

BENGAL ENGINEERING AND SCIENCE UNIVERSITY, SHIBPUR
B.E. 6TH SEMESTER (CST) FINAL EXAMINATIONS, 2012
Design, Analysis and Management of Information Systems (CS 601)

Full Marks: 70

Time: 3 hrs

Answer Q.1 and any three from the rest

1. A company PQRS dedicated for placement and training of candidates decides to automate their activities. As a system analyst, attempt the following steps for the system, based on your own perceptions:
 - (a) Draw a context diagram for the system.
 - (b) Draw the first level DFD and identify major processes and data stores for the system.
 - (c) Draw class diagram and suggest variables and methods in the classes.
 - (d) Show the interaction diagram amongst the classes when PQRS conducts an interview of personnel having at least 2 years relevant experience for a IT company XYZ.
 - (e) Draw a deployment diagram to show how the processes and data stores are organized within the framework of the company PQRS.

5X5=25

2. What are the design metrics for embedded system design? Describe the different computational models associated with design and development of embedded systems. Discuss how choice of computational platform affects the design metrics.

5+5+5

3. Discuss about the requirements associated with fault tolerant system design. Describe some fault tolerant measures that may be adopted for the design of a traffic controller for a large crossing such as Park Circus seven point. In this context suggest some redundancy with respect to hardware and software for the design.

5+5+5

4. Describe the steps associated with information system design following waterfall model and spiral model. Discuss the steps to be followed by a company for adopting ERP system.

8+7

5. Write short notes on the following:

8+7

- (a) Byzantine algorithm and its role in fault tolerant system design
- (b) Cost-Benefit analysis for switching over to ERP system