

Total number of printed pages – 4 B. Tech
BCSE 3406/BCSE 3304

Fifth / Seventh Semester Examination – 2008

INFORMATION SYSTEM AND DESIGN

Full Marks – 70

Time – 3 Hours

*Answer Question No. 1 which is compulsory
and any five from the rest.*

*The figures in the right-hand margin
indicate marks.*

1. Answer the following questions : 2×10
- (a) Explain what is structured analysis and structured design.
 - (b) What is SDLC ?
 - (c) What is a Transaction Processing System?
 - (d) What is a Data Dictionary and how is it functionally different from a DFD ?

P.T.O.

- (e) What is a context diagram ?
- (f) What is a Non-Procedural Language ?
Give two examples of non-procedural language.
- (g) What is an application generator ?
- (h) What is a interface generator ?
- (i) What is Structured walkthrough ?
- (j) What is alpha testing and beta testing ?
2. (a) What are the various fact finding techniques for determining system requirements. Define which technique is suitable under what condition. 5
- (b) How will an analyst record a decision situation ? Give examples for each of the techniques. 5
3. (a) What is a data flow diagram and what purpose does it serve in system analysis ? What are the notations used in a data flow diagram and show the corresponding icons used in Yourdon approach ? 5

- (b) What is the difference between a physical DFD and a logical DFD ? What are the guidelines for deriving a logical DFD from a physical DFD ? How will you evaluate a DFD for its correctness ? 5
4. (a) What is an application prototype and what are its uses ? What are the distinguishing features of an application prototype ? 5
- (b) What are the steps in developing an application prototype and what are the outcomes in each of these steps? 5
5. (a) What are the benefits of using an automated tool in information system development ? Describe three categories of automated tools and their special features. 5
- (b) What is a CASE tool ? Describe the term CASE. What are the components of a case tool ? 5
6. (a) Describe the activities associated with logical design. How do you translate logical design into a physical Design ? 5

- (b) What is HIPO ? Discuss the concept and its components. How does HIPO differ from Structured Flow Chart ? 5
7. (a) What are the approaches to building reliability into a system ? What are the ways to build maintainable system ? 5
- (b) Describe the following : Code Testing, Specification Testing, Unit Testing, System Testing, Peak load testing, Storage Testing, Performance Time Testing, Recovery Testing. 5
8. (a) Explain the following : Modularity and Partitioning, Coupling, Cohesion, Span of Control, Size, Shared use. 5
- (b) Explain with an example how Warnier/Orr diagrams can be used to document a system. 5