KEC'S

A COMPLETE TU SOLUTION & PRACTICE SETS

B.Sc. CSIT (VI Semester)

All Subjects

Features

- New Syllabus
- TU Questions-Answers
- Model Questions Sets

FOR 2079

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E-Governance

New Syllabus

Course Title: E-Governance
Course No: CSC366
Nature of the Course:
Semester: VI

Full Marks: 60 + 20 + 20
Pass Marks: 24 + 8 + 8
Theory + Lab **Credit Hrs:** 3

Course Description:

This course familiarizes students with different concepts of E-Government and E-Governance, different E-Governance models and infrastructure development, E-government security, and data warehousing and data mining for e-governance.

Course Objectives:

- To develop knowledge of e-governance and e-government
- To know different e-governance models and infrastructure development
- To implement security and use data warehousing and mining in e-governance

Course Detail:

Unit 1: Introduction to E-Government and E-Governance **(5 Hrs.)**

Difference between E-Government and E-Governance; E-Government as Information System; Benefits of E-Government; E-Government Life Cycle; Online Service Delivery and Electronic Service Delivery; Evolution, Scope and Content of E-Governance; Present Global Trends of Growth in E-Governance

Unit 2: Models of E-Governance **(10 Hrs.)**

Introduction; Model of Digital Governance: Broadcasting / Wider Dissemination Model, Critical Flow Model, Comparative Analysis Model, Mobilization and Lobbying Model, Interactive – Service Model / Government-to-Citizen-to-Government Model (G2C2G); Evolution in E-Governance and Maturity Models: Five Maturity Levels; Characteristics of Maturity Levels; Towards Good Governance through E-Governance Models

Unit 3: E-Government Infrastructure Development **(10 Hrs.)**

Network Infrastructure; Computing Infrastructure; Data centers; E-Government Architecture; Interoperability Framework; Cloud Governance; E-readiness; Data System Infrastructure; Legal Infrastructural Preparedness; Institutional Infrastructural Preparedness; Human Infrastructural Preparedness; Technological Infrastructural Preparedness

Unit 4: Security for e-Government **(5 Hrs.)**

Challenges and Approach of E-government Security; Security Management Model; E-Government Security Architecture; Security Standards

Unit 5: Applications of Data Warehousing and Data Mining in Government **(5 Hrs.)**

Introduction; National Data Warehouses: Census Data, Prices of Essential Commodities; Other Areas for Data Warehousing and Data Mining: Agriculture, Rural Development, Health, Planning, Education, Commerce and Trade, Other Sectors

Unit 6: Case Studies **(10 Hrs.)**

E-Government Initiatives in Nepal, Cyber Laws, Implementation in the Land Reform, Human Resource Management Software, NICNET, Collectorate, Computer-aided Administration of Registration Department (CARD), Smart Nagarpalika, National Reservoir Level and 76

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Capacity Monitoring System, Computerization in Andra Pradesh, Ekal Seva Kendra, Sachivalaya Vahini, Bhoomi, IT in Judiciary, E-Khazana , DGFT, PRAJA, E-Seva, E-Panchyat, General Information Services of National Informatics, Centre E-Governance initiative in USA, E-Governance in China, E-Governance in Brazil and Sri Lanka

Laboratory Work:

The laboratory work includes implementing e-governance models and systems using suitable platform.

Text/Reference books:

1. Richard Heeks, Implementing and managing e-Government
2. C.S. R Prabhu, e-Governance: Concepts and Case studies, prentice hall of India Pvt. Ltd.
3. J. Satyanarayana, e-Government, , prentice hall of India Pvt. Ltd
4. Backus, Michiel, e-Governance in Developing Countries, IICD Research Brief, No. 1, March 2001

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E-Governance

Course Title: Introduction to Information Technology
Course No: CSC366
Nature of the Course: Theory + Lab
Semester: VI

Full Marks: 60 + 20 + 2
Pass Marks: 24 + 8 +
Credit Hrs:

MODEL QUESTIONS-ANSWERS: SET I

LONG QUESTION

Attempt any TWO questions: **(2×10 = 20)**

1. What is Security Management Model? Explain various Security Management Models in detail.

Ans: A security management model is meant to be a generic description of what an organization should do to provide a secure environment for itself. It is generic in that it describes what should be done, but not how to do it, which makes it flexible enough to be used by many kinds of organizations. You should choose a model for your organization to follow that is "flexible, scalable, robust, and sufficiently detailed".

A) Access Control Models

Access controls regulate the admission of users into trusted areas of the organization—both the logical access to the information systems, or the physical access to the organization's facilities

Access control is maintained by means of a collection of policies, programs to carry out those policies, and technologies that enforce policies

The general application of access control comprises four processes:

- obtaining the identity of the entity requesting access to a logical or physical area (identification)
- confirming the identity of the entity seeking access to a logical or physical area (authentication)
- determining which actions an authenticated entity can perform in that physical or logical area (authorization)
- and finally, documenting the activities of the authorized individual and systems (accountability)

Categories of Access Controls

- Directive—Employs administrative controls such as policy and training designed to proscribe certain user behavior in the organization
- Deterrent: Discourages or deters an incipient incident
- Preventative: Helps an organization avoid an incident
- Detective: Detects or identifies an incident or threat when it occurs
- Corrective: Remedies a circumstance or mitigates damage done during an incident
- Recovery: Restores operating conditions back to normal
- Compensating: Resolves shortcomings

B) Security Architecture Models

- Illustrate InfoSec implementations
- Can help organizations quickly make improvements through adaptation
- Some models are implemented into computer hardware and software

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- Some are policies and practices
- Some are implemented in both
- Some models focus on the confidentiality of information, while others focus on the integrity of the information as it is being processed

Trusted Computing Base

- Trusted Computer System Evaluation Criteria (TCSEC)
- U.S. Government Department of Defense standard that defines criteria for assessing access controls in a computer system
- The combination of all hardware, firmware, and software responsible for enforcing the security policy
- In this context, security policy refers to the rules of configuration for a system, rather than a managerial guidance document
- Made up of the hardware and software that has been implemented to provide security for a particular information system

Reference monitor

- The piece of the system that manages access controls
- It mediates all access to objects by subjects
- Systems administrators must be able to audit or periodically review the reference monitor to ensure it is functioning effectively, without unauthorized modification

Covert channels

- Unauthorized or unintended methods of communications hidden inside a computer system
- Types of covert channelsStorage channels, which communicate by modifying a stored object
- Timing channels, which transmit information by managing the relative timing of events
- Bell-LaPada Confidentiality Model

C) Bell-LaPadula

- The *Bell-LaPadula* state machine model enforces confidentiality. The Bell-LaPadula model uses mandatory access control to enforce the DoD multilevel security policy. For a subject to access information, he must have a clear need to know and meet or exceed the information's classification level.

The Bell-LaPadula model is defined by the following properties:

- Simple security property (ss property)—This property states that a subject at one level of confidentiality is not allowed to read information at a higher level of confidentiality. This is sometimes referred to as "no read up."
- Star * security property—This property states that a subject at one level of confidentiality is not allowed to write information to a lower level of confidentiality. This is also known as "no write down."
- Strong star * property—This property states that a subject cannot read/write to object of higher/lower sensitivity.

D) Biba Integrity Model

The *Biba model* was the first model developed to address the concerns of integrity. Originally published in 1977, this lattice-based model has the following defining properties:

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- Simple integrity property – This property states that a subject at one level of integrity is not permitted to read an object of lower integrity.
- **Star * integrity property:** This property states that an object at one level of integrity is not permitted to write to an object of higher integrity.
- **Invocation property:** This property prohibits a subject at one level of integrity from invoking a subject at a higher level of integrity.

E) Clark-Wilson Integrity Model

The *Clark-Wilson* model was created in 1987. It differs from previous models because it was developed with the intention to be used for commercial activities. This model addresses all the goals of integrity. Clark Wilson dictates that the separation of duties must be enforced, subjects must access data through an application, and auditing is required. Some terms associated with Clark Wilson include

- User
- Transformation procedure
- Unconstrained data item
- Constrained data item
- Integrity verification procedure

Clark-Wilson features an access control triple. The access control triple is composed of the user, transformational procedure, and the constrained data item. It was designed to protect integrity and prevent fraud. Authorized users cannot change data in an inappropriate way. It also differs from the Biba model in that subjects are restricted. This means a subject at one level of access can read one set of data, whereas a subject at another level of access has access to a different set of data. Clark-Wilson controls the way in which subjects access objects so that the internal consistency of the system can be ensured and that data can be manipulated only in ways that protect consistency. Integrity verification procedures (IVPs) ensure that a data item is in a valid state. Data cannot be tampered with while being changed and the integrity of the data must be consistent. Clark-Wilson requires that all changes must be logged. Clark-Wilson is made up of transformation procedures (TP). Constrained data items (CDI) are data for which integrity must be preserved. Items not covered under the model are considered unconstrained data items (UDIs).

F) Take-Grant Model

- The *Take-Grant* model is another confidentiality-based model that supports four basic operations: take, grant, create, and revoke. This model allows subjects with the take right to remove take rights from other subjects. Subjects possessing the grant right can grant this right to other subjects. The create and revoke operations work in the same manner: Someone with the create right can give the create right to others and those with the revoke right can remove that right from others.

G) Brewer and Nash Model

- The *Brewer and Nash* model is similar to the Bell-LaPadula model and is also called the *Chinese Wall model*. It was developed to prevent conflict of interest (COI) problems. As an example, imagine that your security firm does security work for many large firms. If one of your

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employees could access information about all the firms that your company has worked for, he might be able to use this data in an unauthorized way. Therefore, the Chinese Wall model is more context oriented in that it prevents a worker consulting for one firm from accessing data belonging to another, thereby preventing any COI.

2. **Discuss broadcasting/wider dissemination model and comparative analysis model of e-governance along with applications.**

Ans: Broadcasting/wider dissemination model

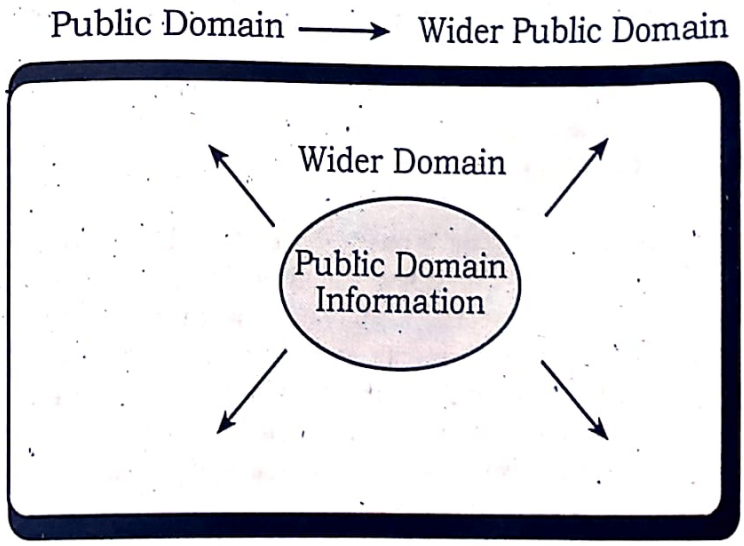
Principle

Broadcasting model is based on mass dissemination of governance-related information which is already available in the public domain into the wider public domain using ICTs. This raises awareness among the citizens about ongoing governance processes and government services that are available to them and how they can benefit from them.

It allows citizens to form an opinion of the government and its administration based on services delivered to them - whether the government services were available to them, and the quality of service received. This could be judged in terms of time spent, number of visits required. and level of bureaucracy encountered to avail the services. Equipped with this information, the citizens can feel more empowered to voice their concerns and influence governance processes to make them more efficient.

The application of this model using appropriate technologies, could reduce the "information failure situations" where citizens are unaware of new and existing services being provided by the government. It can also provide as alternative channel to people to stay updated of governance related information and to validate information received from other sources.

