



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

Examination : Third Sessional **Seat No. : _____**
Date : 27/03/2018 **Day : Tuesday**
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) Design black box test suites for a function which takes book_name as input and checks availability of book. If book is available it displays Book's details otherwise displays message "Book not available". [2]
 - (b) ISO certification is awarded to the _____ not to the _____. [2]
(HINT : Product , Process)
 - (c) A pure Top Down integration testing does not require the use of Stub modules. State True or False with justification. [2]
 - (d) Suppose 60 errors of different kinds were introduced in the program, out of which 52 errors were found during testing. Other 20 errors were also found. Estimate total number of errors present in the system. Also find residual errors. [3]
 - (e) List the characteristics of good user interface. [3]
- Q.2 Answer any two of the following:** [12]
- (A) Draw the CFG for the following function named **find_max**. From the CFG, determine its McCabe's cyclomatic complexity using all three methods. [6]
- ```
int find-max(int i, int j, int k){
 int max;
 if (i>j) then
 if(i> k) then
 max = i;
 else max = k;
 else if(j>k)
 max = j;
 else max = k;
 return(max);
}
```
- (B) Why it is important for software development organization to obtain ISO 9001 certification. [6]
- (C) Explain debugging methods in detail. [6]
- Q.3 Answer the following:** [12]
- (A) Draw State chart diagram for a fuel pump controller. User can buy fuel after inserting a credit card, which is read and validated by the controller. Then the user takes the hose out of the holster, and pushes the nozzle trigger, to fuel his car. When the nozzle is off, the fuel flow is stopped and the price is charged on the credit card. If invalid card or timeout the system returns to the initial waiting state. [6]
- (B) Draw sequence diagram for withdrawal of money from ATM. [6]

**OR**

- Q.3 Answer the following:** [12]
- (A) Draw Activity Diagram for Product Management as defined below. When an order is received, check client data and availability in the inventory. If credit card [6]

data are enough to pay products, wait for payment and then send receipt. Once payment is registered in archive, client is notified of payment received. If credit card data are ok, we verify if product is present in inventory, if not, we have to fill order by purchasing it from supplier or, if the product is internally produced, we start production process, and then the inventory is updated. Once product is ready to be sent and payment is ok, we can send products to client

- (B)** Draw Deployment diagram for E-Commerce website.

**[6]**