

## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

Session - 1 (Unit -1) (Introduction to Software Engineering and Process models)	
	Topics to be covered
1	Introduction to Software Engineering
2	Software Process
3	Process Models - Waterfall model
4	Incremental Model

Sr. No	Essential List (Theory)
1	Define software engineering.
2	Explain waterfall model with its advantages and disadvantages.

Sr. No	Desirable List (Theory):
1	Explain incremental model with diagram in detail.
2	Ex. Find out which models are used these days in company for developing software.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

**Session - 2 (Unit -1)  
(Introduction to Software Engineering  
and Process models)**

	<b>Topics to be covered</b>
<b>1</b>	Evolutionary process model
<b>2</b>	Prototype model
<b>3</b>	Spiral model
<b>4</b>	Concurrent development model

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Explain prototype model with its benefits and drawbacks.
<b>2</b>	Explain spiral model with diagram in detail.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Explain concurrent development model.
<b>2</b>	Explain evolutionary process model.

**Integrated MCA (SEM-V)**

**Subject Code:** 050120502

**Subject Name:** Software Engineering and Quality Assurance

**Detailed Schedule**

**Session - 3 (Unit -1)**  
**(Introduction to Software Engineering**  
**and Process models)**

	Topics to be covered
1	Evolutionary process model
2	Prototype model
3	Spiral model
4	Concurrent development model

Sr. No	Essential List (Theory)
1	Explain prototype model with its benefits and drawbacks.
2	Explain spiral model with diagram in detail.

Sr. No	Desirable List (Theory):
1	Explain concurrent development model.
2	Explain evolutionary process model.

## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

<b>Session - 4 (Unit -1)</b> <b>(Introduction to Software Engineering</b> <b>and Process models)</b>	
	<b>Topics to be covered</b>
<b>1</b>	Introduction to agile process
<b>2</b>	What is agility
<b>3</b>	What is agile process, Agile principles
<b>4</b>	Human factors of agile

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Define agile process.
<b>2</b>	Write a short note on principles of agile.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Which are human factors of agile process development.
<b>2</b>	Ex. Identify different frameworks of agile process development.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 5 (Unit -1)</b> <b>(Introduction to Software Engineering</b> <b>and Process models)</b>	
	<b>Topics to be covered</b>
<b>1</b>	Extreme Programming
<b>2</b>	XP values
<b>3</b>	XP Process
<b>4</b>	XP Process

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Explain the concept of extreme programming.
<b>2</b>	Explain xp process in detail with diagram.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Explain the importance of xp values.
<b>2</b>	Identify the projects working on xp to develop software.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 6 (Unit -1)</b> <b>(Introduction to Software Engineering</b> <b>and Process models)</b>	
	<b>Topics to be covered</b>
<b>1</b>	Extreme Programming
<b>2</b>	XP values
<b>3</b>	XP Process
<b>4</b>	XP Process

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Explain the concept of extreme programming.
<b>2</b>	Explain xp process in detail with diagram.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Explain the importance of xp values.
<b>2</b>	Identify the projects working on xp to develop software from market.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

**Session - 7 (Unit -1)**  
**(Introduction to Software Engineering**  
**and Process models)**

	Topics to be covered
1	Other software models
2	Adaptive software development
3	Scrum
4	Dynamic system development method

Sr. No	Essential List (Theory)
1	Explain scrum process model in detail.
2	What are the artifacts of scrum.

Sr. No	Desirable List (Theory):
1	Explain adaptive software development.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 8 (Unit –1)</b> <b>(Introduction to Software Engineering</b> <b>and Process models)</b>	
	<b>Topics to be covered</b>
<b>1</b>	Other software models
<b>2</b>	Adaptive software development
<b>3</b>	Scrum
<b>4</b>	Dynamic system development method

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Explain scrum process model in detail.
<b>2</b>	What are the artifacts of scrum.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Explain dynamic system development method.



## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

<b>Session - 9 (Unit -2)</b> <b>(Requirement Engineering)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Requirement Engineering</b>
<b>2</b>	Definition of requirement engineering
<b>3</b>	Seven distinct tasks of requirement engineering
<b>4</b>	Inception, Elicitation, Elaboration

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Define requirement engineering.
<b>2</b>	Enlist seven distinct tasks of requirement engineering.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Ex. Gather the requirements of your college library to develop college library management system.

