Tribhuvan University
Institute of Science and Technology
2067
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Bachelor Level/ Third Year/ Fifth Semester/ Science   Full Marks: 60
Computer Science and Information Technology (CSc. 301)   Pass Marks: 24
(Computer Networks)   Time: 3 hours.

Candidates are required to give their answer in their own words as for as practicable.
Attempt all the questions.

Group 'A'

Long answer questions

Attempt all questions.   **(2 x 10 = 20)**

1.   Explain the principles of application layer protocols. What do you mean by file transfer?

OR

What are the main relationship between transport layer and network layer? What are the transport layer uses in Internet?

2.   Explain the congestion control principle and its approaches.

Group 'B'

Short Answer Questions

Attempt any eight questions.   **(8 x 5 =40)**

3.   Explain the connection oriented and connectionless service.

4.   Explain the working principle of DNS.

5.   What do you mean by pipelined reliable data transfer protocol?

6.   What do you mean by hierarchical routing?

7.   Explain the multicasting routine and its applications.

8.   Define Data link layer and its services.

9.   Mention the types of multimedia networking applications.

10. What are the key components of network management architecture?

11. Explain the Asynchronous transfer mode (ATM).

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Group 'A'

Long answer questions

Attempt all questions.   **(2 x 10 = 20)**

1.   Explain the OSI reference model.

OR

What do you mean by TCP? Explain the TCP structure.

2.   Define DNS. Explain the DNS records and DNS messages.

Group 'B'

Short Answer Questions

Attempt any eight questions.   **(8 x 5 =40)**

3.   What do you mean by Internet Protocol stack?

4.   Differentiate between transport layer and network layer.

5.   Explain the principle of congestion control.

6.   What do you mean by IP datagram fragmentation?

7.   Explain the point to point protocol (PPP).

8.   What do you mean by multicasting routing?

9.   Explain the Internet Control Message Protocol (ICMP).

10.   What are the various types of multimedia networking application?

11.   What types of intra structure is needed for network management?

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Attempt all the questions.

Group 'A'

Long answer questions

Attempt all questions.   (2 x 10 = 20)

1.   What are the seven layers of OSI model? Comparison between these seven layers.

OR

What do you mean by routing? Differentiate between Non-adaptive algorithm and adaptive algorithm.

2.   Explain the congestion control algorithm with example.

Group 'B'

Short Answer Questions

Attempt any eight questions.   (8 x 5 =40)

3.   What do you mean by internet protocol stack?

4.   Differentiate between DNS records and DNS messages.

5.   Explain the pipelined reliable data transfer protocol.

6.   Explain network service model.

7.   Explain IPV4 addressing.

8.   What do you mean by network address translator?

9.   Explain on ALOHA and slotted ALOHA protocols.

10.   What are the various applications of multimedia networking?

11.   Explain the network management architecture with suitable diagram.