

BE (CST) 6th Semester Examination, 2010

Analysis, Design and Management of Information Systems (CS-601)

Time: 3 hours

Full Marks: 70

Answer Q. 1, Q.2 and any three from the rest

1. How is a concept for new information system formulated? What sort of feasibility analysis would you conduct before proposing an information system for a transport company that handles goods vehicles in the East and North-East and is head-quartered at Shalimar? Show the cost-benefit analysis for this system in details. 3+7+4

2. Describe briefly UML diagrams that describe object oriented approach in system design. In these days of global warming, a research initiative wants to monitor the weather information at some normal and sensitive locations around Sunderbans on both sides of Bengal border by deploying sensors and collecting the data at pre-defined time intervals into a central workstation for relevant spatio-temporal analysis. Assume the role of systems analyst in this research initiative and schematically draw the relevant UML diagrams. Add features of fault tolerant design. 5+10+5

3. What are the typical business sub-systems? How does the financial accounting sub-system interact with other sub-systems? Show the flow of data between the company and its clients in order to execute a purchase order. 2+4+6

4. How is redundancy useful to tackle faults and what are the common algorithms in this context? State and prove Byzantine algorithm. Show how this proof of concept is relevant to fault tolerant system design. 4+4+4

5. What are the reasons for improving Business system integration? Describe the role of ERP in achieving business system integration. Elaborate on how health care industry can flourish through ERP implementation. 3+6+3

6. What do you understand by system design for fault tolerance? What are the typical requirements for fault tolerant systems? Discuss the methodologies for integrated failure handling. 3+3+6

7. Write short notes on any two of the following: 6x2

- (a) Software packages that implement UML,
- (b) Decision support systems for manufacturing industry,
- (c) Evolutionary approach to information system design.