Exam.		Regular	
Level	BE	Full Marks	80
Programme	BCT	Pass Marks	32
Year / Part	IV / II	Time	3 hrs.

Subject: - Information System (CT751)

✓ Candidates are required to give their answers in their own words as far as practicable.
✓ *Attempt __All__ questions.*
✓ *The figures in the margin indicate __Full Marks__.*
✓ *Assume suitable data if necessary.*

1. a) Define Information System. Discuss different information system components? What are different quality requirements that an information system should possess. [5]

   b) What are different types of information systems? Explain them in brief. [5]

2. What are the different security threats while deploying Information System over extranet of a business firm? What are the technologies for mitigating the security risks in Information Systems? [4+4]

3. What are the differences between traditional Information Systems and Enterprise Systems? Explain with examples. [8]

4. a) Define and explain DSS systems with suitable diagram. Discuss key characteristics of GDSS systems. [5]

   b) What is a Data Warehouse? Why do you require data warehouse along with operational databases? How is it related with data mining? [5]

   c) Discuss four different areas of information systems that use data analytics and related techniques. [5]

5. Why do you think change management is important during IS implementation? What are different change management tactics that is to be applied during execution of change management? [5]

6. Define Collective Intelligence. How does it help refinement of Knowledge Management System (KMS) of an organization? Explain with a suitable example. [2+4]

7. a) What is a recommender system? How does it work? Discuss different examples of recommender systems. [5]

   b) What do you understand by web mining? Discuss web mining with regard to structure mining.

8. What is distributed system? Describe Hadoop systems. How volumnious data are handled? [2+2+4]

9. Write short notes on: [5×3]

   a) OLTP and OLAP
   b) Collaborative filtering
   c) Data mining and data ware housing

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Exam.		Regular/Back	
Level	BE	**Full Marks**	80
Programme	BCT	**Pass Marks**	32
Year / Part	IV / II	**Time**	3 hrs.

Subject: - Information System

✓ Candidates are required to give their answers in their own words as far as practicable.
✓ Attempt **All** questions.
✓ The figures in the margin indicate **Full Marks**.
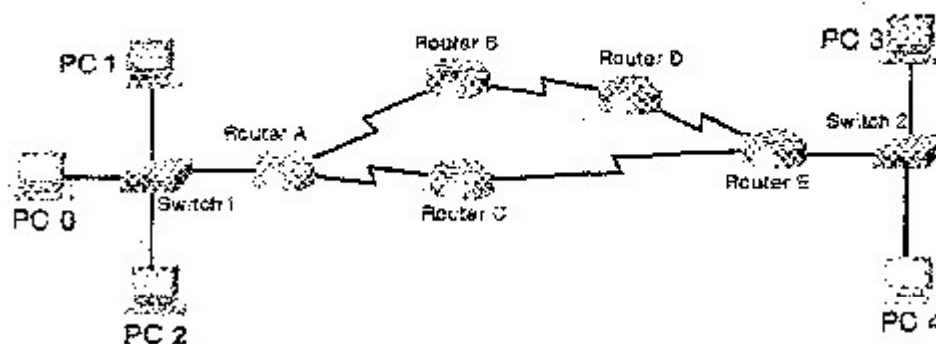✓ Assume suitable data if necessary.

1. Explain expert system and its use in solving business applications. Explain data ware housing, data mining and explain how these tools are used in expert system for business applications.   [11]

2. Explain the technical issues involved in geographic information system and its benefits in the business world. List the power of GIS and example of powerful application of GIS.   [11]

3. Describe details which need to be addressed for effective communication between human and computer while designing standard user interfaces.   [11]

4. Information system implementation is an important managerial responsibility. Describe the activities involved including implementation alternatives. Quote worse case disasters of implementation of large IS system where implementation was not well planned.   [11]

5. Describe work group and executive support system. Briefly explain how internet based enterprise and global electronic commerce systems are revolutionizing the operation and management of today's business enterprises.   [11]

6. What are the constraints in conceptual design and detailed design of IS system in public sector environment. What do you understand by alternative design in IS system.   [11]

7. Short notes on the following (any four):   [3.5×4]

   a) Application Generation Architecture
   b) Check List Methodology
   c) Change Control process in maintenance of IS system
   d) IS for Marketing
   e) IS for Inventory Control

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Exam.		Back	
Level	BE	**Full Marks**	80
Programme	BCT	Pass Marks	32
Year / Part	IV / II	Time	3 hrs.

