

Reg. No.



# MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Government Institute of Medical University

## III SEMESTER MCA END SEMESTER EXAMINATIONS, NOVEMBER/DECEMBER 2017

SUBJECT: QUALITY ASSURANCE AND TESTING [MCA 5103]

REVISED CREDIT SYSTEM  
(20/11/2017)

Time: 3 Hours

MAX. MARKS: 50

### Instructions to Candidates:

- ❖ Answer ALL FIVE FULL questions.
- ❖ Missing data may be suitable assumed.

1A.	The function Yesterdate is the inverse of next date function. Given the month date and day, Yesterdate returns the date of the day before. Write the pseudocode for Yesterdate function.	5																																							
1B.	With a neat diagram explain clean room process model.	3																																							
1C.	Define Fault of Omission and Fault of Commission.	2																																							
2A.	Discuss various methods of decomposition based integration testing with suitable example	5																																							
2B.	Draw the finite state machine for the SATM problem.	3																																							
2C.	Differentiate between regression testing and progression testing.	2																																							
3A.	Explain Data Based Thread Testing with suitable example.	5																																							
3B.	Calculate the rule count for the following table. If the rule count does not tally with the conditions, find the missing rules.	3																																							
<table><tr><td>C1: Month in M1</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>F</td><td>F</td><td>T</td><td>F</td><td>T</td><td>F</td></tr><tr><td>C2: Month in M2</td><td>T</td><td>F</td><td>F</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>F</td><td>F</td></tr><tr><td>C3: Month in M3</td><td>T</td><td>F</td><td>T</td><td>F</td><td>T</td><td>F</td><td>T</td><td>F</td><td>T</td><td>T</td><td>T</td><td>T</td></tr></table>			C1: Month in M1	T	T	T	T	T	T	F	F	T	F	T	F	C2: Month in M2	T	F	F	T	T	T	T	T	T	T	F	F	C3: Month in M3	T	F	T	F	T	F	T	F	T	T	T	T
C1: Month in M1	T	T	T	T	T	T	F	F	T	F	T	F																													
C2: Month in M2	T	F	F	T	T	T	T	T	T	T	F	F																													
C3: Month in M3	T	F	T	F	T	F	T	F	T	T	T	T																													
3C.	Why is it difficult to test a Client-Server System? Justify.	2																																							

4A.	How to give naming conventions to the documents? Give the format for organizing the documents.	5
4B.	Write the equivalence class test cases for the triangle problem.	3
4C.	For the figure given below give the port event sequence for the correct pin on the first try. Right pin is 1235.	2
<pre> graph TD     S1((2.s.1 0 Digits Received)) -- s1: digit / echo 'X...' --&gt; S2((2.s.2 1 Digit Received))     S2 -- s2: digit / echo 'XX...' --&gt; S3((2.s.3 2 Digits Received))     S3 -- s3: digit / echo 'XXX...' --&gt; S4((2.s.4 3 Digits Received))     S4 -- s4: digit / echo 'XXXX' --&gt; S5((2.s.5 4 Digits Received))     S5 -- s5: Correct Pin --&gt; Exit1[ ]     S5 -- s6: Incorrect Pin --&gt; Exit2[ ]     S1 -- s7: cancel --&gt; S6((2.s.6 Cancel Hit))     S2 -- s8: cancel --&gt; S6     S3 -- s9: cancel --&gt; S6     S4 -- s10: cancel --&gt; S6     S6 -- s11: Cancelled --&gt; Exit3[ ]     style Exit1 fill:none,stroke:none     style Exit2 fill:none,stroke:none     style Exit3 fill:none,stroke:none </pre>		
5A.	Discuss the basic principles that characterize various approaches for testing and analysis.	5
5B.	Why is Root Cause Analysis Technique used? What are the steps of RCA Technique?	3
5C.	Explain Saturn Windshield problem	2