

**Tribhuvan University
Institute of Science and Technology**

2072

Bachelor Level/ First Year/ First Semester/ Science

Full Marks: 80

Computer Science and Information Technology (CSc. 354)

Pass Marks: 32

(Real Time System)

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Group A

Attempt any two questions:

(2 x 12=24)

1. What do you understand by basic priority ceiling protocol? Explain it with the help of suitable example.
2. Differentiate between fixed priority and dynamic priority algorithms. State and prove the optimality of Least Slack Time (LST) First algorithm.
3. Define deferrable server. Describe the operation of deferrable servers in detail with example.

Group B

Attempt any Eight Questions:

(8 x 7=56)

1. Differentiate between dynamic and static real time systems.
2. Draw and describe a model of real time system.
3. What are the advantages and disadvantages of clock driven scheduling approach?
4. Define temporal parameter of real time workload? Explain different types of temporal parameters of a job.
5. What are the Requirements for Real-Time Multimedia Traffic? Explain.
6. What do you understand by 'Busy Intervals' in fixed priority tasks with arbitrary response times? Explain.
7. What are the different types of issues that a resource reservation protocol must deal with in a multicast environment? Explain.
8. What do you understand by Task Assignment, Job Shops and Flow Shops? Explain.
9. Describe a real-time communication model with the help of suitable diagram.
10. Write short notes on:

- a) Embedded system
- b) Real Time Control Protocol (RTCP)