Subject: - Internet/Intranet and Applications *(Elective)*

✓ Candidates are required to give their answers in their own words as far as practicable.
✓ Attempt **All** questions.
✓ The figures in the margin indicate **Full Marks**.
✓ Assume suitable data if necessary.

1. With regards to HTTP protocol, write the difference between persistent and Non Persistent connection. [6]

2. Explain the various types of delays in packet switched Network. [6]

3. Explain the IPV6 datagram format and how the transitions from IPV4 to IPV6 are carried out. Illustrate your answer with appropriate figures. [16]

4. Explain IP Data Fragmentation with appropriate figure and the fragmentation table. [10]

5. With respect to IP, discuss how a datagram is transmitted from PC0 to PC1 and PC0 to PC3 if RIP is enabled in the router. Illustrate your answer with routing tables between source and destination machine (assume the IP address by yourself). [16]

6. Explain the role of Key Distribution Center (KDC) in symmetric key cryptography. Illustrate your answer with appropriate figures and the process involved. [10]

7. Explain malicious program with its taxonomy and different stages of viruses? [8]

8. Write short notes on(any two)
   a) ATM
   b) VOIP
   c) Cookies [2*4]

Exam.		Regular / Back	
Level	BE	**Full Marks**	80
Programme	BCT	**Pass Marks**	32
Year / Part	IV / II	Time	3 hrs.

Subject: - Information Systems *(CT751)*

✓ Candidates are required to give their answers in their own words as far as practicable.
✓ Attempt **All** questions.
✓ The figures in the margin indicate **Full Marks**.
✓ Assume suitable data if necessary.

1. a. Define Information System. What are different quality requirements that an information system should possess? [4]
   b. Discuss different classification of information system with regard to different level of management? Provide suitable examples to support your answer. [4]

2. a. Define physical and logical security that can be applied in information systems. What are key threats and vulnerabilities against with any information systems should be protected? What are different controls/measures that can be applied to protect information system against such threats? [2+4+4]
   b. How do you define cyber crime and theft of intellectual property rights? Discuss with suitable cases. [4]

3. a. What do you understand by an Enterprise Systems? Discuss the architecture of Enterprise systems. What reason do you think that organizations are motivated to establish enterprise systems? [4]
   b. What is the use of CRM systems in enterprise? Discuss key feature and functionality of a CRM system. [4]

4. a. How do you differentiate between MIS and DSS systems with respect to the information they present to users and the way information are processed? [4]
   b. What do you mean by a Data Warehouse? Why is it required? Discuss how Data Warehouse is related to Data Mining with a suitable diagram. [4]
   c. Discuss four different areas of information systems that use artificial intelligence and related techniques. [4]

5. a. What do you mean by a strategic information system? What are different benefits of using strategic information systems? [5]
   b. What do you understand by balanced score card (BSC) approach? Discuss the importance of BSC for managing IS implementations. [5]

6. a. What is a web? How is it organized? Discuss the working method of search engine with respect to the structure of the web? [5]
   b. What do you mean by a collaborative filtering? Discuss the concept of collaborative filtering with suitable practical example. [5]
   c. What do you understand by a web mining? Discuss web mining with regard to content, usage and structure mining. [4]

7. a. What are different issues that should be taken into consideration while choosing cloud as information system platform? [5]
   b. What are different techniques and methods developed to handle voluminous data? Discuss two of such techniques [5]
   c. What are the key challenges in handling the voluminous data in the cloud architecture? [4]

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Exam.		Regular	
Level	BE	Full Marks	80
Programme	BCT	Pass Marks	32
Year / Part	IV / II	Time	3 hrs.

