Bachelor Level / fifth-semester / Science Full marks: 60 **Computer Science and Information Technology(CSC315)** Pass marks: 24 (System Analysis and Design) Time: 3 hours 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 an information system? Why do we need it? Discuss prototyping approach to information systems development along with its merits and demerits.

2. Draw a context diagram and data flow diagram for some organization that you are familiar with.

3. Compare object-oriented analysis and design with structured analysis and design. Discuss different 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 management skills needed by system analysts.

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 12%, what is the payback period of the investment?

6. Create a decision tree to represent the logic of the payroll system described in the following narrative. There are two types of employees: salaried and hourly. All salaried employees get a basic salary. Hourly wage is calculated for hourly workers. For hourly workers, if hours worked is less than 40, an absence report is also produced and if it is greater than 40 overtime is also calculated.

7. What is information gathering? Discuss questionnaire along with its merits and demerits.

8. What is file organization? Discuss hashed file organization with example.

9. Discuss general guidelines in designing forms and reports.

10. Discuss different approaches to installation? Which is the most expensive? Which is the most risky? How does an organization decide which approach to use?

11. How is CASE used in the maintenance of information systems?

12. What is project scheduling? How do you calculate project schedule?

13. Why do we need high quality software? Discuss different software quality assurance activities.