



**Tribhuvan University
Institute of Science and Technology
2072**

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

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

Group 'A'
Long answer questions
Attempt all questions. (2 x 10 = 20)

- 1.) Discuss the relationship between transport layer and network layer. Discuss TCP as transport layer protocol along with its segment structure.

OR

What is transmission media? Discuss each transmission media in detail.

- 2.) Why do we need routing algorithm? Discuss distance vector routing algorithm in detail.

Group 'B'
Short Answer Questions
Attempt any eight questions. (8 x 5 =40)

- 3.) What is connection oriented service? Differentiate it with connectionless service.
- 4.) Discuss the working principle of DNS
- 5.) Why do we need multiplexing in data communication? Discuss.
- 6.) What is subnetting? Assume a class C network and divide it into four subnets. What is the value of new subnet mask?
- 7.) How does the system corrects error after error detection?
- 8.) Discuss multimedia networking application.
- 9.) Why is network management a challenging task?
- 10.) Discuss the importance of congestion control in data communication.
- 11.) Write short notes on :
 - a.) HTTP
 - b.) Backbone