Subject: - Information Systems *(CT751)*

✓ Candidates are required to give their answers in their own words as far as practicable.
✓ Attempt **All** questions.
✓ The figures in the margin indicate **Full Marks**.
✓ Assume suitable data if necessary.

1. Define Information System. Explain the types of IS used in an organization.   [2+6]

2. Explain SSL Certificates for client server connections over the web. What do you mean by Extended Validation?   [6+4]

3. What is an Information Audit? What benefits will you obtain after going through Information Audit?   [1+3]

4. What do you understand by Enterprise Systems? Discuss the architecture of Enterprise Systems. For what reason do you think that organizations are motivated to establish enterprise systems?   [2+3+3]

5. Describe the role of Analytical Modeling in DSS. What are the differences between Management Information System (MIS) and Executive Support System (ESS)?   [5+3]

6. Differentiate between OLTP and OLAP.   [4]

7. Why IS planning is needed for an organization. Explain Strategic Information System.   [3+2]

8. Why change management is considered as important activity during Information Systems implementation? Discuss different change management practices which should be practiced during implementations.   [5]

9. Describe Link Analysis for the web based environment. What is PageRank? What do you mean by cold start problem in Collaborative Filtering?   [4+3+3]

10. What do you mean by Collective Intelligence?   [4]

11. Discuss cloud computing technology and their types.   [8]

12. Differentiate between Mapredure and Hadoop Systems.   [6]

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INSTITUTE OF ENGINEERING
Examination Control Division•
2069 Bhadra ·

Exam.		Regular / Back •	
Level	BE	Full Marks	80
Programme	BCT	Pass Marks	32
Year / Part	IV / II	Time	3 hrs.

Subject: - Information System (EG781CT)

✓ Candidates are required to give their answers in their own words as far as practicable.
✓ Attempt All questions.
✓ The figures in the margin indicate Full Marks.
✓ Assume suitable data if necessary.

1) What is an information system? How is it different from Information technology? Discuss different components of information system? [2+2+2]

2) Discuss standard user interface in terms of parts of Information system? What are different considerations while designing user interface for an information system. [3+3]

3) Feasibility analysis is termed as an important activity during information system selection. Discuss different 'tests' that has to be taken care of during feasibility analysis. Explain the tests using an example situation of information system selection [3+3]

4) Why do you think that selection of computer hardware for any kind of information system is an important decision for any organization? Discuss different factors that an organization should consider during hardware selection for information system. [3+3]

5) What is meant by conceptual design of Information System? Discuss various steps involved in the conceptual design of a system. [2+4]

6) What do you understand by system implementation? Discuss different steps in system implementation along with different approaches in system conversion. [3+3]

7) Discuss the characteristics of a Geographic Information System (GIS)? Discuss at least five different uses of (GIS) for scientific/business purpose. [3+3]

8) What are different types of information systems? Differentiate the characteristics of a Management Information System (MIS) and Decision support system (DSS). [4+2]

9) What do you mean by Data Mining? How is it related to Data Ware house? Discuss the process of generating business knowledge using data mining techniques [2+2+2]

10) Discuss how of Internet, Intranet and Extranet technologies are being massively used by the organizations in the 21st century to operate their business and gain competitive edge in terms of managing their customers, employees and partners. Provide suitable example. [6]

11) Plan an information system for a marketing company that has one head office and ten branches. Discuss different Information system components required for the setup (hardware, system software, communication network, outsources services and any third party software). Provide the detail specification for each of the Information System components required for the setup. Also make a top level diagram of the entire setup. [12]

12) Write short notes on any Four [2×4]
   a. System operations and maintenance stage
   b. Human Resource Information System
   c. Check List methodology for system design
   d. Structured design

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INSTITUTE OF ENGINEERING

Examination Control Division

2068 Baisakh

Exam.

Level : BE   Regular / Back

Programme : BCT   Full Marks : 80

Year / Part : IV / II   Pass Marks : 32

Time : 3 hrs.

