are terms that no one else understand)
4. Indexing

ATTRIBUTES OF GOOD DOCUMENTATION

1. Contents listings
2. Stated purpose
3. Navigation tools.
4. Accuracy

5. Accessibility.
6. Clarity.
7. Coherent.
8. Concise.
9. Complete and comprehensive.
10. Consistent

MODULE 2

➡ INTRODUCTION TO E-LEARNING

- **E-learning is** computer/internet based educational tools or system that enables individuals to learn anywhere and at any time.

- **E-learning is** the intentional use of **electronic media** and **ICT** (INFORMATION AND COMMUNICATION Technologies) in teaching learning process.

- **Advantages Benefits of E-learning**

1. Convenience /all time accessible.
2. Enhanced /in depth learning
3. Cost effective / economical
4. Consider indual learner differences
5. Flexible.
6. Anonymity-more time to think and reflect.
7. Innovative teaching- student centered approaches.
8. Easy Interaction
9. Improved administration.
10. Savings.
11. Minimize physical resources.
12. Easy access to resources –any time from anywhere.
13. Multimedia based resources- text/audio/vedio/animation/graphics/pictures etc

Disadvantages of E-learning

1. Isolation ton learners and teachers.
2. Less effective
3. Health related problems
4. Lack of interaction.
5. Negative effect of communication
6. Greater chance for malpractices-through proxies
7. Piracy and plagiarism
8. Fewer roles for socialization.
9. Not suitable for all disciplines eg; science subjects and other practicals

ON LINE EDUCATION

- It is a flexible instruction delivery system that includes any kind of leaning that takes place via the internet which creates teacher student interaction and the distribution of class materials.

- **ON LINE EDUCATION PROGRAMS-TYPES**

1. **100% online education-** fully online.
2. **Hybrid education**- combination of online and offline
3. **Online courses**- as part of degree programs.
4. **MOOCs** –mass online open courses.

- **FEATURES OF ONLINE COURSES**

1. Shifted **from teaching to learning**
2. Student chentered.
3. Dependent upon the development of learning environments
4. It is active.
5. Interactive and collaborative.

DIGITAL AGE LEARNER/NET GENERATION/TECHNOLOGY SAVVY STUDENTS

Motivates Lifelong learning

- Digital learning is any type of learning that is accompanied by technology or by instructional practice that makes effective use of technology.

- ***Digital literacy*** and ***digital fluency*** are required skills of digital learners.

KNOWLEDGE RESOURCES ON INTERNET

1. E-BOOKS - **features** :- Tangibility, Browsability, Searchability, referenciability, diversity

Sites of free E books: project Gutenberg/google books/free tech books/o'reilly open books

2. AUDIO –VISUAL AIDS
3. ON LINE LIBRARiES
4. YOU TUBES
5. WEBCAMS
6. MOOCs

E –CONTENT DEVELOPMENT

- E- Content – it is designed to guide students through a lot of information in a specific task, and used as teacher in the virtual class room situations.

- E- Content /digital content is defined by those involved I creating ,providing and distributing information as the digitized content which viewed screen not on papers.
- E – Contents are the combination of text, audio, video, images,graphics, animations, with visual effects that is delivered via internet, satellite broadcast or mobile technology.
- E – Contents serves web based learning, computer based learning, and mobile based learning, virtual classrooms, digital collaboration.

➡ FORMS OF E- CONTENTS

1. Text
2. Audio
3. Video
4. Images
5. Graphics
6. Animations
7. Simulations
8. Presentations

➡ REQUISITES OF E- CONTENTS DEVELOPMENT

1. Home
2. Objectives
3. subject mapping
4. summary
5. text with pictures and animations
6. video and audio
7. assignments ,quiz and tutorials
8. References, Glossary and links
9. Case studies
10. FAQs(Frequently Asked Questions)
11. Dowm load
12. Blog
13. contact

➡ STEPS OF E- CONTENTS DEVELOPMENT

Six stages:-

1. **The analysis stage -**
2. **The design stage -**
3. **The development stage -**
4. **The testing stage -**
5. **The implementation stage -**
6. **The evaluation stage -**

➡ E- CONTENTS ADVATAGES

1. Hyper linking
2. Non- linearyrity- The order of access of materials can be determined by users.

3. Use of multimedia
4. Data density
5. searching

➡ **ON LINE LIBRARIES / DIGITAL LIBRARIES / E-LIBRARY / VIRTUAL LIBRARIES/HYBRID LIBRARIES**

- It is physical site and/ or website that provide around the clock online access to users(any time any where)

- Provides free copies of books, journals, which have no copy right and have digital formats and accessible by computers.

- **CHARACTERSISTICS OF ONLINE LIBRARY**

1. Collection of technologies like **digital computing, storage and communication** machinery with the content and software.
2. Searching and distributing materials.
3. Less space

- **ADVANTAGES**

1. Information retrieval
2. No physical boundaries
3. Round the clock availability.
4. Multiple access
5. Space
6. Linking
7. Less cost

- **DISADVANTAGES**

1. Technology obsolescence(software and hard ware)
2. Storage media relates
3. Dominance of data creators and publishers
4. Trained man power
5. Security against hacking and sabotage

➡ **MOOCs (MASSIVE OPEN ONLINE COURSES)**

It is a model for delivering learning contents via online to any person who wants to take a course, with no prescribed attendance.

- **MASSIVE –** enrolment is **unlimited**
- **OPEN – anyone** can enroll.
- **ONLINE –**delivered **via internet**
- **COURSES-**goal is **to specific certificate.**

MOOCs PROVIDERS

1. Edx
2. Courser
3. Canvas
4. Futurelearn
5. Swayam
6. etc

CHARACTERSISTICS OF MOOCS

1. educator involvement
2. engagement
3. re-watchable`
4. scale
5. assessable
6. customized learning experience

CAREGORIES OF MOOCS ON THE BASIS OF OBJECTIVES OF ADDERESSING

1. **Teaching showcase**- aim of rising the appeal or reputation of the institute.
2. **Gateway skills**- Up skilling prospective students for a particular area of study.
3. **Graduate literacy**- develop the necessary skills like proposal writing,research methods ,and statistical analysis for PG students.
4. **Professional showcase**- focuses on professional certification.
5. **Research showcase –** focuses on research excellence.

- **TYPE OF MOOC COURSES**

1. **OBC-** Open Boundary Courses
2. **SPOC-** Small Private Online Courses
3. **MOC-** Massive Online Courses

MOOCs PLAT FORMS IN INDIA

1. NPTEL –(National Programme on Technology Enhanced Learning) funded by MHRD, w.e.f 2003
2. MOOKIT- Course by Kanpoor IIT, w.e.f 2014
3. IIT BOMBAYX- by IIT BOMBAY
4. SWAYAM- (Study Webs of Active Learning for Young ASPIRING Minds)

➡ **E- LEARNING AS SERVICE INDUSTRY**

- India has one of the largest education systems in the world
- It has the world largest population attending classes at school, an age bracket of 6-17 about 310 million.
- According to UGC ,in 2016 india is host to 751 universities and over 35,539 colleges.
- The distance education system contributed a quarter of students enrolments in the higher education system, with over 29 million students enrolled in the higher education system
- Governments push towards online courses and education plat form is providing great opportunitiesto the market players .