Broadcasting/Wider Disseminating Model



Applications

1. Putting government laws and legislation online.
2. Making available the names, contact addresses, emails, and fax no's of local government officials online.

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3. Making available key information pertaining to governmental plans, budgets, expenditures, and performances online.
4. Putting key quote judgement/judicial statement that are of value to common citizens and creating our precedence for future actions online, viz. Key environment related judgements, state v/s citizen court rulings, etc.

Some Organizations / Projects based on such models

- **India:** Directory of Official Websites of Government of India
  National Informatics Centre (India) is the official website of the Government of India which makes available Ministerial Information, Indian Laws and Legislations Online, Contact Details etc. online for public access.
  http://goidirectory.nic.in/exe.htm#min (Parent Website : http://www.nic.in)
- **Brazil:** Official government website
  The website provides comprehensive information on Brazilian government as well as links to integrated citizen services.
  http://www.brazil.gov.br
- **South Africa: The PIMS Monitor**
  Idasa's Political Information and Monitoring Service (PIMS) providing an easy-to-use reference and record (with plain-language summaries) of all bills, acts and policy documents that pass through parliament. The Monitor aims to help audience engage with democracy, intervene in the legislative process and make submissions to parliament in South Africa.
  http://www.pims.org.za/monitor/
- **Global:** Earth Negotiations Bulletin
  A reporting service which keeps informed citizens worldwide about global environmental negotiations, processes and decisions. It has a great value for citizens and even government officials in developing countries to keep track of global negotiations taking place in the West and be more informed about them.
  http://www.iisd.ca/voltoc.html (Parent Website : http://www.iisd.ca)

Comparative Analysis Model

Principle

Comparative Analysis Model is one of the least-used but a high potential e-governance model for developing countries. The model can be used to empower people by comparing cases of bad governance with those of good governance and identifying specific aspects of bad governance, the reasons and people behind them; and how the situation can be improved.

The model is based on using immense capacity of ICT and social media tools to explore given information sets with comparable information available in the public or private domain. For instance, if a given amount of money can build 5 primary schools in District 'A' in a country, then why does the same amount of money build only 2 schools in District 'B'? Could this be because of corruption of officials and contractors involved, or siphoning of money for other things? The outcomes are strategic learnings and empowerment,

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and can lay the basis for possible action, eg: filing of right to information (RTI) to find where the money went.

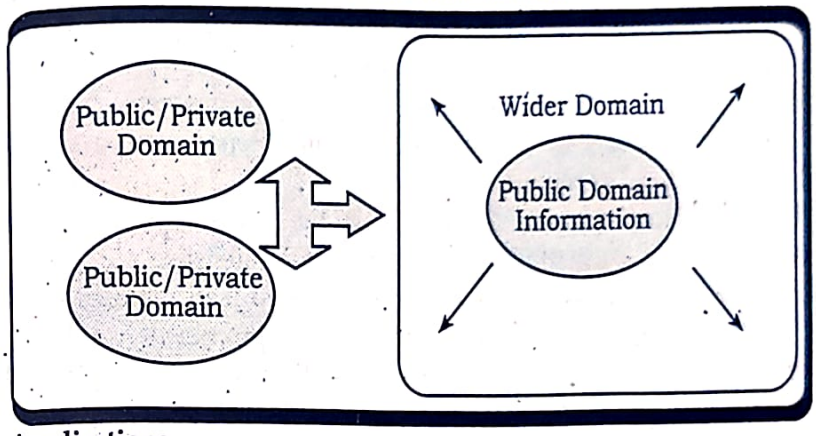
Essentially, the model continuously assimilates "best practices" in different areas of governance and uses them as benchmark to evaluate other governance practices. It then uses the result to advocate positive changes or to influence 'public' opinion on existing governance practices. The comparison could be made over a time scale to get a snapshot of the past and the present situation or could be used to compare the effectiveness of an intervention by comparing two similar situations.

The strength of this model lies in the infinite capacity of digital networks to store varied information and retrieve and transmit it instantly across all geographical and hierarchical barriers.

Comparative Analysis Model

Private/Public Domain + Public/Private Domain

⟶ Wider Public Domain



Applications

- To learn from past policies and actions and derive learning lessons for future policy-making.
- To evaluate the effectiveness of the current policies and identify key learnings in terms of strengths and flaws in the policies.
- To effectively establish conditions of Precedence, especially in the case of Judicial or legal decision-making (example for resolving patent-related disputes, public goods ownership rights), and use it to influence/ advocate future decision-making.
- To enable informed decision-making at all levels by enhancing the background knowledge and also providing a rationale for action.
- To evaluate the performance and track-record of a particular decision-maker/ decision-making body.

Examples

- **Global:** Human Development Indicators
  http://hdr.undp.org/en/statistics/
  The Human Development Report of UNDP makes use of archived Statistical information pertaining to literacy, health, national income etc. as a benchmark to assess the progress made by different countries with regards to their Human Development Index and suggests policy recommendations based on that.
  Many countries now also prepare national level indicators to compare progress made in different states in a country.

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- **India:** Comparative Learning from Disasters
  http://www.cddc.vt.edu/digitalgov/Latur-Gujarat.htm
  In the wake of earthquake in Kutch in India (January 2001), there was a lot of comparative learning relating to disaster management drawn from a high intensity earthquake which shook Latur in India in 1993. The extensive information available on internet on both these earthquakes open up vast scope of comparison by all segments of the society.

3. **Explain Interoperability Framework in E governance with Interoperability framework and influencing factor.**

Ans: Interoperability Framework is Set of standards and guidelines which describe the way in which organizations have agreed, or should agree, to interact with each other.

E Government Interoperability Framework (eGIF) is a set of guidelines and standards to be followed by public sector information systems and processes, in order to achieve technical, organizational and semantic interoperability during service provision.

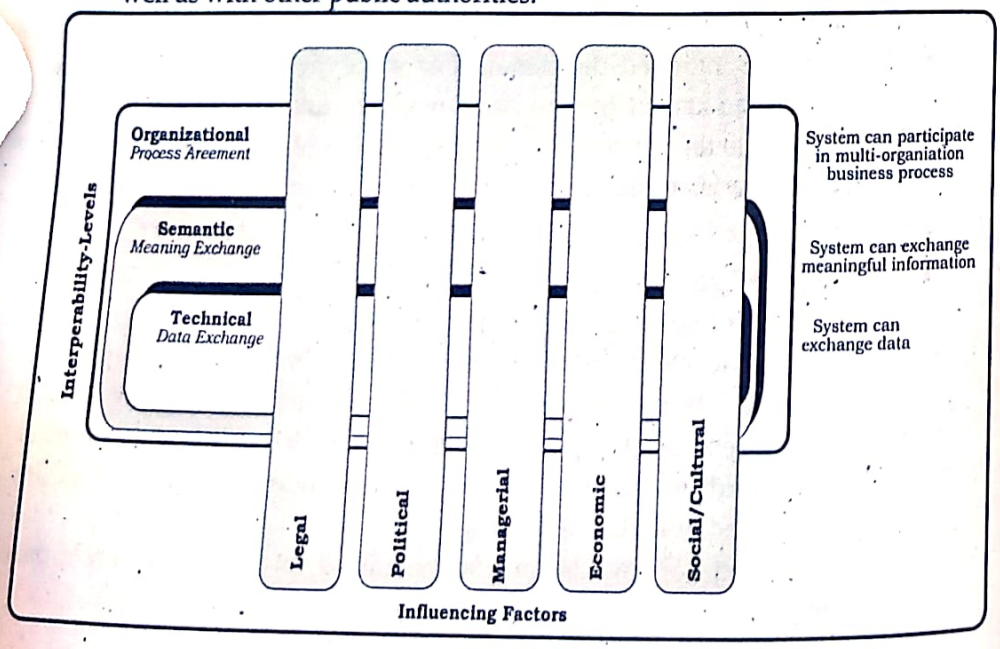
IFs are seen by governments as promising instruments to boost the interoperability of their services and systems. Henceforth, many countries have created and published their Ifs.

The e-GIF, launched in September 2000 in the United Kingdom by Minister Ian McCartney, is usually considered the first IF published.

Since then, many other countries have published their national IFs, due to financial and political pressures set by prominent and powerful organizations and institutions such as the European Commission, United Nations, and the World Bank.

An IF is "a strategic document containing specifications and standards to be followed in order to ensure interoperability among public administrations and their beneficiaries (citizens, businesses, other public administrations)".

It "specifies a set of common elements such as , concepts, principles, policies, guidelines, recommendations, standards, specifications and practices", which provide guidance to practitioners about what to consider and do in order to enable seamless interaction within their public administration as well as with other public authorities.



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Levels of Interoperability

- The interoperability levels related to the sharing of information in IFEG are mainly classified into:
- Organizational Interoperability (like process-re-engineering including Government-Orders, Process Changes, Organizational Structures),
- Semantic Interoperability (Enabling data to be interpreted & processed with the same meaning, etc.) and
- Technical Interoperability (like technical issues in interconnecting ICT systems and services, information storage and archival, protocols for information exchange and networking, security, etc.); in general, technical interoperability was considered for classifying the standards into various layers or domains (eg. Presentation domain, Network domain, Data Interchange domain, etc.) in earlier versions of IFEG/GIF documents from various countries.
- Figure provides an overall view of the levels of the interoperability system. This helps to define the way in which applications and re-usable services will be developed and their interaction with other ICT systems.
- As indicated in the Figure, Organizational Interoperability is supported by Semantic Interoperability, which in turn is supported by Technical Interoperability. Hence Technical Interoperability forms the basis for the IFEG. Governance facilitates and enforces the implementation of IFEG.

The Multilateral mechanism for IFEG is influenced by the following key sub-areas:

- **Political:** For strategy related issues. In Political context, support and commitment from authority, provisioning of policies / guidelines, strategies over different levels of interoperability are expected.
- **Legal:** For issues like IPR / Copy Right, content regulation, privacy, freedom of information, electronic identities, etc; these are context-sensitive. Legal factors include legal-power assigned to system for data protection and privacy information of the citizen, governance issues related to information management, executive orders and laws related to e-Governance services, citizen services driven by administrative procedures, enforcement, etc.
- **Managerial:** For issues like training, motivation, reorientation of concerned staff from public agencies.
- **Economic:** For funding related issues.
- **Social/Cultural:** For social/cultural characteristics of system stakeholders. Social / Cultural factors like differences in culture, working practices, issues of trust, timings, social exclusion issues have more influence.

Group B (Short question)

Attempt all the questions **(8 × 5 = 40)**

4. **Define E readiness. Explain in brief about Institutional infrastructural prerequisite of e readiness.**

Ans: E-readiness (electronic readiness) is defined as a degree to which to a country or economy may be ready, willing or prepared to obtain benefits which arise from information and communication technologies. This

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measure is often used to gauge "how ready a country is to participate in electronic activities such as e-governance". E-readiness also defined as "The degree to which a community is prepared to participate in the Networked World, which is gauged by accessing a community's relative advancement in the area that are most critical for ICT adoption and the most important of ICTs".

Institutional Infrastructure

- For any government to implement a successful e-governance project, the required institutional infrastructure must be in place which most of the government lack.
- The government body has to establish a separate IT department which basically coordinates with facilitators for e-government projects within the nation.
- The IT department works out for the hardware selection and procurement, network or software development and implementation and also the training of staff at various levels of the government.
- Many countries still lack the institutional infrastructure.

5. Explain the need of e governance with context to reference of Nepal.

Ans: E-governance is a fundamental and important aspect in developing country like ours. The main motive of E governance is to provide SMART government to the citizens of country. The main difficulty faced by peoples while dealing with government work is the delay and the problem created by the middleman. Hence to minimize the interruption of middleman and make it easy for people to get all the services provided by the government. E governance is needed or important for various reasons some of them mentioned below:

- Information delivery is greatly simplified for citizens and businesses.
- It gives varied departments' information to the public and helps in decision making.
- It ensures citizen participation at all levels of governance.
- It leads to automated services so that all works of public welfare is available to all citizens.
- It revolutionizes the functions of the government and ensures transparency.
- Each department and its actions is closely monitored.
- Public can get their work smartly done and save their time.
- It provides better services to citizens and brings government close to public. Public can be in touch with the government agency.
- It cuts middlemen and bribery if any from the picture.