Subject: - Information System

✓ Candidates are required to give their answers in their own words as far as practicable.
✓ Attempt *All* questions.
✓ The figures in the margin indicate *Full Marks*.
✓ Assume suitable data if necessary.

1. What are the things to be considered while implementing information system? Explain. [10]

2. Explain multi protocol networks with its special features. [10]

3. Enumerate constraints faced during conceptual and detailed design. [10]

4. Discuss various implementation alternatives and how do you evaluate the implemented system. [10]

5. Differentiate between MIS and Expert system with example. [10]

6. Explain the application generator with suitable diagram. [10]

7. Write short notes on: [5×4]

   a) Email
   b) Checklist oriented methodology
   c) ISP
   d) Decision support system

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Exam.		Regular / Back	
Level	BE	Full Marks	80
Programme	BCT	Pass Marks	32
Year / Part	IV / II	Time	3 hrs.

Subject: - Information System

✓ Candidates are required to give their answers in their own words as far as practicable.
✓ *Attempt **All** questions.*
✓ ***All** questions carry equal marks.*
✓ *Assume suitable data if necessary.*

1. Where are the various analysis to be carried out while executive feasibility analysis in information system. At what stages these exercises are carried out?

2. Why geographical information system (GIS) is necessary? Explain different components of GIS. Explain with some case studies.

3. Describe work group, Executive support system and Decision Support System. Briefly explain how internet based enterprise and global electronic commerce systems are revolutionizing the operation and management of today's business enterprises.

4. Write short notes on:

   a) Multi Protocol Networks
   b) IS for Marketing
   c) Process Oriented Methodology

5. Describe internet and intranet. Give examples of several ways in which companies are using the internet and intranet for business applications.

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Exam.		Regular/Back	
Level	BE	Full Marks	80
Programme	BCT	Pass Marks	32
Year / Part	IV / II	Time	3 hrs.

Subject: - Information System

✓ Candidates are required to give their answers in their own words as far as practicable.
✓ Attempt **All** questions.
✓ **All** questions carry equal marks.
✓ Assume suitable data if necessary.

1. Identify and give examples of several major ways that enterprises are using internet and intranet for business applications? List power of GIS and example of powerful applications of GIS.

2. What is transaction processing system? What is the difference between management information system and expert system?

3. Explain expert system and its use in solving business applications. Explain how data warehousing and data mining tools are used in expert system for business applications.

4. Describe the details, which need to be addressed for effective communication between human and computer while designing standard use interfaces.

5. Explain multi protocol techniques. What are the features of multi protocol? What are the issues to be focused on communication media for any organization?

6. Write short notes on: (any four)

    a) Multi protocol network
    b) GIS application in business
    c) IS for marketing
    d) IS for inventory control
    e) Process oriented methodology

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Exam.		Back	
Level	BE	Full Marks	80
Programme	BCT	Pass Marks	32
Year / Part	IV / II	Time	3 hrs.

Subject: - Information System

✓ Candidates are required to give their answers in their own words as far as practicable.
✓ Attempt **All** questions.
✓ The figures in the margin indicate **Full Marks**.
✓ Assume suitable data if necessary.

1. Describe intranet. Identify and give examples of several major ways tat comprises are using the Internet and Intranet for business applications? [11]

2. Explain groupware tools for electronic communications, conferencing and work group management. Give examples of how they can enhance the collaborations of teams and work group in a business enterprise. [11]

3. Explain Decision Support System (DSS). How it differs from Management Information System? Explain how Data Warehousing and Data Mining tools can be used for DSS applications. [11]

4. Briefly describe all activities to be carried in problem definition and feasibility analysis. Also explain why it is important to carry out such analysis. What should be the back ground of the experts who carry out such analysis? [11]

5. What is Transaction Process system? What is the basic difference between Management Information System and Expert System? [11]

6. What do you understand by documentation? Why it is an essential part of the system specially from the angle of Software Quality Control process. [11]

7. Write notes on following (any four): [3.5×4]

   a) Multi Protocol Networks
   b) GIS Application in Business
   c) IS for Marketing
   d) IS for Inventory Control
   e) Process Oriented Methodology

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