

**PURBANCHAL UNIVERSITY**

**2017**

Bachelor in Information Technology (B.I.T.)/Third Semester/Final

Time: 03:00 hrs.

Full Marks: 80 / Pass Marks: 32

**BIT270CO: System Analysis & Design (New Course)**

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

*Figure in the margin indicate full marks.*

**Group A**

**Answer TWO questions.**

**2×12=24**

1. What is process modeling? Explain the role of Data Flow Diagram in process modeling. Draw a O-level dfd and context diagram for University Registration System.
2. Explain all the important activities that are carried out during system implementation. What is system maintenance?
3. Why System Design is considered as most challenging task? Explain all the steps of database design. What do you mean by file organization?

**Group B**

**Answer SEVEN questions.**

**7×8=56**

4. What do you mean by object oriented analysis and design? Give an example of USE-CASE diagram.
5. What is information system? Explain its types.
6. What are the CASE tools. List and explain case-tools that are used in various phases of system development.
7. What is conceptual modeling? How does ER diagram help in conceptual modeling? Explain.
8. Explain decision table with a suitable example.
9. Define system analysis? What is the importance of feasibility study in system analysis?
10. What is SDLC? Explain spiral model in brief.
11. What is Cost/Benefits analysis? Explain NPV method.
12. Write short notes on any TWO:

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1. What is SDLC? Explain its steps. Under what circumstances does an analyst prefer to use waterfall model? Explain.
2. How does DFD help in Process Modeling? Draw a context diagram and higher level DFD's for a Hospital Management System. Make suitable assumptions if necessary.
3. What is an ER diagram? Draw an ER diagram for a Banking Information System.

## Group B

**Answer SEVEN questions.**

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4. Explain decision tree and structure English with suitable example.
5. What is feasibility analysis? Explain various types of feasibility analysis.
6. What is functional independence of a module? Explain various types of cohesion.
7. What is normalization? Explain 1NF and 2NF with suitable example.
8. What is system Implementation? Differentiate between system user documentation.
9. Explain the process of Physical Database Design.
10. Explain Object Oriented Analysis and Design. Draw a state diagram for an online purchase system.
11. What is initial investigation? Explain few information-gathering techniques.
12. Write short notes on any TWO:



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**Answer TWO questions.**

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1. What do you mean by process modeling? Explain how data flow diagram help in process modeling? Draw context diagram and higher level dfd's for a library management system.
2. What is system analysis? Explain various requirement gathering methods with suitable example.
3. What do you mean by modular system design? What is functional strength of a module? Describe various types of cohesion and coupling.

## Group B

**Answer SEVEN questions.**

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4. Explain system development life cycle. How spiral model is different from other SDLC models?
5. What is conceptual modeling? Explain ER diagram with a suitable example.
6. Define logic modeling. Explain decision table as a tool of logic modeling.
7. What do you mean by cost/benefit analysis? Explain NPV method.
8. What is system implementation? Explain all the activities in brief, that are carried out during system implementation.
9. What is Use-case modeling? Draw a use-case diagram for a university registration system.

**(2)**

10. What is system testing? Differentiate between static and dynamic testing.
11. What is file organization? Explain logical and physical database design in brief.
12. Write short notes on any TWO:
  - (a) CASE tools
  - (b) MIS Vs. DSS
  - (c) Data dictionary



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- ✓ 7. What is Software Quality Assurance (SQA)? Differentiate System quality and Quality System.
- ✓ 8. What is requirement analysis? List some requirement gathering methods.
- ✓ 9. What is Feasibility Study? What are the types of Feasibility Study? Explain in brief.
- ✓ 10. Define Cohesion and Coupling. List the types of Cohesion and Coupling. What is functional strength?
- ✓ 11. What is normalization? Define first, second and third normal forms.
- × 12. Write short notes on:
  - (a) Sequence diagram
  - (b) System design

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