6. Discuss the use of data warehousing and data mining in census and prices of essential commodities.

Ans: **Census Data**

The register general and census commissions of India decennially compiles information of all individuals, villages, population groups etc. This information is wide ranging such as the individual slip, a compilation of information individual households of which a data base of 5%.-Sample is maintain for analysis. Data mining can be performed for analysis and knowledge discovery. A village level data base was originally develop by national informatics center at Hyderabad under general information services terminal of national informatics center (GISTNIC) for the 1999 census.

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Primary census abstract and village amenities. Subsequently a data ware house was also developed for village amenities for Tamil Nadu. This enables multi-dimensional analysis of the village level data in such as education, Health and infrastructure. As the census compilation is performed once in ten years, the data is quasi- static and therefore no refreshing of the ware house needs to be done on a periodic basis. Only the new data needs to be either appended to the data warehouse or alternative a new data warehouse can be built.

Prices of Essential Commodities

The ministry of food and civil supplies, government of India , compiles daily data for about 300 observation centers in the entire country on the prices of essential commodities such as rice , edible oils etc. The data is compiled at the district level by the respective state government agencies and transmitted online on Delhi for aggregation and storage.

A data warehouse can be built for this data and OLAP technique can be applied for its analysis. A data mining and forecasting technique can be applied for advance forecasting of the actual prices of these essential commodities. The forecasting model can be strengthened for more accurate forecasting by taking into account the external factors such as rain fall, growth rate of population and inflation.

7. **Explain Government-to-Citizen-to-Government Model (G2C2G) in E governance.**

Ans: Interactive-Service Model in many ways is a consolidation of the earlier digital governance models and opens up avenues for direct participation of individuals in the governance processes. This model fully captures the potential of ICT and leverages it for greater participation, efficiency and transparency in the functioning of government as well as savings in time and costs relating to decision making. The Interactive-Service Model makes possible various services offered by the government to be directly accessible to citizens. It creates an interactive government to consumer to government (G2C2G) channel in various functions such as election of government officials (E-ballots), filing of tax returns, procurement of government services, sharing of concerns and providing expertise, conducting opinion polls on public issues, and grievance redressal.

Applications

- To establish an interactive communication channels with key policy-makers and members of planning commissions.
- To conduct electronic ballots for the election of government officials and other office bearers.
- To conduct public debates / opinion polls on issues of wider concern before formulation of policies and legislative frameworks.
- Filing of grievances, feedback and reports by citizens with the concerned governmental body.
- Establishing decentralised forms of governance.
- Performing governance functions online such as revenue collection, filing of taxes, governmental procurement, payment transfer etc.

8. **What is Cloud Governance? Explain with proper diagram.**

Ans: ▪ Cloud governance is a framework to govern the use of cloud services, not block them from using these services. A cloud governance

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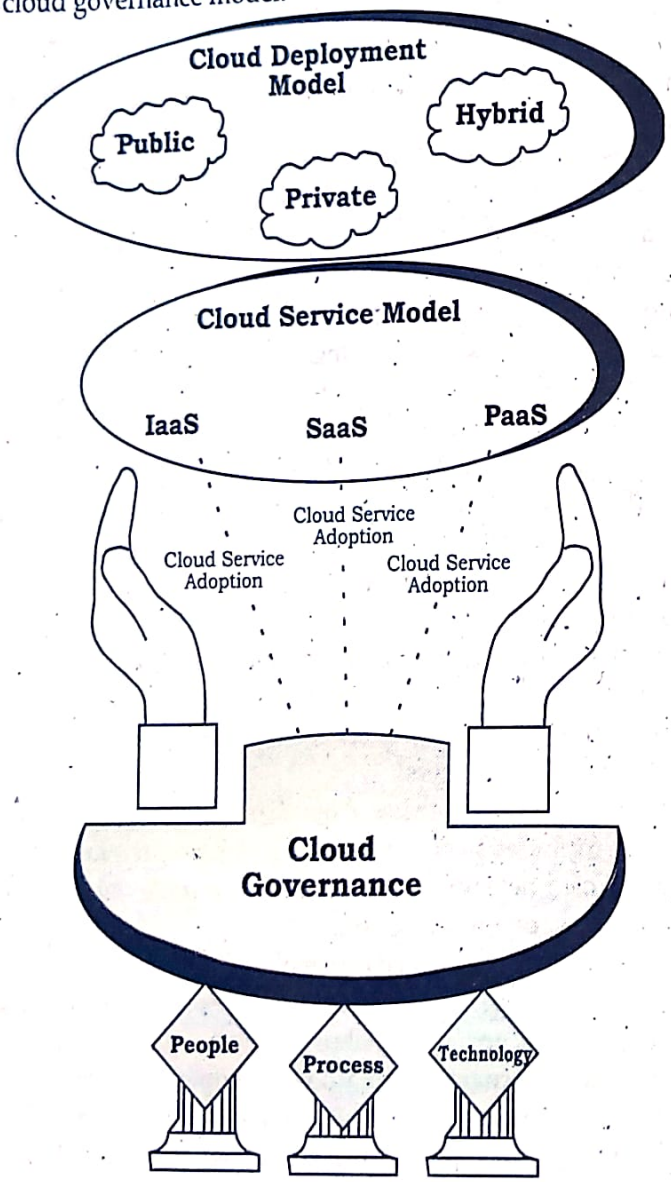
framework encompasses people, processes, and technology while ensuring security, cost management, and deployment acceleration. It helps in regulating and controlling the use of cloud services by defining process, standards, and policies to be followed in planning, on-boarding, operating and managing cloud services. Cloud governance is a carefully designed set of rules and protocols put in place by businesses that operate in a cloud environment to enhance data security, manage risks, and keep things running smoothly.

- Cloud governance ensures that everything from asset deployment to systems interactions to data security is properly considered, examined, and managed.
- The shift from on-premise IT infrastructures to a cloud environment adds layers of complexity to your system architecture[19].
- It also means that more people across your organization have the potential to impact that architecture.
- This is why it's critical to develop and maintain a comprehensive cloud governance model.



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- Designing and implementing a best-in-class cloud governance framework takes time and effort.
- It's not something that can be pulled together in an afternoon, and you'll need to collaborate across teams to ensure that the final product is complete and actionable.
- But it's worth it. When developed properly, your cloud governance framework will return immediate and long-term benefits.

9. What are the Five Maturity Levels of E governance? Expain.

Ans: The Five Maturity Levels of e-Governance is based on fact that speed, openness and ubiquity are some major capabilities of ICT. The maturity levels, described below provide a necessary mechanism to benchmark the efforts invested by an organization in implementing e-Governance.

Level 1- Closed

Here an organization does not use ICT as a facilitator for good governance and has no plans to do so in the near future.

- Such situation may arise due to lack of exposure to ICTs and associated benefits that again may depend upon a number of reasons: remoteness, lack of resources and strategic thinking.
- As a result the organization is closed in terms of being connected and sharing of information in the context of "E-governance".
- However, even in this condition the organization may be efficiently functioning.

Level 2- Initial

In this stage, top management knows ICT, its applications and benefits for organizations. No organized efforts have been attempted to undertake the eGovernment initiation. Efforts usually are experimental and with lack of direction. In the end of this stage, it's expected to that the necessity of eGovernment is realized. Main criteria of this stage are: degree of ICT knowledge in organization, perception of eGovernment advantages and disadvantages, administrative efforts, and productivity evaluation of efforts.

Level 3- Planned

This stage starts with systematic approach. With respect to strategic approach, information technology strategic plan is formulated in this stage. Need assessments are made to prioritize the areas of implementation and measure the extent of e-readiness. Taking necessary input from need assessment study, extensive planning has been carried out indicating policies, strategies, various activities, stakeholders, roles and responsibilities and resources required in terms of time, money and manpower to undertake the e-governance exercise. Main criteria of this stage are: vision definition, need assessment, eGovernment plan, and documentation.

Level 4- Realized

After strategy formulation in the last stage, we will have implementation and assessment in this stage. So, according to strategies, action plan with budget and time will be defined. Then required actions are implemented and finally their results would be measured and controlled. Gap analysis is a good methodology for assessing results.

a) **Retrospected**

- Business processes are attuned with the vision and overall e-governance objectives.

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- There is awareness about e-governance among all concerned, the stakeholders as well as the customers/users.

b) **E-ready**

- The organization has a sound infrastructure (technological, institutional, legal, and human) in place, for implementing e-governance.
- The customers/users are oriented and motivated to use e-governance services.

c) **Partially open**

- Some of the e-governance services are deployed, leading to partial information exchange among the entities.
- Partially open organizations sometimes focus only on their internal or backend processes, allowing an information exchange within the confines of the organization thus remaining insulated from its external entities. In such cases, Government-to-Employee (G2E) interface is visible, whereas Government-to-Citizen (G2C), Government-to-Government (G2G) and Government-to-Business (G2B) interfaces are not yet established.
- Another case of partial deployment of e-governance services result in a conspicuous G2C interface with no emphasis on building G2E, G2B, or G2E interfaces. In an enthusiasm to quickly open up its front-end, the organization negligibly focuses on computerization of the supporting backend processes, thus creating hollowness behind the face of static web sites.
- A hybrid of the above two cases is characterized by building interfaces with external entities and simultaneously focusing on computerizing the corresponding backend processes, thus opening a balanced information exchange among the internal as well as the external customers of the organization.

d) **Open**

- The organization has an integrated system, reflective of smooth information exchange within and outside the organization, i.e. Government-to-Employee (G2E), Government-to-Citizen (G2C), Government-to-Government (G2G) and Government-to-Business (G2B) interfaces are well established over a sound foundation of e-governance building blocks (the e-readiness essentials).
- Organization focuses on satisfying the users of e-governance services.

Level 5: Institutionalized The e-governance system of the organization is driven by a well established Knowledge Management System that generates an ability in the organization to evolve with time in view of new requirements. E-governance becomes an effortless exercise for the organization and it becomes a way of life for the stakeholders and customers/users. The organization at this level is completely paperless.

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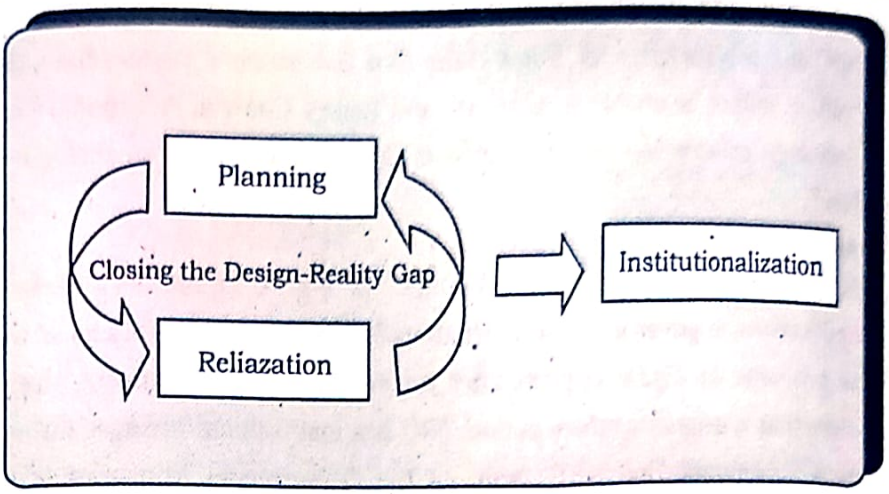

Fig: Reaching the Institutionalizes Stage

10. Define Security Standards. What is the need of Security Standards?

Ans: Security Standard represents a set of requirements that a product or a system must achieve. Assuming the conformity of a product or system with a certain standard demonstrates that it fulfills all the standard's specifications. There are currently some primary standards in place governing information security.

