DVV Clarification for 1.2.1

Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc.

2023-2024						
S.No	**Academic Year**	**Name of Add on / Certificate /Value added programs**	**Program**	**Applicable Curriculum**	**Course Covered in Curriculum**	**Remarks**
1	2023-2024	Certificate Program on Investment Risk Management	MBA	2022-2023	Not Covered	
2	2023-2024	Certificate Program on Python for IoT	MCA	2023-2024	Not Covered	
3	2023-2024	Bridge Course on Fundamentals of Statistics	MBA	2023-2024	Not Covered	
4	2023-2024	Bridge Course on Fundamentals of Programming	MCA	2022-2023	Not Covered	
5	2023-2024	Certificate Program on Financial Modeling	MBA	2023-2024	Not Covered	
6	2023-2024	Certificate Program on Start-Up Marketing	MBA	2023-2024	Not Covered	There is a course with the name Start-Up Management in the curriculum but does not cover the concepts of Start-up Marketing. The certificate program was recommended by the college academic committee upon conduct of curriculum gap analysis and identification of gaps.
7	2023-2024	Certificate Program on Ethical Hacking	MCA	2022-2023	Not Covered	
8	2023-2024	Training Program on Generative AI	MCA	2023-2024	Not Covered	
9	2023-2024	Training Program on Data Analytics	MBA	2023-2024	Not Covered	
10	2023-2024	Certificate Program on Google Cloud	MCA	2023-2024	Not Covered	
11	2023-2024	Certificate Program on Business Analytics and Data Science	MBA	2022-2023	Not Covered	There is a course with the name Business Analytics in the curriculum but does not cover the concepts of Data Science. The certificate program was recommended by the college academic committee upon conduct of curriculum gap analysis and identification of gaps.

2022-2023						
1	2022-2023	Certificate Program on Cyber security	MCA	2021-2022	Not Covered	
2	2022-2023	Certificate Program on Video Analytics	MBA	2021-2022	Not Covered	
3	2022-2023	Bridge Course on Fundamentals of Programming	MCA	2022-2023	Not Covered	
4	2022-2023	Bridge Course on Fundamentals of Statistics	MBA	2022-2023	Not Covered	
5	2022-2023	Certificate Program on AI and Machine Learning in Business	MCA	2022-2023	Not Covered	
6	2022-2023	Certificate Program on Leadership Development	MBA	2022-2023	Not Covered	There is course with the name Leadership and Change Management in the curriculum but does not cover the concepts of Leadership Development. The certificate program was recommended by the college academic committee upon conduct of curriculum gap analysis and identification of gaps.
7	2022-2023	Certificate Program on Data Science and Big Data Analytics	MCA	2021-2022	Not Covered	
8	2022-2023	Traning Program on IT Fundamentals	MBA	2021-2022	Not Covered	
9	2022-2023	Certificate Program on Cloud Computing and Virtualization	MCA	2022-2023	Not Covered	
10	2022-2023	Traning Program on Django	MCA	2021-2022	Not Covered	
2021-2022						
1	2021-2022	Certificate Program on Block Chain and Cryptocurrency	MCA	2021-2022	Not Covered	
2	2021-2022	Bridge Course on Fundamentals of Programming	MCA	2020-2021	Not Covered	
3	2021-2022	Certificate Program on Agile Project Management	MCA	2020-2021	Not Covered	
4	2021-2022	Bridge Course on Fundamentals of Statistics	MBA	2021-2022	Not Covered	
5	2021-2022	Certificate Program on Mobile App Development	MCA	2021-2022	Not Covered	
6	2021-2022	Certificate Program on Design Thinking and Innovation	MBA	2021-2022	Not Covered	
7	2021-2022	Traning Program on Chatbots	MCA	2021-2022	Not Covered	

