# Department of Computer Science & Engineering

Indian Institute of Technology Kharagpur

## Software Engineering Lab (CS29006)

*Spring Mid-Semester Test*

**Time: 3 hours** **Full Marks: 100**

Ali Baba is a reputed brand name and have a chain of restaurants across the major cities in India. Currently, they are following traditional menu book to customers and a manual process to receive orders, delivery to the table and payment thereafter. Ali Baba want to provide more services to their customers taking the advantage of current technology at hand and have thought of replacing the traditional menu book by a digitized version. As an essential part of this venture, they want to acquire a system (that is, user interface connected to a server in a network). The system can be termed as Digital Waiter. The system would facilitate the following to the customer (not limited to).

- Display all items those are available, with special prices, if any.
- Detail about each item regarding health warning, composition, seasonal, etc.
- Status of order, waiting time, delay if any. A clock on the display is desirable.
- Cashless payment on the spot with a receipt through SMS to mobile.
- Special discount to the frequent customer (for example, a free treat or a special dish after 10 visits in a year).
- Advance booking (individual, party, group, etc.) for next visit with a request of special dish(es).
- Feedback and suggestion, if any, for the service of the day.
- Advance notification from the management, which may be the interest of the customers.

1. Based on the Ali Baba's plan (tentative), you have to write the SRS document, which should comprise the following.
   i) Feasibility study and requirement analysis including the following
      - Hardware requirement
      - Software (tools and other system, if necessary) to build and run the Digital Waiter
      - Input and output specifications (brief and precise)
   ii) Functional requirements (any three only)
   iii) Non-functional requirements (at least three)

   [10 + 20 + 10]

2. Draw the DFD for any one of the use cases you have mentioned in your SRS document. You should draw Level 0, 1 and 2 DFDs.

   [5 + 15 + 20]

3. Following the Level-2 DFD you have drawn, write a program implementing the functional requirement. Place sufficient code and readme file stating clearly the execution of your program.

   [20]

   ***Instruction for submission***

   - Save the output as <YourRollNo><QNo> for each of the above-mentioned problems.
   - Make a zip file and given the name of the zip file as <YourRollNo>
   - Submit the zip file to the Moodle system.
   - Submit your solution latest by **17:00 hours on 24.02.2017**