Need of Security Standard

The use of standards is unanimously accepted and gives the possibility of comparing a personal security system with a given frame of reference adopted at an international level. A good example is the ISO 9000 set of standards regarding the quality management system, which is a common reference regardless of the industry in which a certain company activates. Standards ensure desirable characteristics of products and services such as quality, safety, reliability, efficiency and interchangeability - and at an economical cost. We need information security standards in order to implement information security controls to meet an organizations requirements as well as a set of controls for business relationships with other organizations and the most effective way to do this is to have a common standard on best practice for information security management such as ISO/IEC 17799:2005. Organizations can then benefit from common best practice at an international level, and can prove the protection of their business processes and activities in order to satisfy business needs.

11. Explain NICNET.

Ans: The NIC was established in 1976 under the aegis of the Ministry of Electronics and Information Technology. The NIC is credited with helping the Indian government embrace IT in the 1990s and has also helped disseminate e-governance to the masses. It had an annual budget of $11.5 billion (US$160 million) for the year 2018-19.

In May 2019, the government of India set up the Centre for Smart Governance (CSG), and state governments have since been advised to

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consult the CSG for IT projects they previously would have consulted the NIC and private firms for. Some claim that government sources have said "NIC is said to be unable to scale up", and Rajeev Chawla, Additional Chief Secretary (e-Governance), was quoted as saying "CSG will be an analogue to NIC"

Achievements

NIC has emerged as a "prime builder" of e-government/e-Governance applications in government sector (national, state and local districts) as well as promoter of digital opportunities for sustainable development, during more than a quarter century period. NIC has institutional linkages through its ICT Network "NICNET", with all the Departments/Ministries of the Central Government, 28 State Governments, 1 National Capital Territory of Delhi, 6 Union Territories, and about 600 District administrations of India. NIC has been instrumental in steering e-Government/e-Governance applications in Government Ministries/Departments at Centre, States, District and Blocks, facilitating improvement in government services, wider transparency, promoting decentralized planning and management, resulting in better efficiency and accountability to people.

NIC has been involved implementing "eGovernance agenda" of the Central Government with respect to:

- Internet/Intranet Infrastructure (PCs, Office productivity tools, Portals on Business allocation) upto Section officers levels;
- IT empowerment of Officers/Officials & Capacity Building
- ICT Enabled Services (G2G, G2E, G2C and G2B)
- ICT Plans for Sectoral Informatics Development;
- Business Process Re-Engineering
- Services profiles, among the others, include:
- Network services (WAN, MAN, LAN)
- Capacity Building through Human Resources Development of Government Employees;
- Datamining and data warehousing
- Total ICT Solutions
- Video Conferencing & web services
- Certification Authority and PKI Services
- Domain (gov.in) Registrar
- Computer Emergency Response Team (CERT) Services
- National Disaster Recovery Centre
- Geomatics & Informatics design and development for decision support
- Sectoral ICT Plan formulation
- ICT projects consultancy

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Strengths of NIC

- Domain expertise in various sectors of Government Business Allocation (Social Sectors, Economic Sectors, and Accounting and Treasuries, etc);
- Development Expertise & Experience in Systems Development Life Cycle (SDLC);
- Expertise & Experience in Networking, Software Technology and Hardware technology;
- Web sites development and hosting with expertise in developing dynamic sites;
- Email and Internet services using NICNET;
- Imparting training in 'standard tools', computer awareness and application systems;
- Handholding support during implementation;
- District Centers providing state-wide and nation-wide support for application systems;
- "NIC is, perhaps, the only S&T organization which has the infrastructures to perform the functions of four different service providers envisaged in the Convergence Communication Bill 2000, namely:
- Network Infrastructure Facility Provider (NIFP)
- Network Services Provider (NSP)
- Application Service Provider (ASP)
- Content ASP"

In this case study we have studied about history of NICNET and how VSAT was established and its application. NICNET was upgraded to meet the present day requirements of the governmental various levels. Also we studied about achievement and strength of NICNET.

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MODEL QUESTIONS-ANSWERS: SET II

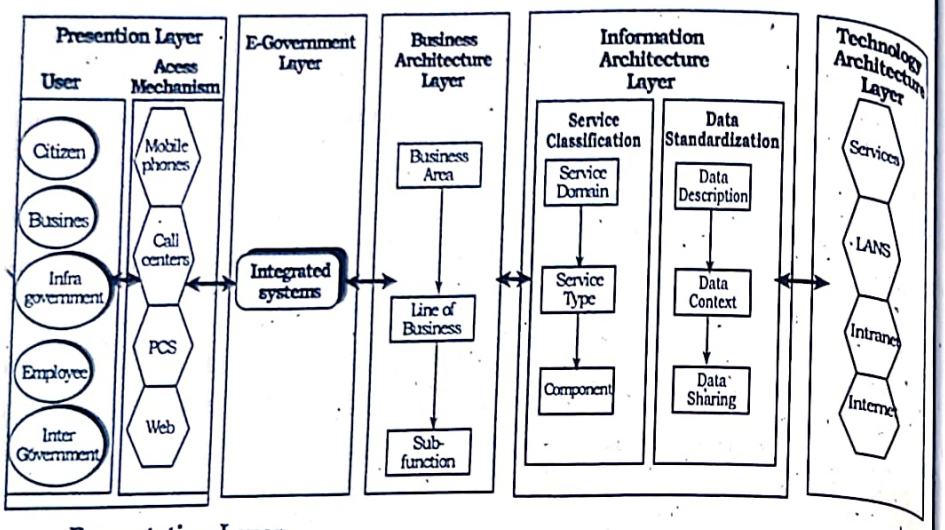
Course Title: Introduction to Information Technology — Full Marks: 60 + 20 + 20
Course No: CSC366 — Pass Marks: 24 + 8 + 8
Nature of the Course: Theory + Lab — Credit Hrs: 3
Semester: VI

LONG QUESTION

Attempt any TWO questions: **(2×10 = 20)**

1. Explain E-Government Architecture with proper diagram.

Ans:



Presentation Layer

- The presentation layer identifies and describes: the system users, who require access to government information and the channels through which information can be accessed.
- During system development, one is required to explicitly identify the government user, the system is intended to serve and also the means through which this information is to be accessed, so that the system can be adjusted to meet these requirements.
- It manages the user's interface with the system.
- If a project is to be successful, different stakeholders need to be identified in the beginning, involved in the initial stages, and kept involved throughout development and implementation.

E-Government Layer

- E-government public services utilize very specialized applications those are only available to certain agencies and not all agencies participating in the consortium (association).
- The main goal of e-government layer is to achieve a government that;
- does not ask for information it already has
- Is focused on better services towards counties and national governments
- Will not allow its facilities to be misused
- Is well informed
- Is efficiently organized and in control of its internal affairs.

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Business Architecture Layer

- The first-step toward a successful e-governance initiative is process re-engineering.
- For E-governance to succeed, it is imperative that processes are simplified and understood by all stakeholders.
- The business layer provides a functional rather than organizational view of the government's lines of business; including its internal operations and services for citizens, independent of the agencies, bureaus and offices performing them.
- The business layer describes the government around common business, thus promotes agency collaboration and serves as the underlying foundation for government process redesign and e-government strategies.
- Also, analysis of processes that might be affected or need to be integrated with systems for efficient delivery of services, thus in this layer it not only touches organizational interoperability but also insight to technical.

Information Architecture Layer

- This layer can be divided into two sub-layers:
- Service classification sub-layer;
- The service classification sub-layer classifies service components according to how they support business and performance objectives e.g. ERPS, CRMs.
- It serves to identify and classify horizontal (for mass market solution) and vertical(to a particular group) service components supporting government and their IT investments and assets.
- It is organized across horizontal service areas independent of the business functions, providing a leverage able foundation for reuse of applications, application capabilities and business services.

Data Standardization Sub-layer

- The data standardization sub-layer is flexible and standard based to enable information sharing and reuse across the government via the standard description and discovery of common data and the promotion of uniform data management practices.
- It provides a standard means by which data may be described, categorized and shared. These are reflected within each of the three standardized areas;

Data descriptions

- Data descriptions, provides a means to uniformly describe data, thereby supporting its discovery and sharing.

Data context

- Discovery of data through an approach to the categorization of data according to taxonomies.

Data sharing

- Data sharing, supports the access and exchange of data; where access consists of ad hoc requests (such as a query of data access asset) and exchange consists of fixed; recurring transactions between parties, enabled by capabilities provided by both the data context and data description standardization areas.

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Technology Architecture Layer

- The technology architecture layer categorizes the standards and technologies that support and enable the delivery of service components and capabilities.
- It also unifies existing agency technologies and e-government guidance by providing a foundation to advance the reuse and standardization of technology and service components from a government wide perspective.

2. What are the various phases of E-Government Life Cycle. Explain.

Ans: E-Government development project typically consists of five stages; (1) project assessment, (2) analysis of current reality, (3) design of the new system, (4) system construction, and (5) implementation and beyond.

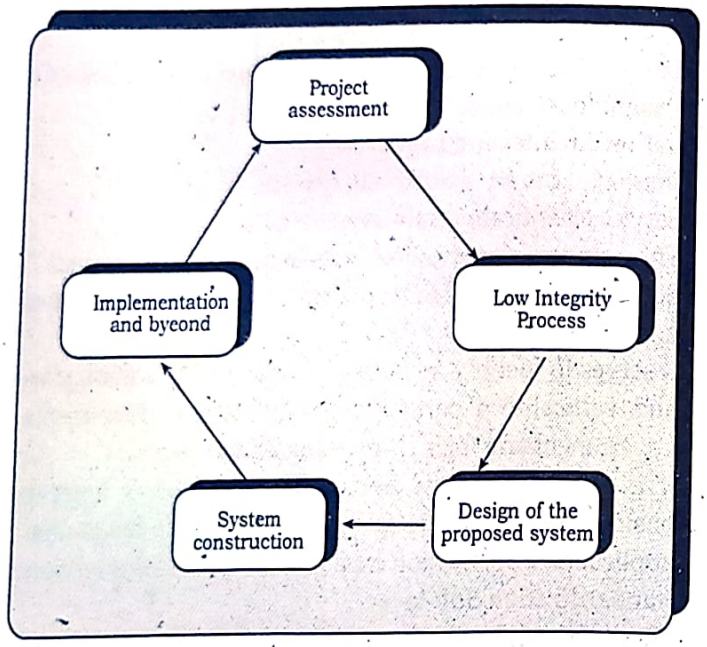

Fig: E-Governance project life cycle

Project assessment, in the development model is the identification of possible e-government projects. At this stage the outline of basic project parameters is completed, with the assessment of whether or not to proceed with a project. New e-government projects are typically initiated based on: "a problem that needs to be solved" or "identification of an opportunity which could be seized" .That kind of opportunity can arise from several different sources, such as from internal sources or external (environmental) sources. Examples of external sources are: complaints from the media, politicians or citizens, 'new legislations or directives, technological innovation, and economic crises. Examples of internal sources are: strategic planning, staff problems, and the individual's desire to give his/her career a boost.

Analysis of current reality means that descriptions of information, technology, processes, objectives and values, staffing and skills, management systems and structures, and other resources such as money and time are created. This stage consists of a mixture of hard and soft

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techniques such as an information systems audit, an information systems analysis, a problem analysis, a context analysis, etc., in order to build an overall picture. A SWOT-analysis can, for example, be performed.

The design stage of the proposed new situation consists of setting objectives related to the above mentioned dimensions of the new system - putting together the different objectives for the new system to meet. In this stage issues of software and hardware need to be dealt with. Work processes are also necessary to take into account from a design perspective, and not just the front-end processes, but also the underlying processes.

System construction consists of the process and activities in acquiring any new IT, undertaking detailed design of the new e-government system (for example a system installation), building it, testing it, and documenting it.