8	2021-2022	Certificate Program on Entrepreneurial Strategic Management	MBA	2020-2021	Not Covered	There is a course with the name Entrepreneurship Development in the curriculum but does not cover the concepts of Strategic Management. The certificate program was recommended by the college academic committee upon conduct of curriculum gap analysis and identification of gaps.
9	2021-2022	Traning Program on Finance and Accounting	MBA	2021-2022	Not Covered	
2020-2021						
1	2020-2021	Certificate Program on HR Analytics	MBA	2016-2021	Not Covered	
2	2020-2021	Certificate Program on Cloud Computing and DevOps	MCA	2020-2021	Not Covered	
3	2020-2021	Bridge Course on Fundamentals of Programming	MCA	2020-2021	Not Covered	
4	2020-2021	Bridge Course on Fundamentals of Statistics	MBA	2016-2021	Not Covered	
5	2020-2021	Certificate Program on Quantum Computing and Quantum Programming	MBA	2016-2021	Not Covered	
6	2020-2021	Certificate Program on Human Resources	MBA	2016-2021	Not Covered	A course with the name Human Resources Management is available in the curriculum but the contents are different. The certificate program was recommended by the college academic committee upon conduct of curriculum gap analysis and identification of gaps.
2019-2020						
1	2019-2020	Certificate Program on Augmented Reality (AR) and Virtual Reality (VR)	MCA	2019-2020	Not Covered	
2	2019-2020	Certificate Program on Leadership in the Digital Age	MBA	2016-2021	Not Covered	
3	2019-2020	Bridge Course on Fundamentals of Programming	MCA	2019-2020	Not Covered	
4	2019-2020	Bridge Course on Fundamentals of Statistics	MBA	2016-2021	Not Covered	

5	2019-2020	Certificate Program on Natural Language Processing (NLP)	MCA	2019-2020	Not Covered	
6	2019-2020	Certificate Program on Corporate Governance	MBA	2016-2021	Not Covered	
7	2019-2020	Traning Program on DataScience with Python	MCA	2019-2020	Not Covered	There is a course with the name Python Programming in the curriculum but does not cover the concepts of Data Science. The certificate program was recommended by the college academic committee upon conduct of curriculum gap analysis and identification of gaps.
8	2019-2020	Certificate Program on Enterprise Resource Planning	MBA	2016-2021	Not Covered	

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MBA (Day) Structure and Syllabus As Per CBCS Guidelines Effective From 2016

Year-I Semester –I

Course Code	Course Title	Nature	Credits	HPW	Max Marks (CIE+SEE) 100
MB101	Management & Organizational Behaviour	Core	5	5	20+80
MB102	Accounting for Management	Core	5	5	20+80
MB103	Marketing Management	Core	5	5	20+80
MB104	**Open Elective-I** 1.Business Law &Ethics 2.Fundamentals of Technology Management 3.Managerial Economics	Open Elective	4	4	20+80
MB105	**Open Elective –II** 1. IT Applications for Management 2. Business Communication 3. Customer Relationship Management	Open Elective	4	4	20+80
MB106	Computer Practical	Practical	1	2	25
Total credits at the end of Ist Semester			**24**	**25**	**525**

Year-I Semester –II

Course Code	Course Title	Nature	Credits	HPW	Max Marks (IA+UE) 100
MB201	Human Resources Management	Core	5	5	20+80
MB202	Financial Management	Core	5	5	20+80
MB203	Business Research Methods	Core	5	5	20+80
MB204	**Open Elective-III** 1.Economic Environment and Policy 2.Business Process Re-engineering 3.International Business 4.Financial Markets & Services	Open Elective	4	4	20+80
MB205	**Open Elective-IV** 1. Total Quality Management 2. Strategic Management Accounting 3. Start Up Management 4. Retail Management	Open Elective	4	4	20+80
MB206	Seminar	---------	1	2	Grade
Semester Credits			**24**	**25**	**500**
Total credits at the end of IInd Semester			**48**	**50**	**1025**

- **HPW – Hours Per Week**
- **CIE – Continuous Internal Exam**
- **SEE – Semester End Exam**

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MBA (Day) Structure and Syllabus As Per CBCS Guidelines Effective From 2016

Year-II – Semester-III

Course Code	Course Title	Nature	Credits	HPW	Max Marks (IA+UE) 100
MB301	Operations Management	Core	5	5	20+80
MB302	E- Business	Core	5	5	20+80
MB303	**Interdisciplinary Courses** 1.Managerial Communication 2.Entrepreneurial Development 3.Management Theory and Practice	ID	5	5	20+80
MB305	**Discipline Specific Elective- I** 1. Financial Risk Management(F) 2.Product & Brand Management (M) 3.Compensation Management (HR) 4.Decision Support Systems (SYS)	DSE	4	4	20+80
MB306	**Discipline Specific Elective – II** 1.International Finance(F) 2.Promotion & Distribution Management(M) 3.Organization Development(HR) 4. Business Analytics (SYS)	DSE	4	4	20+80
MB307	**Tutorials** Project work Tutorials/Case Study/ R Programming		1	2	------
	Total credits at the end of III[rd] Semester		**24**	**25**	**500**