➡ **MAJOR LEARNING TECHNOLOGIES USED IN E-LEARNIG**

1. MOBILE LEARNING

2. MICROLEARNING – Short term lessons/projects/course work with bit of information.
3. INTERNET S of THINGS (IoT) - It is with IP address, and by all internet connectivity.
4. CLOUD BASED E-LEARNING- apart from different applications installing, learning system can be accessed by logging into a service provider's site.
5. GAMIFICATION- it is game based machines
6. ADAPTIVE –LEARNING (Intelligent Tutoring) - computers are used as interactive teaching devices.
7. AUGMENTED REALITY- here computer /internet depict an image of object as it is real with its entire all.
8. VIDEO E-LEARNING- contents learned by watching videos
9. BEACON E-LEARNING- beacon technology is wireless device that transmit signals to other nearby devices via low energy blue tooth /wifi connections. it is used as an IPS (indoor positioning system)
10. ARTIFICIAL INTELLIGENCE- this software will answer simply to complex queries of learners

➡ **DIFFERENT APPROACHES FOR E-LEARNING DELIVERY**

1. **SYNHRONOUS** - in this, online learning occurs in real time, withal participants interacting at the same time. Eg: - SKYPE, ZOOM, GOOGLE MEET etc.
2. **ASYCHRONOUS** – It is a student centered teaching method any time can use this facility eg;- e-mail ,wiki, Google search engine, blogs etc.
3. **LINEAR LEARNING** – It is CBT (computer based triaining and learning.)
4. **COLLABORATIVE LEARNING**- In this facility student can interact with others.

MODULE 3

➡ **BUSINESS DATA ANALYSIS/ DATA ANALYTICS**

- Data analysis is done on the basis of Data Bases or big data/ Data sets
- Big data describes the collection of data sets that are so large
- Data analysis is the use of data, information technology, quantitative methods and mathematical /computer based models to help managers gain improved insight about their business operations and make better decisions

➡ **FEATURES OF NEW GENERATION COMPUTERS**

1. Speed of operation
2. Accuracy
3. Storage

4. Versatility
5. Automatic operations
6. Diligence (no tension , consistent)
7. Complexity
8. Reliability

➡ CONCEPT OF DATA ANALYSIS

- Data analysis is the process of evaluating data using analytical or statistical tools to discover useful information.

➡ DATA – MEANING AND DEFINITION

- Data are used to describe things by assigning a value to them
- Data are two types:-

1. **Qualitative data –** used as words and description. Descriptions of taste, texture, experience are the examples
2. **Quantitative data – The** data which can be expressed with numbers .these can be measuresd,ranked and categorized. Length, weight, age, cost etc. are the examples.

Quantitative data is two types:-

1. **Categorical data –** these data has been placed into similar characterized group. An item don't fall in different group at a time. E.g.:- age group, race, sex, education etc.
2. **Continuous data -** these data measured or scale on continuous range or scale.

➡ BUSINESS DATA ANALYTICS –

- It is the process of collecting, sorting, processing, and studying business data and using statistical models and interactive methodologies to transform data into business insights.

- **IMPORTANCE OF BUSINESS ANALYTICS**

1. A methodology for commercial decision making
2. Operational efficiency
3. Competitive advantages
4. Valuable information.

➡ TYPES OF DATA ANALYSIS

1. **Descriptive analysis --**This analysis is done to explain past data and tells what happened.
2. **Diagnostic analysis –**This analysis aims to determine why something happened

3. **Predictive analysis --** This analysis predicts what is likely to happen in the future.
4. **Prescriptive analysis --** This analysis forms a plan of action for the organization to face the issue or decision.

➡ PHASES/STEPS/STAGES OF DATA ANALYSIS

1. Data requirements specification
2. Data collection
3. Data processing
4. Data cleaning
5. Data analysis
6. communication

➡ COMPONENTS OF BUSINESS DATA ANALYSIS

1. Data aggregation
2. Data mining
3. Association and sequence identification
4. Text mining
5. Forecasting
6. Predictive analytics
7. Optimization
8. Data visualization

➡ CHALLENGES FACED BY BUSINESS ANALYTICS

1. Executive distrust
2. Poor collaboration
3. Lack of commitment
4. Slow information maturity

➡ BUSINESS ANALYTICAL TOOLS

1. R Programming
2. Tableau Public
3. Python
4. Sas
5. Excel
6. Rapid Miner
7. KNIME
8. BIRT
9. Zeppelin by Apacche
10. OmniSci

➡ TRENDS IN BUSINESS ANALYSIS

1. Big Data
2. Artificial intelligence
3. Deep learning
4. Neural networks the internet of things
5. Micro segmentation
6. Cloud computing

ADVANTAGE OF BUSINESS ANALYTICS

1. Increase efficiency
2. Insight Through data visualization.
3. Keep updated
4. Better decision making
5. More effective marketing
6. Better customer service
7. More efficient operations
8. Plan for the future

DISADVANTAGES OF BUSINESSANALYTICS

1. Lack of alignment, availability and trust.
2. Lack of commitment
3. Low quality transactional data.

BUSINESS DATA ANALYST

- The development of computers and relational databases required the importance of data analysts.
- A data analyst collects, processes, and performs statistical analyses on large dataset.

DATA ANAYST and BUSINESS ANALYST

- Data analyst gathers and analyzes data for the business to evaluate and use to make decision on their own.
- Business analyst use data to help organizations make moreeffective business decisions.

RESPONSIBILITIES OF DATA ANALYST

1. Producing reports
2. Spotting patterns
3. Collaborating with others
4. Collecting data and setting up infrastructure

SKILLS REQUIRED FOR DATA ANALYST

1. Proficiency in programming languages
2. Creative and analytical thinking
3. Strong and effective communication.

4. Data visualization
5. Data ware housing
6. SQL data bases
7. Data base quering languages
8. Data mining and cleaning
9. Advanced micro soft excel
10. Machine learning

➡ **ORGANISATION AND SOURCE OF DATA**

- For decision making purpose, the collected data must be systematically organized and integrated.
- Upon these organized data, analysis tools are used, to get meaningful information.
- This meaningful information is communicated for the knowledge of outsiders.

➡ **SOURCES OF DATA**

- Three sources:-

1. **Internal -** These data are private data that organization owns controls or collects.

Eg: - data relating to sales or finance of an organization.

Internal data source include:-

(A) Accounting resources

(B) Sales force Report (report on sales of produc

(C) Internal experts

(D) Miscellaneous Report2.

2. **External –** Data collected from commercial databases collected by sensors and satellites.

External data is collected from sources outside the organization

External data source include

I. Government Publications- agencies of government publications are:-

(A) Registrar General of India- it generate demographic data

(B) Central Statistical Organization (CSO) - it publishes national accounts statistics

(C) Ministry of Commercial Intelligence – it gives information foreign trade- import & export

(D) Reserve Bank of India – it gives information of banking saving and investment

(E) Labour Bureau- it gives information of skilled, unskilled, white collared jobs etc.

(F) National Sample Survey –It gives information social, economic, demographic, industrial and agricultural statistics

(G) Department Of Economic Affairs- gives information of income, consumption, expenditure, investment, savings and foreign trade.