## Integrated MCA (SEM-V)

**Subject Code:** 050120502

**Subject Name:** Software Engineering and Quality Assurance

### Detailed Schedule

#### Session - 10 (Unit -2) (Requirement Engineering)

	Topics to be covered
<b>1</b>	<b>Requirement Engineering</b>
<b>2</b>	Definition of requirement engineering
<b>3</b>	Seven distinct tasks of requirement engineering
<b>4</b>	Negotiation, Specification, Validation

Sr. No	Essential List (Theory)
<b>1</b>	Write a short not on negotiation and specification of requirement engineering tasks.
<b>2</b>	Briefly explain validation in context of requirement engineering.

Sr. No	Desirable List (Theory):
<b>1</b>	Ex. Gather the requirements of your college library to develop college library management system.

## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

<b>Session - 11 (Unit -2)</b> <b>(Requirement Engineering)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Requirement Engineering</b>
<b>2</b>	Definition of requirement engineering
<b>3</b>	Seven distinct tasks of requirement engineering
<b>4</b>	Requirement Management

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Explain inception and elicitation of requirement engineering.
<b>2</b>	Explain requirement management.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Ex. Gather the requirements of your college library to develop college library management system.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 12 (Unit -2)</b> <b>(Requirement Engineering)</b>	
	<b>Topics to be covered</b>
<b>1</b>	Establishing the ground work
<b>2</b>	Identifying stakeholders
<b>3</b>	Recognizing multiple viewpoints
<b>4</b>	Working toward collaboration, Asking first question

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	What do you mean by stake holder?
<b>2</b>	What are the basic questions to be asked to establish the ground work for requirement engineering?

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Identify the stake holders of your library in context of requirement gathering.

## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

<b>Session - 13 (Unit -2)</b> <b>(Requirement Engineering)</b>	
	<b>Topics to be covered</b>
<b>1</b>	Establishing the ground work
<b>2</b>	Identifying stakeholders
<b>3</b>	Recognizing multiple viewpoints
<b>4</b>	Working toward collaboration, Asking first question

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	What do you mean by stake holder?
<b>2</b>	What are the basic questions to be asked to establish the ground work for requirement engineering?

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Identify the stake holders of your library in context of requirement gathering.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 14 (Unit -3)</b> <b>(Introduction to Software Quality and Assurance)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Introduction to software quality and assurance</b>
<b>2</b>	Definition of Software quality.
<b>3</b>	Software quality assurance.
<b>4</b>	Software quality factors

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Define software quality.
<b>2</b>	Define software quality assurance.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Ex. Identify available proprietary software from market.

## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

Session - 15 (Unit -3) (Introduction to Software Quality and Assurance)	
	Topics to be covered
1	Introduction to software quality and assurance
2	Product Operation factors
3	Product revision factors
4	Product transition factors

Sr. No	Essential List (Theory)
1	Explain product operation factors.
2	Explain product revision factors.

Sr. No	Desirable List (Theory):
1	Ex. Identify available proprietary software from market.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 16 (Unit -3)</b> <b>(Introduction to Software Quality and Assurance)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Introduction to software quality and assurance</b>
<b>2</b>	Product Operation factors
<b>3</b>	Product revision factors
<b>4</b>	Product transition factors

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Explain product operation factors.
<b>2</b>	Explain product revision factors.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Explain product transition factors.



**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session – 17 (Unit –3)</b> <b>(Introduction to Software Quality and Assurance)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Introduction to software quality and assurance</b>
<b>2</b>	Product Operation factors
<b>3</b>	Product revision factors
<b>4</b>	Product transition factors

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Explain product operation factors.
<b>2</b>	Explain product revision factors.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Explain product transition factors.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 18 (Unit -3)</b> <b>(Introduction to Software Quality and Assurance)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Alternative models of software quality factors</b>
<b>2</b>	Verifiability
<b>3</b>	Expandability
<b>4</b>	Safety

