

<b>Lecture Plan</b>			
<b>MASTER OF COMPUTER APPLICATION Sem IV</b>			<b>CODE: MCA-16-206</b>
<b>SUBJECT: SOFTWARE TESTING AND QUALITY ASSURANCE</b>			<b>NO OF CREDITS: 4</b>
<b>Unit</b>	<b>Topic</b>	<b>No. of hours required</b>	<b>Reference</b>
	Introduction of subject and its various units.	1	
I Testing terminology and Methodology	Definition of testing, goals, psychology, model for testing, effective testing, limitations of testing, Importance of Testing, Definition of Failure, faults or bug, error, incident, test case, test ware.	2	"Software Testing Principles and Practices", Naresh Chauhan
	Life cycle of bug, bug effects, bug classification.	2	
	Test case design, testing methodology, development of test strategy, verification, validation.	2	
	Static testing: Inspection ,Review and Walkthrough, dynamic testing.	2	
	Testing life cycle model, testing techniques, testing principles, Testing Metrics.	2	
II Verification and validation	Verification activities, verification of requirements, verification of HL design, verification of data design.	2	"Software Testing Principles and Practices", Naresh Chauhan
	Verification of architectural design, verification of UI design, verification of LL design.	2	
	Introduction to validation activities.	1	
III Dynamic testing	White Box testing: Boundary value analysis, equivalence class portioning	2	"Software Testing Principles and Practices", Naresh Chauhan
	State table based testing, decision table based, error guessing	2	
	Black Box Testing: Logic coverage criteria, basic path testing, graph matrices.	2	
IV Validation Testing	Unit testing, drivers, stubs.	1	"Software Testing Principles and Practices", Naresh Chauhan
	Integration testing, methods, functional testing.	2	
	System testing, recovery testing, security testing, stress testing.	2	
	Performance testing, usability testing.	2	
V Regression Testing	Objective of regression testing, Regression test process,	2	"Software Testing Principles and Practices", Naresh Chauhan
	Regression testing techniques.	1	
VI Test	S/w measurement and testing, testing metrics and tools.	3	"Software Testing Principles and

Automation and debugging	Case Study: Testing for Object-oriented and web-based systems.	2	Practices", Naresh Chauhan
VII Object-Oriented Testing	Use-case based testing; Class testing.	2	"The Art of Software Testing", G.J Myers
	Testing Exception handling	1	
	Total Lectures	40	