II. Non Government Publications- Include various industrial and trade associations
E.g.:- The Indian cotton Mill Association, chambers of commerce, export promotion council etc.

1. **Personal –** Data collected from users and other corporate employees who knowledge and expertise in the field

➡ DA**TA COLLECTION METHODS**

I. PRIMARY DATA COLLECTION

1. Personal investigation
2. Collection via investigators
3. Questionnaires
4. Telephone investigation

II. SECONDARY DATA COLLECTION

1. Official publication
2. chambers of commerce publications
3. Articles of newspapers, journals and technical publications.

➡ **DATA QUALITY (DQ)**

- For the success and best implementation of management decisions, integrated and quality data is essential.

- **IMPORTANCE AND BENEFIT OF DATA QUALITY**

1. Leads to better, confident and more informed decision making.
2. Better customer targeting (high quality data enables to determine accurately the targeted audience.
3. More effective content for ads to attract target customers and marketing campaigns.
4. Improved relationship with customers
5. Easy to use- increase company's efficiency

6. Competitive advantage.
7. Increased profitability
8. Improved customer relations

- **COMPONENTS OF DATA QUALITY**

Six components:-

1. **Accuracy** - it refers "*how well the data describes the real world conditions it aims to describe*"
2. **Completeness** - data should include all material facts which are necessary for decision making.
3. **Consistency** – when comparing a data item or its counterpart across multiple\data sets or databases, it should be the same.
4. **Relevancy** – data should reveal information which increase knowledge and reduces uncertainty surrounding the problem under consideration.
5. **Validity –** "Whether a measurement of a concept really measures that concept" is known as the concept of ***validity.***
6. **Timeliness-** Data should be available it is needed**.** Timeliness refers to how recently the event the data represents occurred.

- **STEPS/PHASES OF HIGH QUALITY DATA**

1. **Implement a data collect plan**- kind of data/role data collecting personnels/communication process between departments
2. **Set data quality standards** –to find which data should ***keep, avoid, to correct***
3. **Create a plan for data correction –** methods and responsible person must be planned
4. **Plan for data integration and distribution across departments.-][**
5.
6. **Set goals for ongoing data collection –** focused on continuity of data collection plan

➡ **DATA INTEGRITY**

- Data integrity can be ensured by addressing the following five issues:-

1. Uniformity
2. Version
3. Completeness check
4. Conformity check
5. Genealogy/drill down –tracing back to the data source its various transformations

➡ MISSING DATA OR INCOMPLETE DATA

- Missing data is the data value that is not stored for a variable in the observation
- Missing data may threaten the validity of trials and can lead to invalid conclusions.

➡ TYPES OF MISSING DATA OR INCOMPLETE DATA

1. Missing completely at random (MCAR) -
2. Missing at random (MAR)
3. Missing not at random(MNAR)

➡ TECHNIQUES OF HANDLING/ MINIMIZING THE MISSING DATA OR INCOMPLETE DATA

1. List wise or case deletion- full deletion of issing data and analyse others
2. Pair wise deletion
3. Mean substitution
4. Regression imputation
5. Last observation carried forward
6. Maximum likelihood
7. Expectation maximization
8. Multiple imputation
9. Sensitivity analysis

➡ SOCIAL NETWORKING ANALYSIS (SNA)

- Social network refers "*to the expression of social relationship among individuals, families, households, villages, communities, regions, and so on "*

- Social Network Analysis (SNA) means – analyzing various characteristics of the ***patters of distribution of relationship and drawing inferences about the network*** as a whole, or about those belonging to it considered individually or in group.

- SNA helps in discovering and uncovering the patterns of interaction between people.

➡ BASIC TERMINOLOGY SOCIAL NETWORKING ANALYSIS (SNA)

1. **Centrality** – here, the net work is dominated by ***one person*** who controls the information and knowledge flow. It may lead to communication failure.

2. **Betweenness (Gate way nodes) –** indicates the number of paths that pass through each individual
3. **Closeness –** indicates the extent of closeness of individuals in a network either directly or indirectly.

4. **Degree –** indicates the number of links to other individuals in the network,. The higher degree, the more influential

➡ **BUSINESS APPLICATION/IMPLECATION OF SOCIAL NETWORKING ANALYSIS (SNA)**

1. For creating usable customer intelligence
2. To reveal strategically important networks
3. For understanding health behavior

➡ **BIG DATA ANALYSIS**

- **BIG DATA –** Meaning
  "Extremely large data sets that have grown beyond the ability to manage and analyze them with traditional data processing tools".

- **DIMENSIONS OF BIG DATA**
  1. **Volume -** refers the quantity of data
  2. **Variety-** refers to the in increasingly diversified sources and types of data.
  3. **Veracity –** purity of the information
  4. **Velocity –** with the accerating speed at which flows in from sources like business process,machines,,networks anduhman interaction with things like media sites, mobile devices etc.

- **TYPES OF BIG DATA**
  1. Structured -- fixed format for storing ,accessing and processing . eg employees table
  2. Unstructured – no fixed format
  3. Semi structured – 5

- **TECHNOLOGIES/ CONCEPTS OF BIG DATA**

  1. Business Intelligence (BI)
  2. Data mining
  3. Statistical Applications
  4. Predictive analysis
  5. Data modeling

- **ADVANTAGES OF BIG DATA**

  1. **Improved business processes**- eg;better inventory management,optimization of distribution channel, improvement supply chain etc
  2. **Business can utilizes outside intelligence while taking decision**.- eg ;- data from social media
  3. **Improved customer service –** from verity sources like CRM (customer relationship management)
  4. Fraud detection

5. Early identification of risk to the product/ services

- **DISADVANTAGES OF BIG DATA**

1. Lots of big data is unstructured
2. Lots of money to store
3. Violates principle of privacy
4. Mismatch to real figures , some times
5. Result may Misleads
6. May increase social stratification

➞ **THE DATA SCIENTIST**

- Data scientist is an employee or Business intelligence (BI) consultant who excels at analyzing data, particularly large amount data.

- Data scientist must possess a combination of analytic, machine learning, data mining, and statistical skills as well as experience with algorithms and coding.

- He integrates, interpret, manage data and solve complex problems using their expertise in a variety of data sets.

- He has foundation skill in computer science, modeling, statistics, analytics, and mathematics coupled with strong business knowledge.

➞ **ROLE OF DATA SCIENTIST IN BUSINESS AND SOCIETY**

1. Empowering management to make better decisions
2. Directing actions based on trends
3. Challenging the staff to adopt best practices.
4. Identifying opportunities
5. Decision making with quantifiable data.
6. Testing the decisions
7. Identification and refining of target audiences
8. Recruiting the right talent for the organization

➞ **ROLE OF ARTIFICIAL INTELLIGENCE (AI) & INTELLIGENT AGENTS IN BUSINESS**

- Machines are assisting us, they perform the works / task better than humans. Eg:- Self check out cash counters, security check systems are the examples.

- **EXAMPLES OF AI IN E-COMMERCE**

1. **Chat bots –**offers all customer related services, help them for buying decisions. These bots communicates by using either speech or text or both. Widely used in online shopping sites.

2. **CRM (Customer Relationship Management) –**AI do all of these services by predicting exactly which client will execute a buying decision ,which will help in sales maximization and building the long lasting customer relations.