Year-II –Semester IV

Course Code	Course Title	Nature	Credits	HPW	Max Marks (IA+UE) 100
MB401	Strategic Management	Core	5	5	20+80
MB402	Operations Research	Core	5	5	20+80
MB403	Supply Chain Management	Core	5	5	20+80
MB404	**DS Elective- III** 1.Investment Management(F) 2.Consumer Behaviour(M) 3.Performance Management (HR) 4.Data Base Management Systems (SYS)	DSE	4	4	20+80
MB405	**DS Elective- IV** 1.Banking & Insurance (F) 2.Services & Global Marketing(M) 3.Talent &Knowledge Mgt (HR) 4.Software Project Management (SYS)	DSE	4	4	20+80
MB406	Project Work	------	1	2	Grade
MB407	Comprehensive Viva - Voce	-------	1	--	Grade
	Semester Credits		**25**	**25**	**500**
	Total credits at the end of IV[th] and final Semester		**49** **97**	**50** **100**	**2025**

- **ID – INTER DISCIPLINARY**
- **DSE – Discipline Specific Elective**

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MBA (Day) Course Structure and Syllabus as Per CBCS Guidelines with Effect from the academic year 2021-22

MBA Year-I Semester –I

Course Code	Course Title	Nature	Credits	HPW (Theory+Tutorials) (4+1)	Max Marks (CIE+SEE) (20+80=100)
MB101	Management & Organizational Behaviour	Core	5	5	20+80
MB102	Accounting for Management	Core	5	5	20+80
MB103	Marketing Management	Core	5	5	20+80
MB104	Statistics for Management	Core	5	5	20+80
MB105	Economics for Managers	Core	5	5	20+80
MB106	IT Applications for Management	Core	5	5	20+80
MB107	**Open Elective-I** a. Financial Markets and Services b. Managerial Communication	Open Elective - I	5	5	20+80
MB108 *	Computer Practical's	Practical	2	2	25
Total credits at the end of I[st] Semester			**37**	**37**	**725**

- **HPW – Hours Per Week**
- **CIE – Continuous Internal Exam**
- **SEE – Semester End Exam**

* **Seminar should be evaluated for 100marks and it will be converted to Grade**

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MBA Year-I Semester –II

Course Code	Course Title	Nature	Credits	HPW (Theory+Tutorials) (4+1)	Max Marks (CIE+SEE) (20+80=100)
MB201	Human Resources Management	Core	5	5	20+80
MB202	Financial Management	Core	5	5	20+80
MB203	Operations Research	Core	5	5	20+80
MB204	Entrepreneurship and Development	Core	5	5	20+80
MB205	Business Research Methods	Core	5	5	20+80
MB206	Business Law and Ethics	Core	5	5	20+80
MB207	**Open Elective-II** a. Innovation Management b. Customer Relationship Management	Open Elective- II	5	5	20+80
MB208	Seminar Presentation *	---------	2	2	Grade
Semester Credits			**37**	**37**	**700**
Total credits at the end of II[nd] Semester			**74**	**74**	**1425**

- **HPW – Hours Per Week**
- **CIE – Continuous Internal Exam**
- **SEE – Semester End Exam**