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Enlist alternative software quality factors.
<b>2</b>	Explain expandability.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Explain safety with example.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 19 (Unit -3)</b> <b>(Introduction to Software Quality and Assurance)</b>	
	<b>Topics to be covered</b>
<b>1</b>	Expandability
<b>2</b>	Safety
<b>3</b>	Manageability
<b>4</b>	Survivability

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Explain verifiability.
<b>2</b>	Write a short note on product transition factors.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Define expandability.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 20 (Unit –3)</b> <b>(Introduction to Software Quality and Assurance)</b>	
	<b>Topics to be covered</b>
<b>1</b>	Software project life cycle components
<b>2</b>	Reviews
<b>3</b>	Expert opinions
<b>4</b>	Software testing, Software maintenance

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Enlist project life cycle components.
<b>2</b>	Briefly explain reviews.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Explain the term expert opinions.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 21 (Unit -3)</b> <b>(Introduction to Software Quality and Assurance)</b>	
	<b>Topics to be covered</b>
<b>1</b>	Reviews: Review objectives
<b>2</b>	Proposal draft review objectives
<b>3</b>	Proposal draft review objectives
<b>4</b>	Contract draft review objectives

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Explain proposal draft review objectives.
<b>2</b>	What are contract draft review objectives.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Explain contract draft review objectives in detail.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 22 (Unit -3)</b> <b>(Introduction to Software Quality and Assurance)</b>	
	<b>Topics to be covered</b>
<b>1</b>	Contract review process and its stages
<b>2</b>	Review process
<b>3</b>	Stage one, Stage two
<b>4</b>	Who performs contract review.

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	What is contract review process.
<b>2</b>	Explain the stages of contract review process.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	What are the common situations to sign a contract with a company.

## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

Session - 23 (Unit -3) (Introduction to Software Quality and Assurance)	
	Topics to be covered
1	Development and quality plans:
2	Development and quality plans objectives
3	Elements of development plans
4	Elements of development plans

Sr. No	Essential List (Theory)
1	What are the objectives of development and quality plans?
2	What are the elements of development plans?

Sr. No	Desirable List (Theory):
1	What are the common situations to sign a contract with a company.

## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

Session - 24 (Unit -3) (Introduction to Software Quality and Assurance)	
	Topics to be covered
1	Development and quality plans:
2	Development and quality plans objectives
3	Elements of quality plans
4	Elements of quality plans

Sr. No	Essential List (Theory)
1	What are the elements of quality plan?
2	Explain any three elements of quality plan in detail.

Sr. No	Desirable List (Theory):
1	What are the common situations to sign a contract with a company.



**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 25 (Unit -3)</b> <b>(Introduction to Software Quality and Assurance)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Quality activities in project life cycle:</b>
<b>2</b>	Verification
<b>3</b>	Validation
<b>4</b>	Qualification

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Define verification.
<b>2</b>	Define validation, qualification.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	What do you mean by verification, validation, and qualification.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 26 (Unit -3)</b> <b>(Introduction to Software Quality and Assurance)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Reviews:</b>
<b>2</b>	Review objectives: Direct and indirect
<b>3</b>	Formal design reviews
<b>4</b>	Elements of formal design reviews

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	What are the direct objectives of reviews.
<b>2</b>	What are the indirect objectives of reviews.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	What are the elements of formal design review.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 27 (Unit -3)</b> <b>(Introduction to Software Quality and Assurance)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Review elements:</b> Participants in DR and their role
<b>2</b>	Preparation for DR
<b>3</b>	DR session
<b>4</b>	Post review activities

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Who all the participants involved in DR.?
<b>2</b>	What is the agenda of DR session?

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	What are the post review activities?

## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

Session - 28 (Unit -3) (Introduction to Software Quality and Assurance)	
	<b>Topics to be covered</b>
<b>1</b>	<b>Review elements:</b> Participants in DR and their role
<b>2</b>	Preparation for DR
<b>3</b>	DR session
<b>4</b>	Post review activities

Sr. No	Essential List (Theory)
<b>1</b>	Who all the participants involved in DR.?
<b>2</b>	What is the agenda of DR session?

Sr. No	Desirable List (Theory):
<b>1</b>	What are the post review activities?

