

948
Total number of printed pages – 7 B. Tech

BCSE 3406/BCSE 3304

Fifth/Seventh Semester Examination – 2007

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) What are the five basic elements of an information system ?
 - (b) What are the advantages of a structured interview ?

P.T.O.

- (c) Explain what is represented in a "data flow" diagram ?
- (d) What are the benefits of a prototyping approach to system development ?
- (e) How can an analyst derive requirements from an existing system ?
- (f) What is difference between information requirement determination and specification ?
- (g) What is difference between scheduled feasibility and operational feasibility ?
- (h) What are the three steps in system analysis ?
- (i) What is a "prototype" solution ?
- (j) Justify the need of HIPO chart in structured programming.

2. (a) Summarize the procedures for developing data flow diagram. How do they differ from structured charts ? 5
- (b) Explain the steps in a "structured walkthrough" of a system ? 5
3. (a) What tools are used to help make or represent decisions in the analysis phase ? 5
- (b) How can an analyst derive requirements from an existing system ? What existing systems can be used for this purpose ? 5
4. (a) State the conditions when System Development Life Cycle approach is appropriate to design an information. Discuss the SDLC process in brief. 7

(b) How CASE tool is used in information system design ? 3

5. (a) What are the main threats to project schedule and cost on large software projects ? As part of your answer include how the situation should best be handled when a project gets behind schedule ? 5

(b) What factors are taken into account in arriving at the final specifications of an information system ? 5

6. (a) Describe, what are the tools used in software design and documentation ? 5

(b) What is need of system audit ? Differentiate between audit *around* the computer and audit *through* the computer. 5

7. (a) You intend to buy a personal computer for your university studies.

- What requirements or personal considerations should you determine before you start investigating what equipment is available (that is, before you visit any suppliers) ? List at least five (5) requirements.

2.5

- When you start gathering data about different brands of computers, you would gather data about different attributes of each computers. List at least five (5) different attributes that you would consider. If you use acronyms or abbreviations, spell out what the acronym means in full ?

2.5

(b) What are the main considerations that must be taken into account when organizing teams for large software projects ? As part of your answer comment on how the program implementation phase should be conducted to obtain the best outcomes ? 5

8. (a) What are the input and outputs of the system design phase ? 2.5

(b) What is the difference between an external entity and a process in a DFD ? 2.5

(c) In the system design process, what is in a "Preliminary report" ? 2.5

(d) Differentiate between Program testing and Program debugging. 2.5

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