3. **Internet of things (I o T)-** offers connectivity in all elements of our life. E.g.:- from syncing different devices to programming your washing machine, lights, household Appliances etc.

- **BENEFITS OF AI IN E- BUSINESS**

Sales forecasting

1. Superior services at affordable costs
2. Enhance customer satisfaction and promote sales
3. Personalized content
4. AI in marketing
5. Customer services

➡ **INTELLEGENT AGENTS**

- Intelligent Agents are software programs that carry out some set of task on behalf of the user by collecting information automatically over the internet and communicating data with other agents depending on the algorithm of the program.
- Agents act on behalf of the user at the users request or using some agreed user protocol.
- IA has 3 dimensions- AGENCY, INTELLIGENCE, and MOBILITY

- **FEATURES OF INTELLIGENCE AGENTS**

1. Mobility
2. Goal oriented
3. Independent
4. Intelligent
5. Reduces net traffic
6. Multiple tasks

- **INTELLIGENCE AGENTS IN COMMERCE**

1. Identification
2. Brokering
3. Negotiation

4. Payment and delivery
5. Product service and evaluation.

- **ADVANTAGES OF INTELLIGENCE AGENTS**

1. Easy shopping
2. Identification of stores and brands
3. Make comparisons
4. Reduce cost
5. Act as a representative of seller
6. Building relationships

- **DISADVANTAGES OF INTELLIGENCE AGENTS**

1. Stealing data and illegal access
2. Free use of resources
3. Unauthorized program execution
4. Data stripping or alteration(by server)
5. Deceitful agent behavior

➡ ETHICAL AND LEGAL CONSIDERATION IN BUSINESS ANALYTICS

- Many organizations want to be good corporate citizens and be confident that they use analytics ethically in its standards, transparency, privacy, security and quality etc

1. **Comply with legal requirements**

2. **Cultural and social norms** – must assess whether its analytics reflects cultural and social norms about acceptable activities

3. **Interest of stakeholders**- should assess the impact of analytics on the interest and trust of its stake holders like consumers, government, other business and nongovernmental policy makers.

4. **Accountability-** it begins with an acknowledgement that analytics can have a negative as well as beneficial impact on individuals.
5. **Data protection –** should implement appropriate safeguards to protect the information that are used in analytics.
6. **Due care –** should assess whether its use of analytics involves sensitive areas and reasonable safeguards proportionate to risk.

7. **Confidentiality –** the data must be audited based on legal requirements ,and kept it confidential

➡ SOCIO CYBER INFORMATICS

- **IT AND SOCIETY**

Information is the intellectual capital from which human beings shape their lives and achieve progress

IT s (modern technologies) are used as a powerful and beneficial tool for communication and education.

- **SOCIAL AND ETHICAL ISSUES OF INFORMATION TECHNOLOGY**

IT raises new ethical questions for both individuals and society, following is the impact of IT on society:-
(11 points)

1. Privacy and freedom
2. Internet and privacy
3. Information system and intellectual property
4. Accountability, liability and control
5. System quality and related issues
6. Employment and productivity
7. Individuality
8. The quality of life
9. Security of information.
10. Computer crime and abuse
11. Health problems.

MODULE 4

➡ DIGITAL DIVIDE

- Inequalities in access to and use of the information technology with lower levels of connectivity among women, people with lower incomes, rural residents and less educated people.

- The digital divide is the gap between people who possess regular access to information technology and those who do not have this access.

- **FACTORS /REASONS FOR DIGITAL DIVIDE**

1. Gender
2. Physical disability
3. Physical access- (lack of telecommunication infrastructure)
4. Lack of ICT skills and support

5. Attitudinal factors – cultural and behavioural factors
6. Age
7. Family structure
8. Motivation

- **EFFECT OF DIGITAL DIVIDE**

Digital divide creates the following effects:

1. Economic inequality
2. Educational inequality
3. Better democratic set up
4. Economic growth
5. Social mobility – professional work and career development

➡ DIGITAL NATIVES

- Introduced by Prensky in 2001
- It is the generation of people who grew in the era of IT, including computers and the internet.
- Digital natives are generally born after 1980s and they are comfortable in the digital age.

- **TYPES OF DIGITAL NATIVES**

1. **Avoiders** - they don't feela likeness for digital technologies and face book.
2. **Minimalists**- technology use minimum, if they feel necessary
3. **Enthusiastic participants –**they enjoy technology and gadgets ,long time daily

➡ CYBER SPACE

- Introduced by William Gibson
- It is the virtual computer world which is used to form a global computer net work to facilitate online communication.
- It is a digital medium and not physical space.
- It is a web of consumer electronics, computers, and communication network which interconnect the world.

➡ IT INDUSTRY- OPPURTUNITIES AND THREATS

- IT opened the horizons of technological innovation in collecting, storing, processing, transmission and presentation of information.
- IT gives more job and investment opportunities

- More chances to effective production policies and implementations.
- Enables Speedy economic growth, productivity improvement.

- **OPPORTUNITIES IN IT INDUSTRY**

1. Infrastructure outsourcing to third party providers.
2. Hardware support
3. IT consulting
4. Business Process Outsourcing (BPO)-
5. Infrastructure and Network integration services
6. Application and software related services.
7. Hardware

➡ **IT INDUSTRY- NEW THREATS**

General threats to IT systems and data are:-

1. **Hard ware and software failure** such as power loss and data corruption.
2. **Malware** –malicious software designed to disrupt computer operation.
3. **Viruses**
4. **Spams, scams and phishing** – unsolicited email that seeks to steal personal details or buying fraudulent goods.
5. **Human error**- in correct data processing, careless data disposal, or accidental openining of infected email attachments.

➡ **IDENTITY THEFT**

- Identity theft is a crime
- It means to all type of crimes in which someone wrongfully obtains and uses another person's personal data in some way that involves fraud or deception, typically for economic gain.

- **WAYS OF IDENTITY THEFT**

1. **Stealing-** wallets ,purses , computers, mobile devises, cheques/ credit offers, statements sent in the email
2. **Dumpster diving –** to find discarded paper files CDs , floppy drives etc.
3. **Phishing/spam –** fraudulent emails
4. **Social engineering –** gaining confidence by phone, online, postel mail, email to extract information.
5. **Shoulder surfing –** viewing log on activities in public spaces
6. **Hacking –** password guessing, tricking you to download malware, spyware or other software to access information on our computer.

- **SPAM**

- Spam is irrelevant or unsolicited messages sent over the internet, typically to a large number of users, for the purposes of advertising, phishing, spreading malware etc.

- Spam includes unwanted electronic communications, generally commercial in nature and likely to be a source of malware.

- Most spam is commercial advertising (often doubtful products), get- rich- quick schemes, quasi legal services etc.

- **METHODS TO AVOIDE SPAM**

1. **Black list -** it is to avoid accepting e-mails from systems that are being actively exploited by spammers.
2. **Filtering system –** most internet programs and ISPs(Internet Service Providers) offer spam filters which will help us manage the spam by moving it to a separate folder and marking it as illegitimate email, therefore blocking future emails from the spammer.
3. **Legal approaches –** levy penalties from the part of Governments for unsolicited commercial e mails.
4. **Separate email accounts –** create an email address specifically for public use which is separate from personal e mail.
5. **Caution when filing out online forms –** View the privacy policy on the web site before proceeding.
6. **Install a firewall-** installing firewall for computer network will help to prevent spammers from hacking or planting worms on our computer
7. **Don't respond to emails that ask to verify account information**
8. **Safeguard login information-** never share username and password with anyone else.

