42 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2072 Ashwin

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

Subject: - Internet and Intranet *(CT754)*

- ✓ 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 internet backbone network? Explain the major components/organization of internet ecosystem. [2+8]
2. Define internet RFC. How differently IP datagram fragmentation is carried out in IPv4 and IPv6? Explain each with example. [2+8]
3. What do you mean by SMTP? Explain the types of FTP and its working principle. [2+8]
4. How are XML and JAVA SCRIPTS used together to develop client-side web applications? [2+8]
5. NITC building had 4 research labs each having 24 computers. All labs are located at the 1st floor. Each computer is to be connected in the network from NCR located at 2nd floor. Prepare a bill of quality (BoQ) with necessary network resources required for complete networking. The BoQ must include estimation of all network resources required. [12]
6. Compare intranet and internet in terms of benefits and drawbacks. Discuss in detail about firewall and content filtering. [4+6]
7. What do you mean by IRC and FoIP? Discuss in detail about the building blocks of e-commerce. [4+6]
8. Write short notes on: [4+4]
   a) AJAX
   b) Virtual web hosting

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TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING

Examination Control Division

2064 Jestha

Examination	Regular / Back		
Level	B.E.	Full Marks	80
Programme	BCT	Pass Marks	32
Year / Part	IV / I	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**
- ✓ Necessary figures **are** / **is** attached herewith.

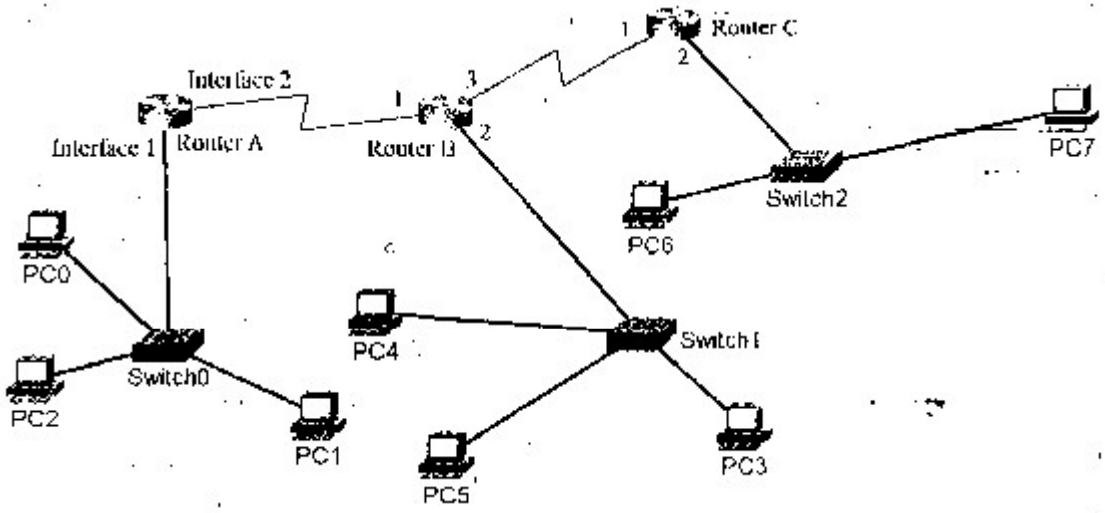
1. Define and discuss the difference between Message segmentation and Message switching with appropriate figures and analysis. [10]

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

3. Explain the TCP segment structure and discuss how reliable data transfer and flow control is obtained by TCP. Illustrate your answer with appropriate figures. [12]

4. Define Socket and Port. [2]

5. With respect to IP, discuss how a datagram is transmitted from PC0 to PC1, PC0 to PC3 and PC0 to PC7.Illustrate your answer with routing tables between source and destination machine(assume the IP address by yourself). [20]



6. Discuss the need of Domain Name Systems (DNS) in an Internet / Intranet environment. Also explain the service provided by DNS. [12]

7. Explain the desirable properties of secure communication. [5]

8. How should the Internet Evolve to support Multimedia Better? [5]

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

42C TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2064 Poush

Exam.		Regular/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.*

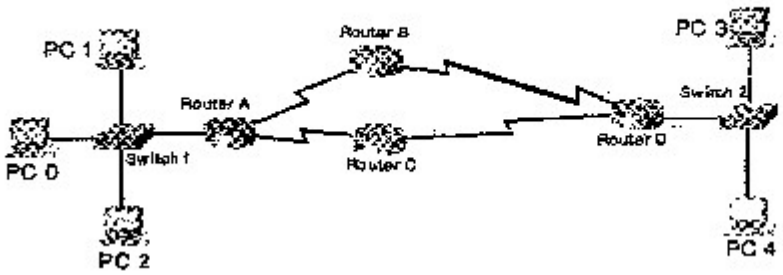
1. Discuss in detail how File Transfer protocol (FTP) transfers files from one host to another. [6]

2. Explain ISPs and how they are interconnected. [4]

3. Discuss the generic architecture of router. [6]

4. Explain how Variable Length Subnet Mask (VLSM) technology prevents the loss of IP address. Illustrate your answer with appropriate figures and assume the IP address by yourself. [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 route aggregation in detail and its importance in Internet/Intranet. Illustrate your answer with appropriate figures. [12]

7. Explain the desirable properties of secure communication. [6]

8. Write down the steps involved in RSA encryption algorithm. Encrypt the word ABCDE using RSA algorithm choose the suitable data for encryption by yourself according to RSA algorithm. [12]

9. Write short notes on(any two)
   a) Tunneling
   b) VOIP
   c) Leased Line [2*4]

32A TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2065 Baishakh

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.*

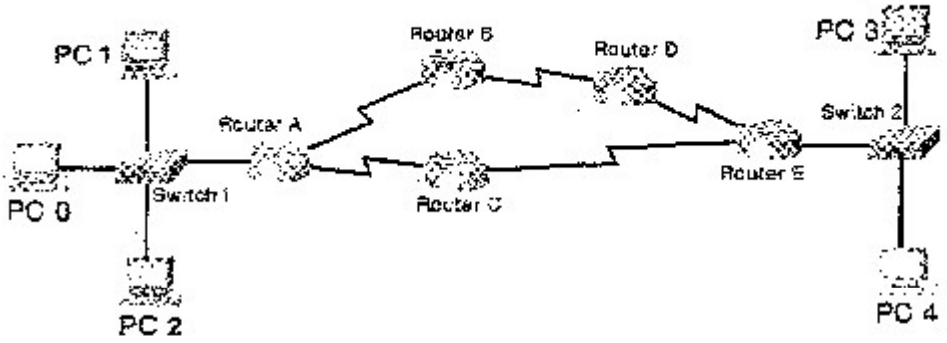
1. With regards to HTTP protocol, write the difference between persistent and Non Persistent connection. [6]

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]