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 29 (Unit -3)</b> <b>(Introduction to Software Quality and Assurance)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Review elements:</b> Participants in DR and their role
<b>2</b>	Preparation for DR
<b>3</b>	DR session
<b>4</b>	Post review activities

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Who all the participants involved in DR.?
<b>2</b>	What is the agenda of DR session?

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	What are the post review activities?

## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

<b>Session - 30 (Unit -3)</b> <b>(Introduction to Software Quality and Assurance)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Infrastructure components for error prevention:</b>
<b>2</b>	Procedure and work instructions: What is procedure and what is work instruction?
<b>3</b>	Supporting quality devices: Checklist and templates
<b>4</b>	Staff training and Certifications: objectives

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Define work instruction.
<b>2</b>	What are the objectives of staff training and certification?

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Explain checklist and templates in context of supporting quality devices.

## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

<b>Session - 31 (Unit -3)</b> <b>(Introduction to Software Quality and Assurance)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Infrastructure components for error prevention:</b>
<b>2</b>	Procedure and work instructions: What is procedure and what is work instruction?
<b>3</b>	Supporting quality devices: Checklist and templates
<b>4</b>	Staff training and Certifications: Objectives

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Define work instruction.
<b>2</b>	What are the objectives of staff training and certification?

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Explain checklist and templates in context of supporting quality devices.

## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

Session - 32 (Unit -3) (Introduction to Software Quality and Assurance)	
	Topics to be covered
1	SQA Human Components:
2	Management's role in SQA
3	SQA Unit
4	SQA trustees, committees, and forums

Sr. No	Essential List (Theory)
1	What are SQA human components?
2	What is the role of SQA unit?

Sr. No	Desirable List (Theory):
1	What is the role of SQA trustees and committee members?



## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

Session - 33 (Unit -4) (Software Testing and Implementation)	
	<b>Topics to be covered</b>
<b>1</b>	<b>Software testing:</b> Definition, Software testing assurance life cycle tools
<b>2</b>	Software testing objectives
<b>3</b>	Software testing strategies: Big Bang, Incremental
<b>4</b>	Software testing strategies: Top down, Bottom up

Sr. No	Essential List (Theory)
<b>1</b>	Explain big bang and incremental testing strategies with example.
<b>2</b>	Explain top down and bottom testing strategies with example.

Sr. No	Desirable List (Theory):
<b>1</b>	What are the testing objectives.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 34 (Unit -4)</b> <b>(Software Testing and Implementation)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Software test classification:</b>
<b>2</b>	White box testing
<b>3</b>	Correctness test line coverage
<b>4</b>	Correctness test path coverage

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	What do you mean by white box testing? Explain in detail.
<b>2</b>	Explain correctness test line coverage with example.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Explain correctness test path coverage.

## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

Session - 35 (Unit -4) (Software testing and Implementation)	
	Topics to be covered
1	Software test classification:
2	Black box testing
3	Equivalence classes for output correctness test
4	Equivalence classes for output correctness test

Sr. No	Essential List (Theory)
1	What is black box testing?
2	Explain equivalence classes for output correctness test.

Sr. No	Desirable List (Theory):
1	Differentiate between black box and white box testing.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 36 (Unit -4)</b> <b>(Software testing and Implementation)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Testing process:</b>
<b>2</b>	Planning the tests: Unit test, Integration test and system test
<b>3</b>	What to test, Which sources to use for tests?
<b>4</b>	Where to perform the test? And when to terminate the test?

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Explain testing process with diagram.
<b>2</b>	Explain the test planning.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Explain different roles performed during testing process.

## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

Session - 37 (Unit -4) (Software testing and Implementation)	
	Topics to be covered
1	Test design:
2	Detailed design and procedures for each test
3	Test case database /File
4	Template

Sr. No	Essential List (Theory)
1	What is the procedure to design test case?
2	Design test case of a system for login.

Sr. No	Desirable List (Theory):
1	Explain different roles performed during testing process.

## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

Session - 38 (Unit -4) (Software testing and Implementation)	
	Topics to be covered
1	Automated testing:
2	Process of automated testing
3	Types of automated tests
4	Advantages and disadvantages of automated testing

Sr. No	Essential List (Theory)
1	Explain automated testing. What are its types.
2	What are the advantages and disadvantages of automated testing.