- **COOKIES**

- Cookies are a small text file that is stored on a user's web browser, sends by server.
- The main purpose of cookie is to identify and recognize users and possibly prepare customized web pages or to save site login information for users.
- Cookies cannot be a spyware that illegally intercepts data and cannot carry a virus.

- **SPY WARE**

- Spyware is any technology and software that is used in collecting information about a person or organization without their knowledge, and passes these information across the internet to a third party location.
- Spyware is a type of malicious (malware) software, which get in computer as the result of installing a new programme.

- Spy ware can catch screen shots, keystrokes, authentication credentials, personal email addresses, web form data, internet usage habits and other personal information.

- **SPYING PARTIES (WHO IS SPYING?)**

1. **Online attackers –** they steal personal information for financial crimes such as stealing money using debit/credit cards information and identity theft. Or to sell the information to other cyber criminals.

2. **Marketing organizations –** here personal information steal by them for executing marketing campaigns like spam, browser, popus,
3. **Trusted insider –**it includes those who have physical access to computer systems for legitimate purpose such as employees, contractors and temporary workers.

- **SPYWARE OPERATION –HOW?**
  - When keywords of interest like name of banks, online payment systems, or pornographic web sites are observed, the spyware starts its data collection process.

- **MALWARE**
  - It means any software designed to cause damage to a single computer,server or computer network.
  - Malware is any program or file that is harmful to a computer user, which includes computer viruses, worms, Trojan Horses and also spyware.

- **PHISHING** (pronounced as 'FISHING")
  - It is a method of online identity theft.
  - It is a cyber crime in which a target or targets are contacted by e mail, telephone or text message by someone posing as a legitimate institution to banking and credit card details and passwords.
  - In order to retrieve from the troubles of phishing, it is always better not to use the links in an e mail, instant message, or chat to get to any web page if you suspect the message might not be authentic or you don't know the sender.

- **INTERNET HOAX**
  - Internet hoaxes are stories that spread throughout the internet, often through email, forums, and blogs or showing images that are untrue or alterations of the truth, and these can be more malicious efforts to crash servers and spread viruses.

- **HACKING**
  - It is unauthorized intrusion into a computer or a network.

- The hacker may alter system or security features to accomplish their goal.
- Hackers put their mischievous programs in the net work and consequently it starts to perform some hidden functions which may cause serious damage to the information stored in the computer systems.

● **TYPES OF HACKING**

1. **Website hacking –** taking unauthorized control over a web server and its associated software such as databases and other interfaces.

2. **Network hacking-** gathering information about a network by using tools like Telnet, Ping, Tracert, Netstat etc. with the intent to harm the net work and hamper its operation.

3. **E mail hacking –** getting unauthorized access on an Email account and using it without the consent of its owner.

4. **Ethical hacking –** finding weakness in a computer or net system for testing purpose and finally getting them fixed

5. **Pass word hacking –**process of recovering secret password from data that has been stored in or transmitted by a computer system

● **REMEDIES AGAINST HACKING**

1. Checking system security
2. Use of firewalls
3. Data encryption

● **TROJAN HORSES**

- It is an unauthorized programme , which passively gains control over another's system by representing itself as an authorized programme.
- Once activated Trojans can enable cyber criminals to spy, steal sensitive data, and gain back door access to system. These may include :-
  1. Deleting data
  2. Blocking data
  3. Modifying data
  4. Copying data
  5. Disrupting the performance of computers or computer net works.

→ **COMPUTER THREATS**

Cyber criminals take the following single or combined activities to commit crime.
1. Computer viruses
2. Worms

3. Logic bombs and Time Bombs
4. Web Jacking
5. Email bombing
6. Salami attacks
7. Internet time theft

1. Computer viruses
A computer virus is a type of computer program that, when executed, replicates itself by modifying other computer programs and inserting its own code.

Protection from viruses

- Antivirus Programs
- Acquisition of Software from Reliable Sources
- Testing new applications in single computer

2. Worms
A computer worm is a type of malware that spreads copies of itself from computer to computer. A worm can replicate itself without any human interaction, and it does not need to attach itself to a software program in order to cause damage.

3. Logic bombs and Times Bombs
A logic bomb is a program, or portion of a program, which lies dormant until a specific piece of program logic is activated.
Time bombs are commonly used in pre-release software when the manufacturer of the software does not want the beta version being used after the final release date.

4. Web jacking
It is derived from the term hijacking. In these kinds of offences the hacker gains access and control over the web site of another. He may even change the information on the site. This may be done for fulfilling political objectives or for money.

. E-mail Bombing
An email bomb is a form of net abuse consisting of sending large volumes of email to an address in an attempt to overflow the mailbox.

6. Salami Attacks
A salami attack is when you take a very small amount of money from an awful lot of accounts. This kind of crime is normally common in the financial institution or for the purpose of committing financial crime.

7. Internet Time Theft
It refers to the theft in a manner where the unauthorized person uses internet hours paid by another person.

CYBER ETHICS

- The term ―cyber ethics‖ refers to code of safe and responsible behavior for the Internet community.

- Practicing good cyber ethics involve understanding the risk of harmful and illegal behavior online and learning how to protect ourselves, and other internet users, from such behavior.
- It also involves teaching young people, who may not realize the potential for harm to themselves and others, how to use the Internet safely and responsibly.

CYBER CRIME

- A generalized definition of cyber-crime may be ―unlawful acts wherein the computer is a tool or target or both‖.
- Cyber-crime includes, computer crime, e-crime, high-tech crime which are referred to criminal activity where a computer network is the source, target, or place of a crime**.**

Broadly there are 3 ways of committing computer crime :-

- The computer as a target
- The computer as a weapon
- The computer as an accessory

TYPES OF CYBER CRIMES

- Hacking
- Cyber stalking
- Spamming
- Cyber pornography
- Phishing
- Software piracy

CYBER CRIMINALS

The cyber criminals belong to different groups. This categorization has made on the basis of the object that they have in their mind in committing crime.

Different types of criminals are :-

- Children and adolescents between the age group of 6-18 years,
- Organized hackers,
- Professional hackers/ crackers
- Discontented employees.

COMPUTER FRAUDS

- Unauthorized use,access,modification and destruction of computer hardware ,software and data
- Theft of money by altering computer records

- Theft of computer time and computer related assets
- Use of computer to commit an offense etc.

CYBER LAWS

- Cyber laws comprise of a set of legal provisions to regulate the activities of the cyberspace or internet.
- To ensure that there is a mechanism to protect the rights of internet users, cyber laws have been formulated.
- In India, cyber laws have been defined under the IT Act, 2000, the provisions of which are revised from time to time depending upon requirements.
- The information technology bill (IT Bill) passed by Indian Parliament on May 17, 2000.
- The Information Technology Act (IT Act) came into effect on 17 the October 2000.
- The main objective of the Act is to provide legal recognition for transactions carried out by means of electronic data interchange and other means of electronic communication and
- storage of information to facilitate electronic filing of documents with the government agencies.