Implementation and beyond is represented by the planning of implementation processes, for example: training users to use the new information system; converting data from old to new formats; systems maintenance activities; introducing the new e-government system; monitoring and evaluating its performance and context; and undertaking necessary activities. The efforts concerning post implementation tasks such as marketing and support, in order to avoid the common "build it and they will come" strategy, are also important.

3. **Discuss critical flow model and mobilization model and lobbying model of e governance along with applications.**

Ans: **Critical Flow Model**

Principle

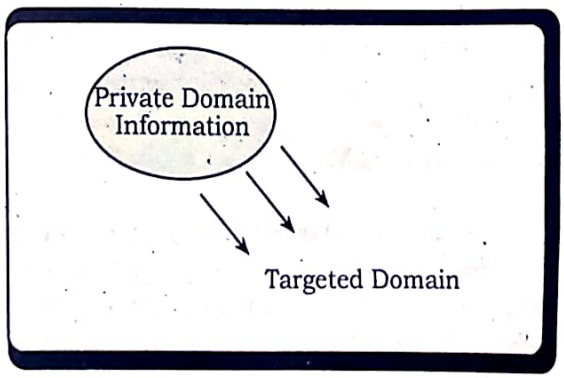
The model is based on broadcasting information of 'critical' value (which by its very nature will not be disclosed by those involved with bad governance practices) to targeted audience using ICTs and other tools. Targeted audience may include media, affected parties, opposition parties, judicial bench, independent investigators or the general public.

Those who would disclose such information could include upright officials and workers, affected parties and those who were themselves involved in bad governance practices but have now changed their minds or may wish to trade such information for lenient punishments.

The strength of critical flow model is the inherent characteristics of ICT that makes the notion of distance and time redundant[7]. This reduces the cases of exploitative governance possible earlier due to time lag between availability of information to different users.

Critical Flow Model

Critical Domain ⟶ TargetedWiderDomain



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Applications

- Making available corruption related data about a particular Ministry / Division/ Officials online to its electoral constituency or to the concerned regulatory body.
- Making available Research studies, Enquiry reports, Impact studies commissioned by the Government or Independent commissions to the affected parties.
- Making Human Rights Violations cases violations freely available to Judiciary, NGOs and concerned citizens.
- Making available information that is usually suppressed, for instance, Environmental Information on radioactivity spills, effluents discharge, information on green ratings of the company to concerned community.

Examples

- **Global:** Wikileaks
  www.wikileaks.org
  WikiLeaks is a not-for-profit media organization. It brings important news and information to the public. It publishes secret information, news leaks and classified media from anonymous sources to keep the public informed, amongst others on cases of corruption, whistle blowing, and crimes.
- **Global:** Transparency International -Daily Corruption News
  http://www.transparency.org/feed/dcn
  A service is being run by Transparency International called the "The Daily Corruption News" which reports on corruption from around the world. The daily corruption news has been coming out since May 2000.
- **Bangladesh:** Human Rights Portal
  http://www.banglarights.net
  The portal actively promotes human rights reforms both within Bangladesh and across geographical and political boundaries, and will support women, children, and marginalized communities in resisting social oppression. It look at attempts by global forces (powerful governments, TNCs, international organizations) through surveillance, covert mechanisms and military and economic superiority to exploit and control smaller nations and communities.
- **India:** Central Vigilance Committee
  http://cvc.nic.in
  The website provides free-access information to citizens about government officials who have been indicted on judicial charges relating to corruption and have been advised penalty. People can also file complaints against any public servant who fall within the jurisdiction of the Commission.

Mobilization and Lobbying Model

Principle

E Advocacy/Mobilization and Lobbying Model is one of the most frequently used digital governance models and has often come to the aid of civil society organizations in developing countries to impact international decision making processes. The model is based on planned, directed, strategic flow of

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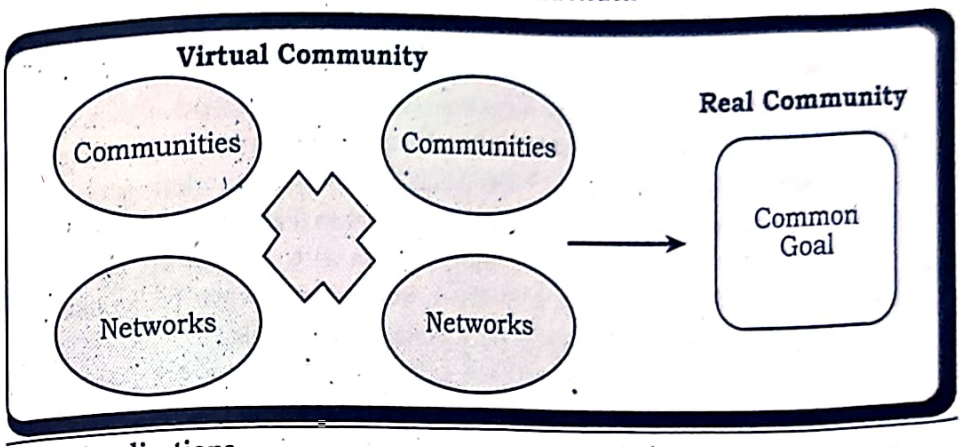
information to build strong virtual allies to strengthen action in the real world. It takes up the proactive approach of forming virtual communities which share similar values and concerns, promoting active sharing of information between these communities, and linking them with real world activities.

The strength of this model in the diversity of its virtual community and the ideas, expertise and resources accumulated through virtual forms of networking. The model is able to effectively overcome graphical, institutional and bureaucratic barriers to shape concerted action. It also provides a strong virtual arm to several activities such as directing campaigns against a particular individuals or decision making body.

Mobilization and Lobbying Model

Networking Networks for Concerted Action



Applications

- Fostering public debates on global issues, themes of upcoming conferences, treaties, etc.
- Formation of pressure groups to pressurize decision makers to take their common concerns into cognizance.
- Amplifying the voices of marginalized groups such as backward classes or minorities who are traditionally marginalized from the decision making process.
- Encouraging wider participation in decision making processes.
- Developing global expertise on a particular theme in the absence of localized information to aid decision-making.

Examples

Global: Greenpeace Cyber-activist Community - an effort towards creation of virtual communities to mobilize global support against some of the disputable environmental policies/ actions of the Government. Since the cyber activist system began in June 2000, there are now 116794.0 registered cyber activists, who participated in 357003 action alerts and sent 160597 e-cards to individuals and organizations.

http://cybercentre.greenpeace.org/t/s/community_articles

Global: Drop the Debt Campaign - the campaign spreads awareness of their activities through emails and mobilizes support of concerned individuals, and encourages them to directly express their concern to key decision-makers (by making available their email and other contact addresses).

http://www.jubileeusa.org/

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India: PRS Legislative Research

Tracks parliamentary bills which have been introduced and are coming up for discussions. It analyses the bills, prepares summaries of reports of standing committees, puts forward its position, and engages in processes which allow them to voice their opinions.

http://www.prsindia.org/billtrack/

Global: Independent Media Centre

The Center was established by various independent and alternative media organizations and activists for the purpose of providing grassroots coverage of the World Trade Organization (WTO) protests in Seattle lin 1999. The center acted as a clearinghouse of information for journalists, and provided up-to-the-minute reports, photos, audio and video footage through its website.

http://www.indymedia.org/

Global: IGC Internet

Institute for Global Communications (IGC) has changed the way the progressive community worked by introducing them to email, online discussions, mailing lists and the Web. IGC Internet offers progressive individuals and groups a place on the Internet to learn, meet and organize. At the moment, IGC Internet is changing to take its community of activists and non-profit professionals into the Internet's next wave by focusing on content, information sharing and new, collaborative tools.

http://www.igc.org

Short question (Section B)

Attempt all the questions **(8 × 5 = 40)**

4. What are the various application of data warehousing and data mining in E governance. Discuss any five of them.

Ans: **Agriculture**

The agricultural census performed by the ministry of Agriculture, government of India, compiles a large number of agricultural parameters at the national level. District wise agricultural production area and yield of crops is compiled, analysis, mining and forecasting. statistics on consumption of fertilizers can be turned into a data merge.

Data on agricultural inputs such as seeds and fertilizers can also be effectively analyzed in a data ware house. Data from livestock census can be turned into a data ware housé. Land use pattern statistics can also be analyzed in a warehousing environment. Thus, there is substantial scope for application of data warehouse housing and data mining techniques in agricultural sector.

Rural Development

Data on individuals below poverty line can be built into a data ware house. Drinking water census data (from drinking water mission) can be effectively utilized by OLAP and data mining technologies. Monitoring and analysis of progress made on implementation of rural development programs can also be made using OLAP and data mining technologies.

Health

Community needs assessment data, immunization data, data from national programs on controlling blindness, leprosy, malaria can all used for data warehousing implementation, OLAP and data mining applications.

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Generate patient, employee, and financial records share data with other entities, like insurance companies, NGOs, and medical aid services Use data mining to identify patient trends Provide feedback to physicians on procedures and tests.

Planning

At the planning commission , data warehouses can be built for the state plan data on all sectors , labour ,energy , education , trade and industry, five year plan etc.

Education

The sixth all India educational survey data has been converted into a data ware house. Various types of analytical queries and reports can be answered. Store and analyze information about faculty and students maintain student portals to facilitate student activities extract information for research grants and assess student demographics integrate information from different sources into a single repository for analysis and strategic decision-making.

5. **What is Access control model?**

Ans: Access controls regulate the admission of users into trusted areas of the organization—both the logical access to the information systems, or the physical access to the organization's facilities

Access control is maintained by means of a collection of policies, programs to carry out those policies, and technologies that enforce policies

The general application of access control comprises four processes:

- obtaining the identity of the entity requesting access to a logical or physical area (identification)
- confirming the identity of the entity seeking access to a logical or physical area (authentication)
- determining which actions an authenticated entity can perform in that physical or logical area (authorization)
- and finally, documenting the activities of the authorized individual and systems (accountability)

Access control is built on several key principles:

- **Least privilege:** The principle by which members of the organization can access the minimum amount of information for the minimum amount of time necessary to perform their required duties
- **Need to Know:** Limits a user's access to the specific information required to perform the currently assigned task, and not merely to the category of data required for a general work function
- **Separation of Duties:** A control requiring that significant tasks be split up in such a way that more than one individual is responsible for their completion

Categories of Access Controls

- **Directive:** Employs administrative controls such as policy and training designed to proscribe certain user behavior in the organization
- **Deterrent:** Discourages or deters an incipient incident
- **Preventative:** Helps an organization avoid an incident
- **Detective:** Detects or identifies an incident or threat when it occurs
- **Corrective:** Remedies a circumstance or mitigates damage done during an incident

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- **Recovery:** Restores operating conditions back to normal
- **Compensating:** Resolves shortcomings

6. **Write about E governance in Brazil.**

Ans: Brazil has been taking steps towards digital government to ensure that public policies and services are more inclusive, convenient and designed to meet citizens' needs.

The use of information technology by the Brazilian Government dates back to the 1980s, but the use of the word e Government dates from 1996, with electronic services provided by the Brazilian federal Government (Ferrer, Santos, 2004). Services such as the sending of the Statement of Income Tax, information about social security and Government procurement are possible on the Internet since 1998, and in the year 2000 the Policy of e Government was defined and instituted and the Information Society Program was launched, thus consolidating and disseminating egovernment strategies, the social importance of digital inclusion as well as actions related to information technology in the country, being the eGov implemented through legal guidelines and structures in the country (Scartezini, 2004).

Scholars of the subject eGov in Brazil proved the success of the eGovernment program up to 2003, time of transition of the federal Government, when the program ceases to be a priority driven by four factors pointed out by Pinto and Fernandes (2005):

1. Change in political leadership, with diverse involvement of new employees;
2. Lack of intra bureaucratic coordination, ceasing the existence of persons responsible for the program in the different Ministries;
3. Problems in the articulation with the society, causing discontinuities in partnerships and companies that provide technological services;
4. Lack of resources for the eGov program, subsisting projects of specific sectors, however isolated from an aligned development policy.

