M.D UNIVERSITY
SCHEME OF STUDIES AND EXAMINATION
M.TECH 2nd YEAR (SOFTWARE ENGINEERING)
SEMESTER 3rd
CBCS Scheme effective from 2017-18

Sr. No	Course No.	Subject	Teaching Schedule				Examination Schedule (Marks)				Duration of Exam (Hours)	No of hours/ week
			L	T	P	Total credits	Marks of Class works	Theory	Practical	Total		
1	17MSE23C1	Software Testing	4	0	-	4	50	100	-	150	**3**	**4**
2	17MSE23C2	Advance Database Management System	4	0	-	4	50	100	-	150	**3**	**4**
3	17MSE23C3	Literature Survey (Dissertation Stage 1)	-	-	2	2	100	-	-	100		**4**
4	17MSE23C4	Seminar	-		2	2	50	-	-	50		**2**
5	17MSE23CL1	Advance Database Management System Lab	-	-	2	2	50	-	50	100		**2**
6	17MSE23CL2	Project	-	-	2	2	50	-	50	100		**2**
7		Open Elective				3						
		TOTAL				**21**						

NOTE:
Examiner will set nine questions in total. Question One will be compulsory and will comprises of all sections and remaining eight questions to be set by taking two questions from each unit. The students have to attempt five questions in total, first being compulsory and selecting one from each Unit.

OPEN ELECTIVE
A candidate has to select this paper from the pool of open electives provided by the University.

M.D. UNIVERSITY
SCHEME OF STUDIES AND EXAMINATION
M.TECH 2nd YEAR (SOFTWARE ENGINEERING)
SEMESTER 4th
CBCS Scheme effective from 2017-18

Sr. No	Course No.	Subject	Teaching Schedule				Examination Schedule (Marks)				No of Credits
			L	T	P	Total	Marks of Class works	Theory	Practical	Total	
1.	17MSE24C1	Dissertation and viva (Dissertation Stage 2)	-	-	-	-	250	-	500	750	**20**
		TOTAL	**-**	**-**	**-**	**-**					

NOTE:

1. **Students have to publish a research paper in a journal / conference of the research work done in the semester.**

17MSE23C1 **SOFTWARE TESTING**

		Marks	credits
L T P	Exam:	100	4
4 - -	Sessional:	50	
	Total:	150	4

Duration of Exam.: 3 hrs.

NOTE:
Examiner will set nine questions in total. Question One will be compulsory and will comprises of all sections and remaining eight questions to be set by taking two questions from each unit. The students have to attempt five questions in total, first being compulsory and selecting one from each Unit.

UNIT I
Testing as an engineering activity – Role of process in software quality – Testing as a process – Basic definitions – Software testing principles – The tester's role in a software development organization – Origins of defects – Defect classes – The defect repository and test design – Defect examples – Developer / Tester support for developing a defect repository.

UNIT II
Introduction to testing design strategies – The smarter tester – Test case design strategies – Using black box approach to test case design – Random testing – Equivalence class partitioning – Boundary value analysis – Other black box test design approaches – Black box testing and COTS – Using white box approach to test design – Test adequacy criteria – Coverage and control flow graphs – Covering code logic – Paths – Their role in white box based test design – Additional white box test design approaches – Evaluating test adequacy criteria.

UNIT III
The need for levels of testing – Unit test – Unit test planning – Designing the unit tests – The class as a testable unit – The test harness – Running the unit tests and recording results – Integration tests – Designing integration tests – Integration test planning – System test – The different types – Regression testing – Alpha, beta and acceptance tests.

UNIT IV
Basic concepts – Testing, debugging goals, policies – Test planning – Test plan components – Test plan attachments – Locating test items – Reporting test results – The role of three groups in test planning and policy development – Process and the engineering disciplines – Introducing the test specialist – Skills needed by a test specialist – Building a testing group. Defining terms – Measurements and milestones for controlling and monitoring – Status meetings – Reports and control issues – Criteria for test completion – Types of reviews – Developing a review program – Components of review plans – Reporting review results.

References:
1. Foundation of Software Testing by Aditya P. Mathur, Pearson Publication.

2. Software Testing, A Craftsman Approach by Paul. C. Jorgensen, CRC Press.
3. Software Testing- Effective Methods, Tools and Techniques by Renu Rajani, Pradeep Oak, Tata McGraw hill Publications.
4. Software Testing: Principles and Practices by Srinivasan Desikan and Ramesh, Pearson Education.
5. The Art of Software Testing by Glenford J. Myers, Wiley Publications.

17MSE23C2 ADVANCE DATABASE MANAGEMENT SYSTEM

		Marks	credits
L T P	Exam:	100	4
4 - -	Sessional:	50	
	Total:	150	4

Duration of Exam.: 3 hrs.

NOTE:
Examiner will set nine questions in total. Question One will be compulsory and will comprises of all sections and remaining eight questions to be set by taking two questions from each unit. The students have to attempt five questions in total, first being compulsory and selecting one from each Unit.

UNIT –I
Introduction: -Traditional Approach to Information processing. Data Base Concepts and its Approach to data processing. Feature of DBMS, Software's, Users, why Database? What is BDBMS. Elements of DBMS: Data definition languages(DDL). Data Manipulation Languages (DML). Data Query Language (DQL). How does a DBMS works?

UNIT –II
Introduction to Data base model, relational data base models, hierarchical database, network database, database design, applications, problems in DBMS environment, selecting database software, basic of relational database management.
Relational algebra (union, intersection, difference, Cartesian product, select, project, join, divide), entity-relationship model, components (entities, attributes, relationship, cardinality, weak entities, recursive entities).

UNIT-III
Normalization, the need for the normalization, conversion to Ist, IInd and IIIrd normal form, file access method-sequential file, direct access, role of DBMS, why relational database, structure of dbms, next generation data base system, knowledge based system, computer facilities, features of distributed vs centralized database, role of dba.

UNIT-IV
Data classification: importance of data, private organizations versus military classifications: threats and risk: confidentially, authentication, integrity, non-repudiation, cryptography: type of cryptogram, symmetric key cryptography, and asymmetric key cryptography: digital signature.

References:

1. An introduction to database systems by Bipin Desai, Galgotia Pub.
2. An introduction to database management systems by C.J. Date, Pearson Education,7th edition.
3. Database System Concepts by Silberschatz Abraham Korth, TMH,4th edition.

17MSE23C3 LITERATURE SURVEY
(DISSERTATION STAGE 1)

L	T	P		Marks	Credits
-	-	2	Sessional Exam :	100	2

A candidate has to prepare a report covering identification of research topic, literature review, planning of research scheme and systematic documentation. The marks will be given on the basis of a report prepared covering the above said contents, contents of the presentation, communication and presentation skills.

17MSE23C4 **SEMINAR**

		Marks	Credits
L T P	EXAM:	50	2
- - 2			

A candidate has to present a seminar on a recent topic/ technology/ research advancement and has to submit a seminar report. The marks will be given on the basis of seminar report, contents of the presentation, communication and presentation skills.

17MSE23CL1 ADVANCE DATABASE MANAGEMENT LAB

		Marks	Credits
L T P	EXAM:	50	2
- - 2	Sessional:	50	

Practical's based on theory paper

17MSE23CL2 Project

			Marks	Credits
L T P	EXAM	:	50	2
- - 1	Sessional		50	

A student has to make a Project based on latest technology.