INFORMATION TECHNOLOGY (Amendment)2008

- Rapid increase in the use of computer and internet has given rise to new forms of crimes like, sending offensive emails and multimedia messages, child pornography, cyber terrorism, publishing sexually explicit materials in electronic form, video voyeurism, breach of confidentiality and leakage of data by intermediary, e-commerce frauds like cheating by personating – commonly known as phishing, identity theft, frauds on online auction sites, etc.

INFORMATION TECHNOLOGY ACT ,2020

- In a bid to stop unlawful content going viral online in India, the government is on the verge of amending the Information Technology Act (2020).
- If the new intermediary guidelines receive green lights, social media companies will be more responsible for such potentially harmful content.
- To better put things into perspective, the current section 79 of the IT Act (2000) states that an intermediary is not responsible for content uploaded by third parties.
- It has led to situations where any type of content created on a particular platform (for example, TikTok), but it went viral on Face book. Under current guidelines, Facebook is not responsible or accountable for this viral content.

The amended act mainly addresses this issue.

- TikTok is the most downloaded social media app during lockdown in India
- Facebook takes a big step towards mind-controlled social media

ORGANISATIONS RELATED WITH CYBER LAWS

- New media wing(NMW)
- Electronic media monitoring center(EMMC)

- Ministry of communication and information technology
- Department of electronics and information technology(DEITY)

CYBER ADDICTIONS

Cyber addiction can be described as too much use of the computer and internet, affecting the routine life of an individual such an individual who becomes too much dependent on computer and internet is called cyber addict.

The compulsive behaviour takes the form of various activities that might include any or all of the following.

- Relationships
- Money
- Information searching
- Gaming
- Sex

- **Problems associated with internet addiction**
  - Skipping meals, losing sleep and time for other things
  - Rearranging daily routines and neglecting studies or other activities
  - Badly affect to relationships
  - Financial problems
  - Physical problems

- **Risk factors for internet addiction**
  - Depression
  - Anxiety
  - Hostility
  - Psychosis
  - Social isolation
  - Impulse control problems
  - Substance use disorders, such as alcoholism or drug abuse

- **Managing internet addiction**
  - Identity any underlying reasons that need treatment
  - Increase the coping skills
  - Strengthen the relationships

 Encourage other interest and social activities

 Monitor computer use and set clear limits.

INFORMATION OVERLOAD

Information overload is a phenomenon of having so much information that the very volume creates the additional work of having to decide what is important, rather than helping executives to solve problems and make decisions**.**

- **Causes of information overload**

 People

 Technology

 The organization

 Processes and Tasks

 Information Attributes

HEALTH ISSUES

A world- wide survey (Reuters, 1996) found that two third of managers suffers from increased tension and one third from ill- health because of information overload. Health problems which may arise on account of information overload are as follows.

 Increased BP

 Low energy Pain in the hands and wrists
 Vivid dreams Back aches and neck aches

 Insomnia Dry eyes or stained vision.

 Confusion and frustration. Impaired judgment based upon overconfidence.

 Decreased benevolence to others due to an environmental input glut.

 Sleep disturbance. Weight gain or weight loss.

 Diminished productivity etc. Severe headaches

- **. Solutions to information overload**

 Filtering

 Be choosy about choosing

 Identify three to five priorities

 Understand the importance

 Put a time limit on information gathering

 Schedule related tasks together

E- WASTE

Electronic waste, popularly known as _e-waste‘ can be defined as electronic equipments or products which have become obsolete due to advancement in technology, changes in fashion, style and status and nearing the end of their useful life.
E wastes create lot of health effects. These electronic equipments are manufactured using numerous toxic contents and harmful components. These substances severely affect humans and environment in general.

- **Impact of e-waste**
  - Environmental impact
  - Economic impact

- **Management of E-waste**
  - Inventory management techniques
  - Production-process modification
  - Volume reduction
  - Recover and reuse
  - Sustainable product design

→ **BASEL CONVENTION**

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, usually known as the Basel Convention, is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs). It does not, however, address the movement of radioactive waste.
The Convention was opened for signature on 22 March 1989, and entered into force on 5 May 1992. As of October 2018, 186 states and the European Union are parties to the Convention. Haiti and the United States have signed the Convention but not ratified it.

- **Green computing**

This term generally related to the use of computing resources in conjunction with minimizing environmental impact, maximizing economic viability and ensuring social duties.
It is — the study and practice of designing, manufacturing, using and disposing computers, serve and associated sub systems- such as monitors, printers, storage devices and networking and communication systems efficiently and effectively with minimal or no impact on the environment.
To comprehensively and effectively address the environmental impacts of computing / IT, we must adopt a holistic approach and make the entire IT Life cycle greener by addressing environmental sustainability along the following four components.
- Green use
- Green disposal
- Green design
- Green manufacturing

- **Benefits of green computing**
  - Environmental sustainability

- Better resource utilization
- Cost saving
- Improved corporate and social image

E-GOVERNANCE

Electronic governance or e-governance is the application of IT for delivering government services, exchange of information, communication transactions, and integration of various stand-alone systems between government to citizen (G2C), government-to-business (G2B), government-to-government (G2G), government-to-employees (G2E) as well as back-office processes and interactions within the entire government framework.

Definition

United Nations (www.unpan.org) definition (AOEMA report): ―E-government is defined as utilizing the Internet and the world-wide-web for delivering government information and services to citizens.‖

- **Stages of E-governance**
  - Computerization
  - Networking
  - Websites
  - On-line interactivity

- **Types of E-governance**

Government to Citizens (G2C)

- Interaction between the government and the citizens.
- This enables citizens to benefit from the efficient delivery of a large range of public services.
- Expands the accessibility and availability of government services and also improves the quality of services
- The primary aim is to make government citizen-friendly

- **Government-to-business (G2B)**
  - It enables the business community to interact with the government by using e-governance tools.
  - The objective is to cut red-tapism which will save time and reduce operational costs. This will also create a more transparent business environment when dealing with the government.
  - The G2B initiatives help in services such as licensing, procurement, permits and revenue collection

- **Government to Government (G2G)**
  - Enables seamless interaction between various government entities.
  - This kind of interaction can be between various departments and agencies within government or between two governments like the union and state governments or between state governments.
  - The primary aim is to increase efficiency, performance and output
- **Government to Employees (G2E)**
  - This kind of interaction is between the government and its employees.
  - ICT tools help in making these interactions fast and efficient and thus increases the satisfaction levels of employees.
- **Advantages of e-Governance**
  - Access to information and quality services for citizens
  - Time saving
  - Cost reduction
  - Transparency
  - Accountability
  - Improved efficiency
  - Extended reach of governance
- **Disadvantages of E-governance**
  - Lack of equality in access to the internet
  - Lack of trust and cyber crime
  - High surveillance
  - False sense of transparency and accountability
  - Costly infrastructure

➞ **E-GOVERNANCE INITIATIVES IN INDIA**

- **1. FRIENDS**

FRIENDS (Fast Reliable Instant Efficient Network for Disbursement of Services) Jan Sevana Kendrams has been designed as a single-window facility where citizens can make government related transactions with ease & comfort and without delay. In FRIENDS bills/dues to government are collected under a common roof. Adopting an easy-to-recall acronym _FRIENDS', the facility is now operational in all the 14 districts of Kerala.