Such factors may have interfered so that Brazil, which in 2005 ranked in the 33rd position, would end in the 45th place in the UN world classification of eGov. In the research conducted in 2010, Brazil was in the 65rd position, meaning that in the last 5 years the Brazilian eGov accumulated a loss of 32 positions in the world ranking of eGov, and in 2014 Brazil was in the 57rs position (United Nations, 2014). Despite this noticeable decline, Brazil stands out in specific initiatives, such as the Open Government Partnership, or Open Data, mentioned in the UN report as an example of good practices, by having as its objective a single point of access to public data.

The lack of online services and inadequate telecommunication infrastructure are indicated in the already mentioned report as main causes of the fall of the Brazilian classification. Currently, the Brazilian Government offers several eGov systems to the citizens.

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Among the main ones the highlighted are:

1. **Federal Revenue:** services of collection of income tax, the taxpayer's tax situation, CPF and CNPJ registration, statements, among others.
2. **Federal Police:** services such as passport application, statements of criminal records, support for international adoptions, among others.
3. **Integrated System of Financial Administration of the Federal Government (SIAFI):** interests linked to the national treasure, such as provision of public expenditure.
4. **Poupa Tempo (State of São Paulo):** access to information of public services, such as document requests and starting and closing of businesses.
5. **OntoJuris Project:** provision of information on legislation in the area of intellectual property rights, consumer rights and electronic law.
6. **Public System of Digital Bookkeeping (SPED):** presents the promotion of tax information submission, rationalization and standardization of accessory obligations for taxpayers.

7. **What is e-governance? Write some of benefit of e governance.**

Ans: E-Governance is dealing with all regulations and policies to control the services provided by the e-Government. However, the E-Government is an electronic government, which should be regulated by the E-Governance.

Moreover, e-Governance refers to the utilization of information and communication technology (ICT) for providing government services, disseminating information, communication operations with the general public.

- Information delivery is greatly simplified for citizens and businesses.
- It gives varied departments' information to the public and helps in decision making.
- It ensures citizen participation at all levels of governance.
- It leads to automated services so that all works of public welfare is available to all citizens.
- It revolutionizes the functions of the government and ensures transparency.
- Each department and its actions is closely monitored.
- Public can get their work smartly done and save their time.
- It provides better services to citizens and brings government close to public. Public can be in touch with the government agency.
- It cuts middlemen and bribery if any from the picture.

8. **Explain COBIT Security standard.**

Ans: The ISACA (Information Systems Audit and Control Association) was founded in the USA in 1967 by a group of individuals dealing with auditing controls in the computer systems, when they realized the need for a standard in the field. In 1969, Stuart Tyrnauer founded an entity named EDP

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Auditors Association. In 1976 the association developed as an education foundation with the scope of expanding the knowledge and value of the IT governance and control field. Today, ISACA's membership is composed of more than 75,000 members worldwide. Members live and work in more than 160 countries and cover a variety of professional IT-related positions. The Control Objectives for Information and related Technology (COBIT) is a set of best practices (framework) for information technology management created by the Information Systems Audit and Control Association (ISACA), and the IT Governance Institute (ITGI). COBIT was first released in 1996. Its mission is "to research, develop, publicize and promote an authoritative, up-to-date, international set of generally accepted information technology control objectives for day-to-day use by business managers and auditors." COBIT helps Managers, auditors, and other users to understand their IT systems and decide the level of security and control that is necessary to protect their companies' assets through the development of an IT governance model. COBIT is an IT governance framework that allows managers to fill in the gap between control requirements, technical issues and business risks. The latest update COBIT 4.1 helps organizations to increase the value attained from IT, highlights links between business and IT goals, and simplifies implementation of the COBIT framework. COBIT 4.1 is a fine-tuning of the COBIT framework and can be used to enhance work already done based upon earlier versions of COBIT. COBIT 4.1 has 34 high level processes that cover 210 control objectives categorized in four domains: Planning and Organization, Acquisition and Implementation, Delivery and Support, and Monitoring and Evaluation: 1. Plan and Organize. The Plan and Organize domain describes how IT can be used to help achieve the company's goals and objectives. 2. Acquire and Implement. This domain covers activities such as identifying IT requirements, acquiring the technology, and implementing it within the company's current business processes. 3. Deliver and Support. It covers areas such as the execution of the applications within the IT system and its results, as well as, the processes that enable the efficient execution of these IT systems. 4. Monitor and Evaluate. This domain deals with the strategy of assessing the needs of the company and establishes whether or not the current IT system still meets the objectives for which it was designed. 1. COBIT and ISO/IEC 27002 do not compete with each other and actually complement one another. COBIT typically covers a broader area than ISO/IEC 27002.

9. Write short note on Collectorate.

Ans: Collectorate 2000 is a program of the National Informatics Centre(NIC) to design, develop and install new suite of software modules for use is the computerization of Collectorates. This case study surveys the background, features and capabilities of the software modules used in the computerization of Collectorates in Andhra Pradesh.

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During the late 1980s, NIC took up the NICNET program for implementing the All India Satellite based Government Informatics Network connecting various District Collectorates, State Government Secretariate, and Central Government Offices in Delhi through a VSAT based network called NICNET.

In 1988, VSATs have been installed (C200 model) in all District Collectorates with a speed of 1.2 kbps along with one computer system and two Technical Officers of NIC. Subsequently, in mid 199s, the NICNET facility was enhanced with IPA/FTDMA VSAT Earth Station with a speed of 64 kbps (shared) for Internet browsing purpose in the Collectorate.

Collectorate 2000 At District Collectorates

Project "Collectorate 2000" (C2K) was conceived by National Informatics Centre (AP State Unit) during April/May 2000. This project, as explained below, covers all the functional processes in the District Collectorate in a comprehensive manner.

The District Collectorate is the seat of the State Government in the District. All the State Government Departments are represented in the District at the Collectorate and associated offices.

Functions of the Collectorate:

- encompassing the revenue functions,
- land related matters and the magisterial
- functions dealing with Law and Order, Arms Licenses, etc.,
- Welfare schemes, relief and rehabilitation

The Collectorate 2000 software developed by National Informatics Centre (AP State Unit), Government of India, Ministry of Information Technology, attempts at automating all the above identified functions with about 24 software modules, each module relating to individual function.

10. What is Technological Infrastructural Preparedness?

Ans: Technological Infrastructural Preparedness are below:

- Technology is fast changing in ICT domain and there is a rapid obsolescence of software as well as hardware which require great financial support time and again.
- Government organizations encounter this situation especially as their procedures to procure hardware or software are very inefficient and slow.
- The technological infrastructure in developing countries including computing and telecommunication is absent. As a result software and hardware may not be compatible.
- The major reasons are:
  - cost of technology
  - Adaptability
  - Obsolescence
- This is a serious limitation to e-governance implementation.

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11. Explain about Human Resource Management Software.

Ans: A human resource information system (HRIS) is software that provides a centralized repository of employee master data that the human resource management (HRM) group needs for completing core human resource (core HR) processes.

An HRIS stores, processes and manages employee data, such as names, addresses, national IDs or Social Security numbers, visa or work permit information, and information about dependents. It typically also provides HR functions such as recruiting, applicant tracking, time and attendance management, performance appraisals and benefits administration. It may also feature employee self-service functions, and perhaps even accounting functions.

Bottom of Form

In some ways, an HRIS can be considered a smart database of employee information. The interaction of the data, the processes that can be performed and the reporting capabilities make the data stored in the system more accessible and usable.

HRIS Benefits

An HRIS enables the HR department to spend less time on clerical tasks, helps ensure the accuracy of employee data and can enable employees to take a greater role in the management of their information.

Having a centralized repository for employee data removes the need to store paper files, which can be easily damaged, as well as the need to search through large paper-based employee files to find information. Depending on the type of HRIS software, it may generate various reports, provide ad hoc reporting capabilities and offer HR analytics on important metrics such as headcount and turnover. Modern HRIS software also offers visualization capabilities for employee data, such as automatically rendered organizational charts or nine-box grids.

When an HRIS has employee or manager self-service, the process for making employee master data or organizational changes becomes more efficient and uses less time than with paper-based requests. Approval workflows enable changes to be approved or rejected, with the necessary individuals automatically notified. An HRIS might also offer mobile capabilities that extend self-service and provide additional flexibility for remote workers.

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TU QUESTIONS-ANSWERS 2078

Course Title: Introduction to Information Technology — Full Marks: 60 + 20 + 20
Course No: CSC366 — Pass Marks: 24 + 8 + 8
Nature of the Course: Theory + Lab — Credit Hrs: 3
Semester: VI

Section A

Attempt any TWO questions. (2×10=20)

1. **Why do we need E-Governance? How can we use E-Governance to provide efficient services to citizens? Explain using the suitable example.** (3+7)

Ans: We need e-governance are:

1. Increase efficiency and effectiveness of government works.
2. Smoother and faster delivery of govt works like distributing ID Cards, Citizenship certificates, Issuing clearances to documents (land, Tax,)
3. Direct accessibility for the citizens
4. Pro-active participation of Govt representatives, Bureaucrats, and citizens
5. Bolster ties and act as a bridge between Govt reps and citizens
6. Stop Rampant Corruption
7. NO Favoritism and Nepotism
8. Accountability
9. Increase Transparency
10. No Need to involve third parties by paying more money than required upfront, moving up one's files, bribery, etc.
11. To make govt officials respectful, responsible, and dutiful
12. No Geo-political restrictions, limitations
13. Capability enhancement
14. Trust building environment
15. Communication between citizens

We use E-Governance to provide efficient services to citizens The e-government's ultimate objective is offering an enhanced portfolio of public services efficiently and cost-effectively to citizens. The e-government also could provide more transparency for the government because it enables the public to be informed about what the government is working on and the policies which are enforced.

The primary benefit would be replacing and optimizing the Paper-Based System while implementing electronic government. That could save lots of time, money, and also the environment in return due to reducing paper consumption.

The implementation of e-government could also promote better communications between government and business sectors. For example e-procurement as a subsidiary of e-government services could facilitate communication between G2G and B2B that will allow smaller businesses to compete with bigger companies in public tenders. Hence the benefit of e-government could be creating an open and transparent market and a stronger economy.

Nowadays, companies and people can get information quicker and at any moment of the day in comparison to the past. E-government and its capacity could be available to all people regardless of their place or social level.

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In summary, more efficiency, enhanced services to better serve citizens, better accessibility of public services, more transparency and accountability of government are the expected advantages of e-government.

2. **What is the E-Governance model? Explain the broadcasting/wider dissemination model and critical flow model in detail.** (2+8)

Ans: E-governance is providing governmental services that are accessible through the internet. It refers to any government process or function that is out online in digital form. Similarly, E-governance is the involvement of digital democracy, online service delivery. Likewise, it is also as online citizen participation.

Broadcasting Model/ Wider Dissemination Model

Principle

- Broadcasting model is based on mass dissemination of governance-related information which is already available in the public domain into the wider public domain using ICTs.
- This raises awareness among the citizens about ongoing governance processes and government services that are available to them and how they can benefit from them
- The application of this model using appropriate technologies could reduce the "information failure situations" where citizens are unaware of the government's new and existing services.

Applications:

- Putting governmental laws and legislations online
- Making available the names, contact addresses, emails, mobile numbers of local/ regional/ national government officials online.
- Make available information such as governmental plans, budgets, expenditures, and performance reports online.
- Putting key judicial decisions of value to general citizens and creating precedence for future actions online. viz. key environmental decisions, state vs. citizen decisions, etc.

Example of Wider Dissemination Model

Like in India: Directory of Official Websites of Government of NepalNational Informatics Centre (India) is the official website of the Government

Nepal which makes available Ministerial Information, Indian Laws, and Legislation also

Online, Contact Details, etc. for public access.

http://goidirectory.nic.in/exe.htm#min (Parent Website: http://www.nic.in)

Evaluation

- The Broadcasting Model is a stepping stone to more complex Digital Governance models. It is also the most fundamental model as it enhances 'access' and 'flow' of information to a segment of the society, which is essential to bringing good governance.
- In several developing counties, even the basic governance-related information is unavailable for instance, the opening and closing times of government offices, or information government departments and units that deal with specific issues such as agricultural subsidies or getting a license for opening a business.

