DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. SEMESTER III [IT]
SUBJECT: (CT-616) SOFTWARE ENGINEERING

Examination	**: Second Sessional**	**Seat No.**	**: _____**
Date	**: 14/02/2018**	**Day**	**: Wednesday**
Time	**: 12:00 to 01:15pm**	**Max. Marks**	**: 36**

INSTRUCTIONS:
1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1 Do as directed: **[12]**

(a) Define the term "Schedule Slippage". **[2]**

(b) Write axiomatic specification for following function:- **[2]**
A function accepts three integers in the range of 0 and 100 and determines smallest of the three.

(c) List the characteristics of a good SRS document. **[2]**

(d) Associate the given relationship between following classes. **[2]**
(Hint : Association, Inheritance, Aggregation, Composition)
i) Vehicle and Car ii) Project and Task
iii) Library and Book iv) Teacher and Student

(e) Define and give example of procedural and Logical cohesion **[2]**

(f) List the disadvantages of DFD model. **[2]**

Q.2 Answer any three of the following: **[12]**

(A) Using Algebraic specification define a string that supports following operations: **[4]**
- **Append** - append a given string to another string
- **Add** – add a character to a string
- **Create** - create a new null string
- **isequal** – checks whether two strings are equal or not
- **isempty** – checks whether the string is null.

(B) Draw DFD diagram for "Food Ordering System", where customer can order food, system will receive the order and sends it to kitchen, order details as well as updated inventory are stored in database. Bill is send to customer. Manager can view the report based on order and inventory and can also manage the inventory. Supplier supplies the inventory on manager's request and inventory database is updated by manager on receipt of it. **[4]**

(C) Define the term cohesion and coupling. State which of this term leads to good designing. Explain types of coupling in detail with example. **[4]**

(D) Which are the characteristics of a good software design. **[4]**

Q.3 Answer the following: **[12]**

(A) Draw **Activity network** and **gantt chart** for following activities. **[6]**

Activity No.	Activity	Time (weeks)	Immediate Predecessors
1	Collect requirements	3	
2	Analyze processes	2	1
3	Analyze data	2	2
4	Design processes	6	2
5	Design data	3	3
6	Design screens	2	3,4
7	Design reports	4	4,5
8	Program	5	6,7
9	Test and Document	7	7
10	Install	2	8,9

(B) Draw Use Case Diagram for Hotel Management System **[6]**

OR

Q.3 Answer the following: **[12]**

(A) Which are different types of risks associated with software project. Explain how to manage the risks in detail. **[6]**

(B) Draw a class diagram for following system requirements:- **[6]**

Design a system for a movie-shop, in order to handle ordering of movies and browsing of the catalogue of the store, and user subscriptions with rechargeable cards. Only subscribers are allowed hiring movies with their own card. Credit is updated on the card during rent operations. Both users and subscribers can buy a movie and their data are saved in the related order. When a movie is not available it is ordered.

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