FRIENDS centres are providing service for different departments and agencies like the Motor Vehicle Department, Revenue Department, Civil Supplies Department, KSEB, KWA, Universities, Local Bodies, Electrical Inspectorate and BSNL. Each counter follows a token

management system which eliminates the need for queues and inordinate delays in making remittances. At each centre, there is a special Help-Desk to guide the public who are not well conversant with the payment procedures.

- **2. Bhoomi**

The 'Bhoomi' project was undertaken and developed by the State Government of Karnataka. It was done so in order to computerize all the records of the land in Karnataka. However, the Ministry of Rural Development, Government of India had sponsored the project in togetherness with the State Government of Karnataka.

Features.

 Software for printing land records at any time (i.e. whenever the records needed to be printed) was created

 Online updation of record certificates for farmers.

 Using the software for generation of reports on soil, land-holding size, types of crops grown and many more (to make informed policy decision).

 Bio-Login metrics system (from Compaq): Authentication of users through fingerprints; to avoid imitation of users and hack of the database system

- **3. e-seva(Electronic seva)**

E-seva launched on the 25th of august 2001.It is an improved version of TWINS project launched in 1999, in the twin cities of Hyderabad and Secunderabad in Andhrapradesh

All the services are delivered online to consumers /citizens by connecting them to the respective government departments and providing online information at the point of service delivery.

The project has become very popular among the citizens especially for the payment of utility bills.

- **4. CARD4. CARD (Computer aided administration of registration department)**

CARD in Andhrapradesh is designed to eliminate the maladies affecting the conventional registration system by introducing electronic delivery of all registration services. CARD was initiated to meet objectives to demystify the registration process, bring speed, efficiency, consistency and reliability, substantially improve the citizen interface etc.

- **5. Gyandoot**

Gyandoot is an Intranet-based Government to Citizen (G2C) service delivery initiative. It was initiated in the Dhar district of Madhya Pradesh in January 2000 with the twin objective of providing relevant information to the rural population and acting as an interface between the district administration and the people. The basic idea behind this project was to establish and foster a technologically innovative initiative which is owned and operated by the community itself. Initially, computers were installed in twenty village Panchayat centres and connected to

the District Rural Development Authority in Dhar town. These were called Soochanalayas which were operated by local rural youth selected for this purpose (called Soochaks). No fixed salary or stipend was paid to them.

- **6. Vidhyavahini**

The portal provides the opportunity for schools, teachers and students all across the nation, to express and share their creative and academic potential via the internet. The portal aims at creating such an environment by providing facilities for content development and collaboration. The government‘s initiative to connect 60,000 Indian schools is aimed at providing a thrust to computer-aided learning for rural students.

7.Shiksha

India is a non-profit organization launched in December 2001 to equip schools with the 5 Cs: computers ,connectivity, coaching, content and models of commercial sustainability.

- **8. DRISHTEE-Connecting India village by village**

Drishtee is an India-based business that provides information technology goods and services to rural India through village kiosks that are run and managed by local entrepreneurs. These kiosks are developed using a franchise and partnership model. Some of the services provided by Drishtee include computer education, English courses, rural BPO, government services, health, insurance, e-commerce, microfinance etc. One of Drishtee's primary objectives is to empower rural communities by supporting local entrepreneurship and thus helping to stem the distress migration of people from rural to urban parts of the country.

- 9. **TARAhaat**

Launched in 2000, TARAhaat Information and Marketing Services Ltd. introduced Information Technology (IT) services in rural India. These services include literacy, vocational skills and other products needed in rural communities.TARAhaat.com mother portal, together with franchised networks of local enterprises for connectivity and for delivery of information, goods and srvices.Other services are weather forcast,email service, educational opportunities etc.

- **10. Akshaya**

The Akshaya project, first started in the rural Malappuram district of Kerala, India, and now spread all around the state, was the first district-wide e-literacy project in India and one of the largest known Internet Protocol (IP) based wireless networks in the world. In November 2002, the state government of Kerala put into place a project, piloted in Malappuram, with the goal of at least one person in every family to be computer literate in that district.

- The project provides self-employment to around 3000+ persons and direct employment to about
- 3-5 persons in each of the multipurpose community technology centres called Akshaya e-kendras.

- **11.CONCERT**

Country wide Network of Computerized Enhanced Reservation and Ticketing developed by CRIS is a total networking solution to Indian Railways Passenger Reservation System.

- **12. SAKSHAT**

Initiative to provide solution to educational requirements of students, scholars, teachers and lifelong learners.

MODULE 5

DIGITATAL MARKETING

➞ TRADITIONAL MARKETING

- Traditional marketing refers to any type of marketing that isn't online.
- This means print, broadcast, direct mail, phone, and outdoor advertising like billboards. From newspapers to radio, this method of marketing helps reach targeted audiences.

➞ Limitations of traditional marketing

 Expensive Time consuming Customization

➞ DIGITAL MARKETING

- Digital marketing is the use of the Internet, mobile devices, social media, search engines, and other channels to reach consumers.

- **Principles of digital marketing**

 Immediacy Personalisation Relevance

- **Difference between digital marketing and traditional marketing**

Basis	Traditional marketing	Digital marketing
Interactivity	Less interactivity	High interactivity
Immediacy	Traditional marketing takes more time to go from a concept to finished products.	Digital marketing takes almost instanteous time.it also can get into the customers simultaneously.

Cost	Traditional marketing promotes the products of a brand through ads on paper, billboard, television, radio and more. This marketing strategy spends huge amount to keep the promotion Activities.	Digital market can also carry cost ,but there are numerous online marketing strategies that are virtually free.
Coverage	In traditional marketing, coverage of product will be printed on paper media or aired on television and radio. The exposure to products will be for short duration.	Online coverage will be always there for like forever.it will be archived on the internet and ready to be found easily whenever our customers need it.
Audience	Traditional marketing is more effective for target customers which out of reach of internet.	People who are never without internet in their reach, such as teenagers and businessmen, are easier to reach through digital marketing
tracking	It is difficult to keep track of traditional strategy.	Digital marketing is easy to track.

- **4 P's of digital marketing**
  □ Product □ Price □ Place □ Promotion

- **Product**
  It is an item produced by someone to satisfy the needs of consumers

- **Price**
  It is the amount or net worth which paid by consumer for buying the goods and services.

- **Place**
  It the digital access of location to reach maximum numbers of customers.

- **Promotion**
  It lets the customer know about their product and brand recognition.

→ **Features of digital marketing**

 Branding Completeness Functionality Interactivity Visual communication

 Relevant advertising Community connections

 Virality Measuring output

➞ **Digital marketing channels**

- **Search engine optimisation (SEO**)
  SEO stands for Search Engine Optimization, which is the practice of increasing the quantity and quality of traffic to your website through organic search engine results.

- **Social media marketing(SMM)**
  Social media marketing is the use of social media platforms to connect with your audience to build your brand, increase sales, and drive website traffic.

- **Online paid advertising**
  Online paid advertising ,pay per click advertising (PPC) are online advertising model in which advertisers pay each time a user clicks on one of their online ads.