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- Central and state governments in developing countries need to aggressively adopt this model to provide greater governance services to their constituencies, and to enhance the participation of citizens in the governance process.

Merits

- It enhances 'access' and 'flow' of information to all segments of the society
- Government can use this model to provide greater governance services to their constituencies and to enhance the participation of citizens in governance processes.

Demerits:

- The model can lose its effectiveness
- In the situation of optimal ignorance
- In societies, where the free flow of information is not possible.

Critical Flow Model

Principle

- The model is based on broadcasting information of 'critical' value (which by its very nature will not be disclosed by those involved with bad governance practices) to a targeted audience using ICTs and other tools.
- The targeted audience may include media, affected parties opposition parties, judicial bench, independent investigators, or the general public.
- Those who would divulge such information could include upright officials and workers, whistleblowers, affected parties, and those who were themselves involved in bad governance practices but have now changed their minds or may wish to trade such information for lenient punishments.

Application

- This model could be applied in the following possible ways:
- Making available corruption-related data about a particular Ministry / Division/ Officials online to its electoral constituency or the concerned regulatory body.
- Making available Research studies, Enquiry reports, Impact studies commissioned by the Government of Independent commissions to the affected parties.
- Making Human Rights Violations cases violations freely available to Judiciary, NGOs, and concerned citizens. Making available information that is usually suppressed, for instance,
- Environmental Information on radioactivity spills, effluents discharge, information on green ratings of the company to the concerned community.

Example of Critical flow model

Global: Wikileaks

www.wikileaks.org

WikiLeaks is a not-for-profit media organization. It brings important news and information to the public. It publishes secret information, news leaks, and classified media from anonymous sources to keep the public informed, amongst others on cases of corruption, whistle-blowing, and crimes.

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Evaluation

- This model is more directed and evolved in comparison to the Broadcasting / Wider - Dissemination Model. Different organizations can use it differently depending on the aspect of governance the situation they want to address.
- Critical Flow Model is more focused in terms of its information content and its intended users. Due to the critical aspect of information, the model exposes the weakest aspects of governance and decision-making mechanisms and informs people about specific cases of state failure and bad governance to build up a case for concerted action.
- The model will not work in cases where government mechanisms do not foster public debates and censure all information of critical nature. It will also fail where the government maintains tight control of overall information. There it remains restricted to the top few levels of the government. Inherently the Internet is an open medium.
- Thus, restricted dissemination is only typical-only those interested may use the critical and subject-based information lodged on Internet websites for public access (as indicated above) as applications.

Merits

- This model is more directed and evolved.
- Different organizations can use it differently depending on the aspect of governance they situation they want to address.
- The model corrects information failure, raises awareness about the bad governance practices, and acts as a hindrance to bad governance practices.
- Also, the model exerts indirect pressure on the concerned governance institution/policy-making body to move away from optimal ignorance attitude to reform, and take into cognizance the interest and opinion of the masses in decision-making processes.

Demerits

- The model may not work in cases where the governance mechanism does not allow public debates and opinions and censures all information of critical nature.

3. Why do we need IT infrastructure to implement E-Governance? Explain network and computing infrastructure needed to implement E-governance.

Ans: The main objective of e-governance is to provide a friendly, affordable, and efficient interface between a government and its people. It is about ensuring greater transparency, accountability, and objectivity, resulting in cost-effective and high-quality public service.

Network Infrastructure for E-Commerce

The network infrastructure is the underlying foundation of the system. It forms the services that create the operating makeup of your network. In a Communications Services deployment, determining your network infrastructure from the project goals ensures that you will have an architecture that can scale and grow.

The Existing Network

We need to understand our existing network infrastructure to determine how well it can meet the needs of our deployment goals. We identify if we need to upgrade existing network components or purchase new network

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components by examining our existing infrastructure. We should build up a complete map of the existing network by covering these areas:

1. Physical communication links, such as cable length, grade, and so forth
2. Communication links, such as analog, ISDN, VPN, T3, and so forth, and available bandwidth and latency between sites
3. Server information, including:
   - Hostnames
   - IP addresses
   - Domain Name System (DNS) server for domain membership
4. Locations of devices on your network, including:
   - Hubs
   - Switches
   - Modems
   - Routers and bridges
   - Proxy servers
5. Number of users at each site, including mobile users

After completing this inventory, you need to review that information in conjunction with your project goals to determine what changes are required so that you can successfully deliver the deployment.

Network Infrastructure Components

The following common network infrastructure components have a direct impact on the success of your deployment:

- Routers and switches
- Firewalls
- Load balancers
- Storage Area Network (SAN)
- DNS

Planning Your Network Infrastructure Layout

In deriving your infrastructure topology, you need to consider the following topics:

- DMZ
- Intranet
- Internal network
- Proxies
- Firewall Configuration
- Mobile users

Computing infrastructure

Computing Infrastructure provides management and support for end-user computers, servers, storage systems, operating systems, databases, middleware, and ERP systems. Three groups make up the Computing Infrastructure team:

- Database and ERP Administration
- End-User Computing
- Server & Storage Services

The Computing Infrastructure team has a vast collective set of skills and expertise in areas such as data center management, Storage Area Networks,

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desktop and server imaging, database administration, and general troubleshooting skills, that can be leveraged by other groups at the University for advice and consultation.

Data Center

Investing in a high-end data center is a very important step in building any online product. You can have the best website design and development team on hand for building the product, but if you don't have the support of a well-known data center company, then your dreams of becoming a nationally or internationally recognized product are impossible. The data center is a vital component for any business for web hosting their crucial business data and applications. So, invest yourself in choosing the best data center in Nepal and do investment for hosting your online product there.

List of Data Center In Nepal

Doing some research on the web I have found a few data centers located in Nepal some of them are enlisted below:

1) GIDC - One an only one government data center of Nepal
2) Data Hub Pvt. Ltd
3) Data Space Pvt. Ltd
4) Ohm Data Center
5) Access World (AWT) Cloud Services Nepal
6) NcellDataCenter
7) Cloud Himalaya
8) SIntegrate
9) CAS Infra
10) Gurkha.Host Datacenter
11) EastLink Technology
12) Silver Lining

Section B

Attempt any EIGHT questions. **(8×5=40)**

4. Define E-Government. Explain E-Government as an Information System. **(1+4)**

Ans: Electronic government (or e-Government) is the application of Information and Communication Technologies (ICTs) to government functions and procedures to increase efficiency, transparency, and citizen participation.

Governments these days often boast about the efficiency of their electronic systems. Information communication technologies (ICTs) allow public service to become cheaper, faster, and more democratic. E-government has become another buzzword, the shining future of the public realm. Critics claim, however, that ICTs' potential for democratic renewal is hampered by ancient assumptions of how governments should function. But which viewpoint is nearer the truth? In this original and insightful volume, Vincent Homburg demonstrates how the use, form, and impact of ICTs are entwined within the socio-political, economic, and institutional aspects already established by the government and public administration. Evangelical or fatalistic perspectives are discredited to show the different realities in which ICTs play a role in our daily lives. Using case studies and vignettes from throughout Europe and the US, the book analyzes what these new technologies do, and how they are screened through varying layers of

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bureaucracy and convention. This is a timely addition to our understanding of what is meant by e-government. It gets behind the political rhetoric. Understanding E-Government: Information Systems in Public Administration will be key reading for all students of public administration, political science, organization theory, and information systems.

5. **Why is it necessary to implement ICT in government? Explain.** (5)

Ans: Governments in member countries recognize the benefits of ICT, in particular for enhancing good governance practices, being more responsive, and governing more effectively. However, statistics on ICT use in government are scarce. Countries such as Australia, Canada, Denmark, Finland, Japan, and the United Kingdom are collecting data on government use of ICT but, because of differences in the focus and timing of the surveys and the phrasing of the questions, the data currently available are not always internationally comparable. It will only become possible to draw valid international comparisons when the agreement is reached on core indicators in this area.

6. **What is the E-Government maturity model? Explain the closed, initial, and planned levels of this model.** (1+4)

Ans: An e-government portal's maturity model is a set of stages (from basic to advanced ones) that determines the maturity of the e-government e-portal. The main benefit of those maturity models is to offer a way to rank e-government portals.

Level 1 — Initial (E-Government)

At this level, the focus is on moving services online for user convenience and cost savings, but data and its uses are siloed and extremely limited. "If the organizational view is that a high percentage of online services or mobile access represents a modern digital government, then more education and advocacy are needed to show what real digital government looks like, and its benefits," said Di Maio. "To make the case for advancement, create case studies explaining how digital transformation will ease or remove high-priority pain points for the organization."

Level 2 — Developing (Open)

Level 2 is not necessarily after level 1. E-government and open government programs often coexist, with different leadership and priorities. The open government often takes the form of public-facing programs intended to promote transparency, citizen engagement, and the data economy. Examples we see today are nascent open data initiatives, often in the context of smart city programs such as the Copenhagen Data Exchange.

Level 3 — Defined (Data-Centric)(planned)

On t, his level the focus shifts from simply listening to citizens or users need to proactively explore the new possibilities inherent in strategically collecting and leveraging data. The key performance indicators here are "how much of our data is open?" and "how many of our applications are built on open data?" It's tempting at this point to engage in vanity projects or skip ahead before the proper groundwork is laid; it's paramount to remain focused on designing and implementing data-centric strategies and processes.

Level 4 — Managed (Fully Digital)

By this level, the organization, agency, or department has fully committed to a data-centric approach to improving government, and the preferred

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approach to innovation is based on open data principles. Data flows regularly across organizational boundaries, leading to easier interactions and better services for constituents. It's possible at this stage to encounter privacy-related backlashes, as citizens can be uncomfortable with how their data is being collected and used. Therefore, it is important to ensure that data is used within existing norms and regulations and that this is communicated.

Level 5 – Optimizing (Smart)(closed)

At this point, the process of digital innovation using open data is embedded deeply across the entire government, with bubbly-in leadership from the top tier of policymakers. The innovation process is predictable and repeatable, even in the face of disruptions or sudden events that require rapid responses.

7. **How can we achieve good governance through E-Government models? Explain.** (5)

Ans: We can achieve good governance through e-governance models are:

- **Roles and responsibilities:** There should be clarity regarding individual responsibilities, organizational expectations of executives, and the role of executive and steering committees .
- **Structure and composition:** An executive committee needs to have the right group of people, having particular regard to each individual's background, skills, and experience, and how the addition of an individual builds the collective capability and effective functioning of the committee
- **Purpose and strategy:** The executive committee plays an important role in setting the vision, purpose, and strategies of the organization, helping the organization understand these, and adapting the plans to implement them
- **Risk management:** By putting in place an appropriate system of risk oversight and internal controls, executive committees can help increase the likelihood that their organizations will deliver on their purpose
- **Organizational performance:** The executive committee determines and assesses appropriate performance categories and indicators for the organization
- **Committee effectiveness:** An executive committees effectiveness may be greatly enhanced through careful planning of board-related activities; committee meetings being run efficiently; regular assessments of organizational performance; having an executive succession plan; and the effective use of sub-committees, where appropriate
- **Accountability:** The executive committee must ensure there is a flow of information to the board that aids decision-making; there is transparency and accountability to external stakeholders and employees throughout the enterprise, and the integrity of financial statements and other key information is safeguarded.
- **Organizational maturity:** The executive committee has a role to play in enhancing the capacity and capabilities of the organization they serve.
- **Culture and ethics:** The executive committee sets the tone for ethical and responsible decision-making throughout the organization

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- **Engagement:** The executive committee helps an organization to engage effectively with stakeholders and employees

6. **Define E-readiness. What are data system infrastructural preparedness and technological infrastructural preparedness?** (5)

Ans: E-Readiness (Electronic Readiness) is a measure of the degree to which a country, nation, or economy may be ready, willing, or prepared to obtain benefits that arise from information and communication technologies (icts)

Data system infrastructural preparedness

An institution's infrastructure provides training facilities in addition to other resources. Human resource development by training is an essential requirement, Human infrastructural preparedness comes from well-trained manpower, both technical and non-technical.

