

**Tribhuvan University
Institute of Science and Technology**

2072

Bachelor Level/ First Year/ First Semester/ Science
Computer Science and Information Technology (CSc. 252)
(System Analysis And Design)

Full Marks: 60
Pass Marks: 24

*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

Long Answer Questions:

Attempt any two: (2x10=20)

1. What is information system? Why do we need it? Discuss different types of information systems with suitable example.
2. Draw context diagram and data flow diagrams for a distance education university described in the following narrative. Students send in an application form containing their personal details, and their desired course. The university checks that the course is available and that the student has necessary academic qualifications. If the course is available the student is enrolled in the course, and the university confirms the enrolment by sending a confirmation letter to the student. If the course is unavailable the student is sent a rejection letter.
3. Compare object-oriented analysis and design with the structured analysis and design. State the activities involved in each of the phases of the object-oriented development life cycle.

Group B

Short Answer Questions:

Attempt any eight: (8x5=40)

4. Explain interpersonal communication skill and interpersonal relations skills needed by systems analysis.
5. A system costs Rs. 1,00,000 to install and Rs. 8,000 per month as recurring expenses. The benefit per year is Rs. 1,50,000. Assuming an interest rate is 14%, what is the payback period of the investment?
6. Create a decision tree to represent the logic of payroll system described in the following narrative. There are two types of employees: salarized and hourly. All salarized employees get basic salary. Hourly wage is calculated for hourly worker. For hourly worker, if hours worked is less than 40 absence report is also produced and if it is greater than 40 overtime is also calculated. Why do we need feasibility study? Discuss any two feasibility study techniques.
7. Discuss sequential and indexed file organizations.
8. Discuss the process of designing forms and reports.

9. What are the four approaches to installation? Which is the most expensive? Which is the most risky? How does an organization decide which approach to use?
10. What types of measurements must be taken to gain an understanding of the effectiveness of maintenance? Why is tracking mean time between failures an important measurement?
11. How do you calculate information systems development project schedule? Discuss.
12. What is software quality? Discuss different software quality assurance activities.