➞ **Need for digital marketing**

 Provides equal opportunity for every business Wider reach Digital consumer Increase brand reputation Increases revenue Easy to track and monitor marketing campaigns Brand becomes more interactive The cost-effective form of marketing

➞ **Advantages of digital marketing**

 Interactive Anytime ,anywhere Global reach

 Direct exposure Reduced cost Measurability

 Brand engagement Demographic targeting Real-time results

 Meet competition Product information Catch attention

➞ **Disadvantages of digital marketing**

 Dependence of internet cluttering High competition

 Negative approach Harm image Suitable for specific categories of products

 Not always targeted to perspective

➞ **Trends in digital marketing**

 Voice search Smarter chat Micro-moments

 Augmented and virtual reality marketing Live videos-more stories

 AI and machine learning Engagement based email marketing Rich lead profiling

 Browser push notifications Content personalization

➞ Types of Digital marketing

 Content marketing Search engine optimization (SEO) Search engine marketing (SEM)

 Social media marketing (SMM) Pay per click advertising (PPC) Affiliate marketing

 Email marketing Instant messaging marketing

➞ Digital marketing models

1. Business to business (B2B)

Business-to-business (B2B) simply means business-to-business, which is a business model that focuses on selling products and services to other companies.

- **Benefits of B2B Model**

 B2B digital marketing helps to remove barriers raised by geographic fragmentation of the market

 While buyers get to know about new sellers with better products, suppliers discover new buyers

 B2B also helps in eliminating unnecessary inventory build-up for the both buyers and sellers.

 As B2B promotes information flow and enhances transparency, supply chain management becomes possible.

 In addition, both the sellers and sellers enjoy reduced order processing costs and lower cost of interacting with each other.

2. Business to consumer (B2C)

Business to consumer is the type of commerce transaction in which businesses sell products or services to consumers.

- **Benefits of B2B Model**

 Lower marketing costs Lower order processing cost

 Better customer service Lower customer support cost

 Wider markets

3. Consumer to consumer (C2C)

Consumer –to-consumer (C2C) digital marketing consists of individuals using the internet to sell products and services directly to other individuals. An online auction is a very good example of C2C.

Eg: eBay, craigslist.org

4. Business to government (B2G)

Business to government (B2G) is the sale and marketing of goods and services to federal, state, or local agencies.

A website offering business to government services could provide businesses with the following:

 A single place to locate applications and tax forms for one or more levels of government (city, state or local)

 To provide the ability to send in filled out forms and payments

 To update corporate information

 To request answers to specific questions.

5. Business - To –employee (B2E)

Business to employee (B2E) refers to the digital marketing which utilizes the intra business network that allows the companies to render services and also at times products to their own employees. Most of the companies use the business to employee processes to automate the employee related issues for the corporate purpose.

➞ EMERGING BUSINESS MODELS

 Consumer to consumer (C2C) business models

 Peer to Peer (P2P) business models

 3.M-commerce business models

➞ Businesses suited for internet

 Professional services Digit publishing Catalogs

➞ Online advertising

Online advertising, also known as online marketing, Internet advertising, digital advertising or web advertising, is a form of marketing and advertising which uses the Internet to deliver promotional marketing messages to consumers.

➞ Types of online advertising

1. Banner advertisement

This is the classic form of advertising on the net.it traditionally appears as rectangular graphics near the top of the page. Most banner advertisements are a graphic of some type (.gif, .jpg or animated .gif) usually placed at the top, or along the side, of the web page.

- **The important payment models of internet advertising are as follows.**

a) Cost per click (CPC)

b) Cost per impression or cost per thousand impressions

c) CPA (Cost per Action)

d) CPL (Cost per lead)

2. Floating Advertisement

These advertisements appear on the window of the user. These may float or stay on the window for a specified time of 10-30 seconds. Floating ads generally have escape options such as close or exit buttons.

- Floating advertisements are popular for several reasons
  - They take the viewer's attention and cannot be ignored
  - They are animated
  - They have audio/video content like TV advertisements
  - They can take up the entire screen
  - They have high click through rate

3. Interstitials

Interstitial ads are full-screen ads that cover the interface of their host app. They're typically displayed at natural transition points in the flow of an app, such as between activities or during the pause between levels in a game. When an app shows an interstitial ad, the user has the choice to either tap on the ad and continue to its destination or close it and return to the app.

4. Unicast advertisement

A Unicast advertisement is an Internet advertisement that consists of a video played like a TV commercial, usually in a pop-up or pop-under advertisement.

5. Pop –up advertisement

6. Contextual advertisement

Contextual advertising is advertising on a website that is relevant to the page's content. In traditional contextual advertising, automated systems display ads related to the content of your site based on keyword targeting. One of the more well-known examples of contextual advertising is Google AdSense

7. Advertorials

An advertorial is a form of advertisement in a newspaper, magazine or a website which involves giving information about the product in the form of an article.

8. E-zines (electronic magazine)

9. Newsletters

10. Auctions

11. Spam e-mail

12. Targeted email

13. Opt in email

➞ **Benefits of online advertising**

 Global accessibility Rich content Affordability Speed Quick updating

 Provides brand relevant information Easy collection of data Greater flexibility

 Better customer relation Facilitate purchase decisions

➞ **Weakness of online advertising**

 Not a substitute for traditional advertising Unsolicited in nature Less dependable

 Misdirection Emergence of contextual mobile advertisements Cluttered appearance

 Not suitable for all products and service Ad on traditional lines Blocking of Ad

 Mistrust Disabling features

➞ **Measures the effectiveness of online advertising**

 Increased traffic Conversions Engagement Reach

➞ **Search engine analytics**

Search engines have three primary functions

 Crawl Index Rank

➞ **Online market research**

1. Define the problem **2.** Determine research design **3.** Design & prepare research instrument

4. Collect the data **5.** Analyse the data **6.** Visualize data & communicate results

➞ Search engine advertising

Search-engine advertising (SEA) is a branch of online marketing. Advertisements in the form of a text or images are posted on search engines such as Google or Bing. These ads then appear prominently in the search engine result pages (SERPs)

➞ Features of SEA

 Posting ads on search result pages or other websites using methods such as CPC

 Booking ads in the SERPs based on bids on keywords for which the ads are placed

 Good ranking can be achieved through optimisation of text ads and offers

 Clear control of advertisement measures with calculable success

 Means to increase traffic or improve the brand It can be part of remarketing

 Acknowledged as advertising.

➞ Social media channels and advertisements Types of social media

 Social networking Blogs and micro-blogging Visual media sharing Professional networking Reviews and ratings Forums Content Social publishing Social advertising

➞ Need for social media Ads

 Customers are on social media Consumers receptiveness Increase brand recognition

 Increases inbound traffic Help to reach specific audiences Helps to target and retarget ideal consumers Cost effective Improve your search engine rankings Competition is on social media Higher conversion rates

➞ Types of social media Ads

a) Facebook ads

Facebook offer different options for making advertisements

 Photo ads Video ads Stories ads Carousel ads Slideshow ads

 Collection ads Instant experience ads Messenger ads Lead generation ads

 Instagram ads

2. Twitter ads

Twitter ads work towards five different business objectives

 Website click Tweet engagements Followers Awareness

3. Snapchat ads

4. LinkedIn ads

5. YouTube ads 6.Pinterest ads