

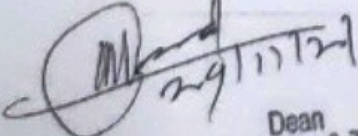
Course Curriculum Abstract of M.Sc. Information Technology

Semester I	Semester II	Semester III	Semester IV
Programming 1	Programming 2	Web Analysis & Development	<ul style="list-style-type: none"> • Field Work & Internship Program • Seminar
Analysis of algorithms	Relational Database Management System using SQL	Artificial Intelligence	
Advance Computer Network	Network Security	Cyber Forensics	
Advance Operating System	Fundamentals of Compiler Design	Advance Software Engineering	
Computational Mathematics			
Constitution of India	Elective 1	Elective 2	
Research Methodology	Technical Report Writing		

Program Specific Outcomes (PSOs) and Program Outcomes (POs)

M. Sc. Information Technology

1. Be able to fundamentally strong in Information Technology concepts.
2. Be able to design, implement and evaluate a technology – based system, process and components.
3. Be competent in engineering software for industrial applications.
4. An ability to identify opportunities for establishing an enterprise.
5. Be able to apply computational knowledge for information theory.
6. Ability to understand and apply fundamental research concepts.
7. Be able to provide services in the areas of communication technology.
8. An ability to get detail insight of advanced tools and technology for information processing.
9. To discover patterns in large data sets involving methods at the intersection of machine learning, statistics, and database systems.
10. Understand professional, ethical, legal, security, social issues and responsibilities.
11. Engage in independent and life-long learning for continued professional development.


 Dean
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 Dr. Babasaheb Ambedkar Marathwada
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M. Sc. Computer Science Course Structure:

Sem-I	Sem-II	Sem-III	Sem-IV
Advanced Java	Data Structure and Analysis of Algorithm	Java Network Programming	Pattern Recognition
Neural Network	Advanced Neural Network and Fuzzy System	Advanced Software Engineering and Technology	Major Project
Digital Signal Processing	Image Processing	Computer Vision	Seminar
Advanced Operating System	Parallel Computing	Elective - I: (Select any one from list of elective I) 1. Advanced Embedded System 2. Data Ware Housing 3. GIT 4. Biometric Techniques 5. Mobile Computing	Elective -II: (Select any one from list of elective II) 1. Theoretical Computer Science 2. Decision Support System & Intelligent System 3. Data Mining 4. Cryptography and Network Security 5. Introduction to MEMS Pro+

Semester-I

Course Code	Course Title	No. of Credits	No. of Hours / Week	Total Marks:100	
				External	Internal
CSC401	Advanced Java	4	4	80	20
CSC402	Neural Network	4	4	80	20
CSC403	Digital Signal Processing	4	4	80	20
CSC404	Advanced Operating System	4	4	80	20
CSC451	Practical Based on CSC401	2	4 (Per Batch)	50	-
CSC452	Practical Based on CSC402	2	4 (Per Batch)	50	-
CSC453	Practical Based on CSC403	2	4 (Per Batch)	50	-
CSC454	Practical Based on CSC404	2	4 (Per Batch)	50	-
Total No of Credits in Sem-I		24	--	--	--

Semester-II

Course Code	Course Title	No. of Credits	No. of Hours / Week	Total Marks:100	
				External	Internal
CSC405	Data Structure and Analysis of Algorithm	4	4	80	20
CSC406	Advanced Neural Network and Fuzzy System	4	4	80	20
CSC407	Image Processing	4	4	80	20
CSC408	Parallel Computing	4	4	80	20
CSC455	Practical Based on CSC405	2	4 (Per Batch)	50	-
CSC456	Practical Based on CSC406	2	4 (Per Batch)	50	-
CSC457	Practical Based on CSC407	2	4 (Per Batch)	50	-
CSC458	Practical Based on CSC408	2	4 (Per Batch)	50	-
Total No of Credits in Sem-II		24	--	--	--

	Web Design								
	Total	20	8	20 + 4 = 24	360	160	80	600	--

FIFTH SEMESTER

Pap er No	Title	Weekly Th Pr	Credit Th Pr	Marks Theory	Marks Sessional or practical S Pr	Total Marks	Duration Theory Exam
XX V	Management Accounting	4 -	4 -	60	40 -	100	2 Hrs
XX VI	Organisational Behaviour	4 -	4 -	60	40 -	100	2 Hrs
XX VII	Business Elective I	4 -	4 -	60	40 -	100	2 Hrs
XX VIII	RDBMS using ORACLE	2 4	2 2	60	- 40	100	2 Hrs
XXI X	V B	2 4	2 2	60	- 40	100	2 Hrs
XX X	IT Elective I	2 4	2 2	60	- 40	100	2 Hrs
	Total	20 12	18 + 6 = 24	360	120 120	600	--