Sr. No	Desirable List (Theory):
1	What are the different tools available in market for automated testing.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 39 (Unit -4)</b> <b>(Software testing and Implementation)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Automated testing:</b>
<b>2</b>	Process of automated testing
<b>3</b>	Types of automated tests
<b>4</b>	Advantages and disadvantages of automated testing

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Explain automated testing. What are its types.
<b>2</b>	What are the advantages and disadvantages of automated testing.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	What are the different tools available in market for automated testing.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 40 (Unit -4)</b> <b>(Software testing and Implementation)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Alpha and Beta testing:</b>
<b>2</b>	Alpha site testing
<b>3</b>	Beta site testing
<b>4</b>	Advantages and Disadvantages of beta site testing.

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	What is alpha site testing?
<b>2</b>	Explain beta site testing with advantages.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	What are the disadvantages of beta site testing?



**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 41 (Unit -4)</b> <b>(Software testing and Implementation)</b>	
	<b>Topics to be covered</b>
<b>1</b>	<b>Alpha and Beta testing:</b>
<b>2</b>	Alpha site testing
<b>3</b>	Beta site testing
<b>4</b>	Advantages and Disadvantages of beta site testing.

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	What is alpha site testing?
<b>2</b>	Explain beta site testing with advantages.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	What are the disadvantages of beta site testing?

**Integrated MCA (SEM-V)**

**Subject Code:** 050120502

**Subject Name:** Software Engineering and Quality Assurance

**Detailed Schedule**

<b>Session - 42 (Unit -5)</b> <b>(Automation testing tool selenium)</b>	
	<b>Topics to be covered</b>
<b>1</b>	What is testing tool?
<b>2</b>	Which testing tool is used for automated testing.
<b>3</b>	Selenium test setup
<b>4</b>	Selenium test setup

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Find out selenium tool with its jar files.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Which are other testing tools available in market.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 42 (Unit -5)</b> <b>(Automation testing tool selenium)</b>	
	<b>Topics to be covered</b>
<b>1</b>	Inspect web/html elements
<b>2</b>	Inspect web/html elements
<b>3</b>	Locating elements in selenium
<b>4</b>	Locating elements in selenium

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Find out selenium tool with its jar files.

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Which are other testing tools available in market.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 44 (Unit -5)</b> <b>(Automation testing tool selenium)</b>	
	<b>Topics to be covered</b>
<b>1</b>	Performing actions on elements using selenium web driver methods
<b>2</b>	Performing actions on elements
<b>3</b>	Performing actions on elements
<b>4</b>	Performing actions on elements

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Which are web driver methods of selenium?

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Which are other testing tools available in market.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

<b>Session - 45 (Unit -5)</b> <b>(Automation testing tool selenium)</b>	
	<b>Topics to be covered</b>
<b>1</b>	Selenium page object model
<b>2</b>	Selenium page object model
<b>3</b>	Writing Selenium test cases
<b>4</b>	Writing Selenium test cases

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	What is page object model?

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Write a test case for login module.

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

Session - 46	
	<b>Topics to be covered</b>
<b>1</b>	Revision
<b>2</b>	Revision
<b>3</b>	Revision
<b>4</b>	Revision

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Concepts revision

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Concepts revision

## Integrated MCA (SEM-V)

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

### Detailed Schedule

Session - 47	
	Topics to be covered
1	Revision
2	Revision
3	Revision
4	Revision

Sr. No	Essential List (Theory)
1	Concept revision

Sr. No	Desirable List (Theory):
1	Concept revision

**Integrated MCA (SEM-V)**

**Subject Code: 050120502**

**Subject Name: Software Engineering and Quality Assurance**

**Detailed Schedule**

Session - 48	
	<b>Topics to be covered</b>
<b>1</b>	Doubt solving session
<b>2</b>	Doubt solving session
<b>3</b>	Doubt solving session
<b>4</b>	Doubt solving session

<b>Sr. No</b>	<b>Essential List (Theory)</b>
<b>1</b>	Concept discussion

<b>Sr. No</b>	<b>Desirable List (Theory):</b>
<b>1</b>	Concept discussion