Technological infrastructural preparedness

Technology infrastructure are foundational technology services, software, equipment, facilities, and structures upon which the capabilities of nations, cities, and organizations are built.

7. **What are different approaches to E-Governance security? Explain.** (5)

Ans: The different approaches of e-governance security are:

1. **Government-to-Citizen (G2C):**

   The Government-to-citizen mentions the government services that are acquired by the familiar people. Most of the government services come under G2C. Similarly, the primary aim of Government-to-citizen is to supply facilities to the citizens. It also helps ordinary people to minimize the time and cost to carry out a transaction. A citizen can retrieve the facilities anytime from anywhere.

   Similarly, spending the administrative fee online is also possible due to G2C. The facility of Government-to-Citizen allows the ordinary citizen to outclass time limitations. It also focuses on geographic land barriers.

2. **Government-to-business (G2B):**

   The Government-to-business is the interchange of services between Government and Business firms. It is productive for both government and business firms. G2B provides access to pertinent forms needed to observe. It also contains many services interchanged between business sectors and government.

   Similarly, the Government-to-business provides timely business information. A business organization can have easy and easy online access to government agencies. G2B plays an important role in business development. It upgrades the efficiency and quality of communication and transparency of government projects.

3. **Government-to-Government (G2G):**

   The Government-to-Government mentions the interaction between different government departments, firms, and agencies. This increases the efficiency of government processes. In G2G, government agencies can share the same database using online communication. The government departments can work together. This service can increase international discretion and relations.

   G2G services can be at the local level or the international level. It can convey with both global government and local government. It also provides a safe and secure inter-relationship between domestic or

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foreign governments. G2G builds a universal database for all members to upgrade service.

4. **Government-to-Employee (G2E):**
The Government-to-Employee is the internal part of the G2G section. It aims to bring employees together and improvise knowledge sharing. It provides online facilities to the employees. Similarly, applying for leave, reviewing salary payment records, and checking the balance of the holiday. The G2E sector yields human resource training and development. So, G2E is also the correlation between employees and government institutions.

9. Explain the uses of data warehousing and data mining in health, education, and rural development. (5)

Ans: The agricultural census performed by the Ministry of Agriculture, Government of Nepal compiles a large number of agricultural parameters at the national level. District-wise agricultural production area and yield of crops are compiled, analysis, mining, and forecast statistics on the consumption of fertilizers can be turned into a data merge. Data n agricultural inputs such as seeds and fertilizers can also be effectively analyzed in a warehouse. Data from livestock census can be turned into a data warehouse. Land use pat statistics can also be analyzed in a warehousing environment. Thus, there is the substantial application of data warehouse housing and data mining techniques in the agricultural sector.

10. How can we use human resource management software to support E-Government? Explain. (5)

Ans: Rapid growth in technology in the last two decades has made governments start E-government initiatives as a way of ensuring effective and efficient operations. E-government has been shown to improve accountability and transparency as well as the delivery of services in a timely and cost-effective manner. The purpose of this study was to establish the influence of human resource capacity on the adoption of E-government in Kajiado County in Kenya. The study was based on a pragmatic paradigm. A descriptive survey was used in this study. A sample of 335 respondents was drawn from the target population of 2660 employees from the devolved 10 ministries in Kajiado County using Cochran's (2007) formulae. Quantitative data was collected through open and closed-ended questionnaires while qualitative data was collected through an interview guide. Regression models and correlation were used to analyze inferential data and test hypotheses. Qualitative data was analyzed using content analysis. The study found that human resource capacity had a strong positive influence on the adoption of E-government (r= 0.595, p-value=0.000). The study concludes that human resource capacity has a significant influence on the adoption of E-government in the County Government of Kajiado. The study recommends that the county government of Kajiado should develop frequent training programs for all the employees in the County. The training programs should be preceded by training needs analysis to identify the training needs of the employees regarding the use of ICT. This study also recommends that the County government of Kajiado should make use of financial and non-financial rewards to motivate the employees. Regarding financial rewards, the County government should offer more competitive salaries to the employees.

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12. **Write short notes on:**

a. **Electronic service delivery**

Ans: The E -delivery is your secure and central mailbox for electronic documents. ... When an electronic document for you reaches your delivery service, you will be notified by email or SMS. You can then download, view, forward, print, or archive the document.

b. **IT in the judiciary**

Ans: The present article deals with the hierarchy of the court in Nepal and what type of court is usually found in our country's judicial system. The Judicial system of law in Nepal is a common law in which customs, precedents, and legislation all have justiciability in the court of law. This type of system is a legacy of the British legal system constituted by the then colonial powers and the princely states since the mid-19th century and has partly retained features of practices from the ancient and medieval times.

Nepal is one of the largest countries in the world with an enormous (2nd largest in the world) population and it has a very strong legal system that is ingrained with the structure of the various courts and the whole judicial system is arranged in hierarchical order.

There are four types of courts in India, i.e., Supreme Court, High Court, District Court, and subordinate courts. The seat of the Supreme court is in New Delhi. There are 25 High courts in Nepal as of now, the newest one is Andhra Pradesh High Court. Each district of Nepal has a District Court.

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MODEL QUESTIONS SETS FOR PRACTICE

MODEL SET 1

Course Title: E-Governance
Course No: CSC366
Nature of the Course: Theory + Lab
Semester: VI

Full Marks: 60 + 20 + 20
Pass Marks: 24 + 8 + 8
Credit Hrs: 3

Group 'A' (Long question)

Attempt any TWO questions 2x10=20

1. Discuss in brief about e governance in china.
2. Explain E-Government as Information System with proper diagram.
3. Compare and contrast Wider dissemination and critical flow model.

Group 'B' (Short questions)

Attempt all the questions (8x5=40)

4. Explain Biba model. How does it differs from Bell la Padula model?
5. What are the Five maturity models in E governance.
6. Explain Human Infrastructural Preparedness.
7. Explain Online Service Delivery and Electronic Service Delivery with proper example.
8. What is Data Mining ? Explain Applications of of data mining.
9. Difference between E government and E governance.
10. Write a short note on E seva.
11. What are the Challenges and Approach of E-government Security.

MODEL SET 2

Group 'A' (Long questions)

Attempt any TWO questions 2x10=20

1. What is an E governance maturity model? Explain the various maturity levels of E governance along with their characteristics.
2. Define the term data warehousing and data mining. Discuss key areas that demand the use of data warehousing and datamining.
3. Explain E-Government Security Architecture with proper diagram.

Group 'B' (Short questions)

Attempt all the questions (8x5=40)

4. How does digital government become better government? Explain with proper example.
5. Explain various types of e governance.
6. What is Network Infrastructures? Briefly write about some of them.
7. Explain Bell-La-Padula Confidentiality Model.
8. Write about Technology infrastructure preparedenes.

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9. Write short note on Computer-aided Administration of Registration Department (CARD).
10. Explain E-Government Life Cycle with proper diagram.
11. Define Cloud Governance with proper diagram .

MODEL SET 3

Group 'A' (Long questions)

Attempt any TWO questions 2x10=20

1. What is e-governance? Why do we need it? Discuss its scope and content in detail.
2. Explain any five Security Management Model.
3. Discuss broadcasting and interactive service model in detail.

Group 'B' (Short questions)

Attempt all the questions (8x5=40)

4. What are some successful examples of e-government.
5. Discuss the realized level of maturity model in detail.
6. Discuss the use of data warehousing and data mining in agriculture and rural development.
7. Explain about various approaches of srecurity in E governance.
8. Write short note on Smart Nagarpalika.
9. Explain about Data System Infrastructure.
10. What is Interoperability Framework? Explain with proper diagram.
11. Write some E-Government Initiatives in Nepal,

MODEL SET 4

Group 'A' (Long questions)

Attempt any TWO questions 2x10=20

1. What is Security Standard? Explain EGovernment Security Architecture with proper diagram.
2. Compare and contrast between comparative analysis model and interactive service model.
3. What is E governance? Explain all phases of E-Government Life Cycle with proper diagram.

Group 'B' (Short Questions)

Attempt all the questions 8x5=40

4. Explain the need of e governance with context to reference of Nepal.
5. What is Brewer-Nash Model (Chinese Wall)?
6. Define data mining and data warehouse. How can you use these concept in e governance?
7. Write short note on National Reservoir Level and Capacity Monitoring System.
8. What are the various Challenges and Approach of E-government Security?
9. Explain E-Government Architecture with proper diagram.

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10. Write short notes on Implementation in the Land Reform.
11. What are the various Characteristics of Maturity Levels?

MODEL SET 5

Group 'A' (Long questions)

Attempt any TWO questions 2x10=20

1. What do you understand by Models of Digital Governance? Explain wider dissemination model referring to the principle , application , evaluation and various projects based on this model.
2. Explain in brief about e governance initiative in usa.
3. Explain E-Government Life Cycle with various phases.

Group 'B' (Short questions)

Attempt all the questions (8x5=40)

4. Define Network Infrastructure. Write about some of them.
5. Differentiate E-Government and E-Governance;
6. How can we achieve good governance through e-governance models? Explain.
7. Write short note on Computerization in Andra Pradesh,
8. Explain Take-Grant Model.
9. Explain Cloud Governance with proper diagram.
10. What is Security Standards? Write about any two Security standards.
11. Explain Mobilization and Lobbying Model with proper example.

MODEL SET 6

Group 'A' (Long questions)

Attempt any TWO questions 2x10=20

1. What is the Present Global Trends of Growth in E-Governance.
2. Explain EGovernment Security Architecture with proper diagram.
3. Define data mining and data warehouse. Explain their implementation and application in e governance.

Group 'B' (Short questions)

Attempt all the questions (8x5=40)

4. What is Computing Infrastructure? Explain.
5. Define Human Resource Management Software. Write about its benefit.
6. Explain about Cyber Law in Nepal.
7. How can we use E governance model to achieve good governance? Discuss
8. What are the issues related to E governance application? Why do we need to consider these issues?
9. What are the various Security Approaches for E-Government ?
10. Write short note on Ekal Seva Kendra.
11. Define Comparative Analysis Model with proper application and diagram.

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MODEL SET 7

Group 'A' (Long questions)

Attempt any TWO questions 2x10=20

1. What are characteristics of maturity level? Explain in detail.
2. Explain in detail E governance architecture.
3. Write briefly about E-Governance in China

Group 'B' (Short questions)

Attempt all the questions (8x5=40)

4. How can we use the data ware house and data mining concept in census data. Discuss.
5. Write about Evolution of E governance.
6. What is the content of e governance? Explain in detail.
7. Discuss different IT tools that are used to deliver services to citizens.
8. Explain Online Service Delivery and Electronic Service Delivery with proper example.
9. Discuss the instutionalized level of maturity model in detail.
10. Write short note on Sachivalaya.
11. Write about any five Security Management Model.

MODEL SET 8

Group 'A' (Long questions)

Attempt any TWO questions 2x10=20

1. What is digital governance model? Explain the different type of model of E governnace with prime focus on principle, application, evaluation and various project based on these models.
2. Explain the current trend of development of E governance in Nepal.
3. Explain E-Government Architecture with proper diagram.

Group 'B' (Short questions)

Attempt all the questions (8x5=40)

4. What are the Benefits of E-Government?
5. What is Data Center? Write about its benefit.
6. Write short note on Vahini.
7. What are the Challenges and Approach of E-government Security
8. How can we achieve Good Governance through E-Governance Models
9. Write about General Information Services of National Informatics
10. What is Data Warehousing and Data Mining? Explain its application in Agriculture, Rural Development, Health.
11. Explain Broadcasting/Wider Dissemination Model with its application.

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