SIXTH SEMESTER

Pap er No	Title	Weekly Th Pr	Credit Th Pr	Marks Theory	Marks Sessional or Practical S Pr	Total Marks	Duration Theory Exam
XX XI	Business Law III	4 -	4 -	60	40 -	100	2 Hrs
XX XII	Business Elective II	4 -	4 -	60	40 -	100	2 Hrs
XX XIII	Elements of Commercial Portals	4 -	4 -	60	40 -	100	2 Hrs
XX XIV	System Programming	4 -	4 -	60	40 -	100	2 Hrs
XX XV	IT Elective II	2 4	2 2	60	- 40	100	2 Hrs
XX XVI	Project	- 8	- 4	-	- 100	100	2 Hrs

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AURANGABAD.**

APPENDIX – 'A'

**B. Sc. (MANUFACTURING PROCESS)/(WORKSHOP TECHNOLOGY)
THIRD YEAR**

FIFTH SEMESTER

Paper no.	Name of Paper	Max Marks		Min. Marks for passing		Total Mark
		Theory	Practical	Theory	Practical	
WT-501	Entrepreneurship development program -I	50	--	20	--	50
WT-502	Robotics-I	50	--	20	--	50
WT-503	Tool Engineering	50	--	20	--	50
WT-504	Mechatronics –I	50	--	20	--	50
WT-505	Computer Integrated Manufacturing Systems	50	--	20	--	50
WT-506	Quality Engineering & Industrial Management	50		20		50
WT-507	Project-I	--	50	--	20	50
WT-508	Practical-I based on paper 2	--	50		20	50
WT-509	Practical-II based on paper 3	--	50	--	20	50
WT-510	Practical-III based on paper 4	--	50	--	20	50
WT-511	Practical –IV based on paper 5	--	50	--	20	50
WT-512	Seasonal based on paper 6	--	50	--	20	50
Total		300	300	--	--	600

Total marks 300+ 300= 600

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**APPENDIX – 'A'
B. Sc. (REFRIGERATION AND AIR CONDITIONING)
THIRD YEAR**

FIFTH SEMESTER

Paper no.	Name of Paper	Max Marks		Min. Marks for passing		Total Mark
		TH	PR	TH	PR	
RAC-501	Entrepreneurship development Program -I	50	--	20	--	50
RAC-502	Refrigerants	50	--	20	--	50
RAC-503	Refrigeration & Air Conditioning Material	50	--	20	--	50
RAC-504	Refrigeration & Air Conditioning Application	50	--	20	--	50
RAC-505	Refrigeration & Air Conditioning Piping System	50	--	20	--	50
RAC-506	Non-Conventional Refrigeration System	50	--	20	--	50
RAC-507	Project-I/Seminar	--	50	--	20	50
RAC-508	Practical-I based on paper 2	--	50	--	20	50
RAC-509	Practical-II based on paper 3	--	50	--	20	50
RAC-510	Practical-III based on paper 4	--	50	--	20	50
RAC-511	Practical –IV based on paper 5	--	50	--	20	50
RAC-512	Seasonal based on paper 6	--	50	--	20	50
Total		300	300	--	--	600

Total marks 300+ 300= 600

Sr. No.	Paper Number	Name of the Paper Titles	Scheme of Teaching	Scheme of Evaluation(Marks)		
			Theory / Practical (Lect./week)	Theory / Practical (Marks)	Exam Duration (in hrs.)	Total Mark
V Semester						
1	CS501-T	Software Cost Estimation	3	50	2	50
2	CS502-T	Basic of Android O. S.	3	50	2	50
3	CS503-T	Core Java-II	3	50	2	50
4	CS504-T	Basic of Computer Graphics	3	50	2	50
5*	CS505-T	Beginners Prog. with PHP	3	50	2	50
6*	CS506-T	Basic of ASP.Net	3	50	2	50
7 [#]	CS507-T	Data Mining	3	50	2	50
8 [#]	CS508-T	Advanced Networking	3	50	2	50
9	CS509-P	Pr. Based on Adv. Java	4	100	2	100
10		Pr. Based on Comp. Graphics	4		2	
11	CS510-P	Pr. Based on Android O.S.	4	100	2	100
12		Pr. Based on PHP/ASP.Net	4		2	
VI Semester						
1	CS601-T	Software Quality & Testing	3	50	2	50
2	CS602-T	Android Application Development	3	50	2	50
3	CS603-T	Theory of Computation	3	50	2	50
4	CS604-T	Advanced Computer Graphics	3	50	2	50
5*	CS605-T	Advanced Prog. With PHP	3	50	2	50
6*	CS606-T	Programming Language: C#	3	50	2	50
7 [#]	CS607-T	e-Commerce	3	50	2	50
8 [#]	CS608-T	Ethics and Cyber Law	3	50	2	50
9	CS609-P	Pr. Based on Android Develop.	4	100	2	100
10		Pr. Based on PHP / C#	4		2	
11	CS610-P	Major Project	8	100	4	100
12						

* and #: Any one paper is to be opted from the group

Curriculum Structure and Scheme of Evaluation: B.Sc.(I.T.)

Sr. No.	Paper Number	Name of the Paper Titles	Scheme of Teaching	Scheme of Evaluation(Marks)		
			Theory / Practical (Lect./week)	Theory / Practical (Marks)	Exam Duration (in hrs.)	Total Mark
V Semester						
1	IT501-T	Software Project Management II	3	50	2	50
2	IT502-T	Data Communication & Networks	3	50	2	50
3	IT503-T	Beginners Programming with PHP	3	50	2	50
4	IT504-T	Ethical Hacking	3	50	2	50
5*	IT505-T	Data Warehousing	3	50	2	50
6*	IT506-T	Computer Graphics	3	50	2	50
7#	IT507-T	Core Java-II	3	50	2	50
8#	IT508-T	eXtended Markup Language (XML)	3	50	2	50
9	IT509-P	Pr. Based on DCN	4	100	2	100
10		Pr. Based on PHP	4		2	
11	IT510-P	Pr. Based on DW/ CG	4	100	2	100
12		Pr. Based on Core Java-II / XML	4		2	
VI Semester						
1	IT601-T	Software Testing & Quality Assurance	3	50	2	50
2	IT602-T	Wireless Networking	3	50	2	50
3	IT603-T	Advanced Programming with PHP	3	50	2	50
4	IT604-T	Cyber Law and Security	3	50	2	50
5*	IT605-T	Data Mining	3	50	2	50
6*	IT606-T	Cloud Computing	3	50	2	50
7#	IT607-T	C# Programming	3	50	2	50
8#	IT608-T	AJAX	3	50	2	50
9	IT609-P	Pr. Based on PHP	4	100	2	100
10		Pr. Based on C# / AJAX	4		2	
11	IT610-P	Major Project	8	100	3	100
12						

* and #: Any one paper is to be opted from the group

Semester-III

Course Code	Course Title	No. of Credits	No. of Hours / Week	Total Marks:100	
				External	Internal
CSC501	Java Network Programming	4	4	80	20
CSC502	Advanced Software Engineering and Technology	4	4	80	20
CSC503	Computer Vision	4	4	80	20
CSC504	Elective - I: (Select any one from list of elective I)	4	4	80	20
CSC551	Practical Based on CSC501	2	4 (Per Batch)	50	-
CSC552	Practical Based on CSC502	2	4 (Per Batch)	50	-
CSC553	Practical Based on CSC503	2	4 (Per Batch)	50	-
CSC554	Practical Based on CSC504	2	4 (Per Batch)	50	-
Total No of Credits in Sem-III		24	--	--	--

Semester-IV

Course Code	Course Title	No. of Credits	No. of Hours / Week	Total Marks:100	
				External	Internal
CSC505	Pattern Recognition	4	4	80	20
CSC506	Elective -II: (Select any one from list of elective II)	4	4	80	20
CSC555	Practical Based on CSC505	2	4 (Per Batch)	50	-
CSC556	Practical Based on CSC506	2	4 (Per Batch)	50	-
CSC557	Major Project	8	16 (Per Batch)	50	-
CSC558	Seminar	4	8 (Per Batch)	50	-
Total No of Credits in Sem-IV		24	--	--	--

Total credits of the course =104 (24+24+24+24+8)

Elective I					
Course Code	Course Title	No. of Credits	No. of Hours / Week	Total Marks:100	
				External	Internal
CSC421	Advanced Embedded System	4	4	80	20
CSC422	Practical Based on CSC421	2	4 (Per Batch)	50	-
CSC423	Data Ware Housing	4	4	80	20
CSC424	Practical Based on CSC423	2	4 (Per Batch)	50	-
CSC425	GIT	4	4	80	20
CSC426	Practical Based on CSC425	2	4 (Per Batch)	50	-
CSC427	Biometric Techniques	4	4	80	20
CSC428	Practical Based on CSC427	2	4 (Per Batch)	50	-
CSC429	Mobile Computing	4	4	80	20
CSC430	Practical based on CSC429	2	4 (Per Batch)	50	-