* **Seminar should be evaluated for 100marks and it will be converted to Grade**

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MBA Year-II – Semester-III

Course Code	Course Title	Nature	Credits	HPW (Theory+Tutorials) (4+1)	Max Marks (CIE+SEE) (20+80=100)
MB301	Operations Management	Core	5	5	20+80
MB302	E- Business	Core	5	5	20+80
MB303	Total Quality Management	Core	5	5	20+80
MB304	Global Business Strategies	Core	5	5	20+80
MB305	**Discipline Specific Elective:**	DSE	10	10	
	Finance:				
MB 305-F-I	Investment Management		(5)	(5)	20+80
MB 305-F-II	International Finance		(5)	(5)	20+80
	Marketing:				
MB 305-M-I	Marketing Engineering		(5)	(5)	20+80
MB 305-M-II	Advertisement and Retail Management		(5)	(5)	20+80
	Human Resources:				
MB 305-HR-I	Industrial Relations and Labour Laws		(5)	(5)	20+80
MB 305-HR-II	Organizational Development		(5)	(5)	20+80
	Systems:				
MB 305-S-I	Data Base Management Systems		(5)	(5)	20+20+60 (SEE=60) (CIE=20) (CLE=20)
MB 305-S-II	Business Analytics		(5)	(5)	20+80
MB306 *	**Tutorials** Project work Synopsis		2	2	Grade
Semester Credits			**32**	**32**	**600**
Total credits at the end of III[rd] Semester			**106**	**106**	**2025**

- **CIE – Continuous Internal Exam**
- **SEE – Semester End Exam**
- **CLE – Computer Lab Exam**

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MBA Year-II – Semester-IV

Course Code	Course Title	Nature	Credits	HPW (Theory+Tutorials) (4+1)	Max Marks (CIE+SEE) (20+80=100)
MB401	Business Policy & Strategy	Core	5	5	20+80
MB402	Business Intelligence	Core	5	5	20+80
MB403	Supply Chain Management	Core	5	5	20+80
MB404	**Discipline Specific Elective:**	DSE	10	10	
	Finance:				
MB 404-F-I	Financial Risk Management		(5)	(5)	20+80
MB 404-F-II	Banking and Insurance		(5)	(5)	20+80
	Marketing				
MB 404-M-I	Buyer Behaviour		(5)	(5)	20+80
MB 404-M-II	Services and Digital Marketing		(5)	(5)	20+80
	Human Resources				
MB 404-HR-I	Leadership and Change Management		(5)	(5)	20+80
MB 404-HR-II	Performance Management		(5)	(5)	20+80
	SYSTEMS				
MB 404-S-I	Data Visualization		(5)	(5)	20+20+60 (SEE=60) (CIE =20) (CLE=20)
MB 404-S-II	Data Mining For Business		(5)	(5)	20+80
MB405*	Project Work	------	2	2	Grade
MB406*	Comprehensive Viva - Voce	------	2	---	Grade
Semester Credits			**29**	**27**	**500**
Total credits at the end of IVth Semester			**135**	**133**	**2525**

- **Evaluation will be done for 100 marks**
- **CIE – Continuous Internal Exam**
- **SEE – Semester End Exam**
- **CLE - Computer Lab Exam**

*** Seminar should be evaluated for 100marks and it will be converted to Grade**

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MBA Year-I Semester –I

Course Code	Course Title	Nature	Credits	HPW (Th+Tu+P)	Max Marks (CIE+SEE)
MB101	Management & Organizational Behaviour	Core	4	4Th + 1 Tu	30+70
MB102	Accounting for Management	Core	4	4Th + 1 Tu	30+70
MB103	Marketing Management	Core	4	4Th + 1 Tu	30+70
MB104	Statistics for Management	Core	4	4Th + 1 Tu	30+70
MB105	Economics for Managers	Core	4	4Th + 1 Tu	30+70
MB106	IT Applications for Management	Core	4	3Th+2P	30+50 +20P
Total credits at the end of I Semester			**24**		**600**

- **HPW – Hours Per Week**
- **CIE – Continuous Internal Exam**
- **SEE – Semester End Exam**
- **Th- Theory**
- **Tu – Tutorial**
- **P - Practical**

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MBA Year-I Semester –II

Course Code	Course Title	Nature	Credits	HPW (Th+Tu+P)	Max Marks (CIE+SEE)
MB201	Human Resources Management	Core	4	4Th + 1 Tu	30+70
MB202	Financial Management	Core	4	4Th + 1 Tu	30+70
MB203	Operations Research	Core	4	4Th + 1 Tu	30+70
MB204	Entrepreneurship and Development	Core	4	4Th + 1 Tu	30+70
MB205	Business Research Methods	Core	4	4Th + 1 Tu	30+70
MB206	Business Law and Ethics	Core	4	4Th + 1 Tu	30+70
MB207	Seminar Presentation *	Core	2		Grade
Semester Credits			**26**		**600**
Total Credits at the end of II Semester			**50**		**1200**

- **HPW – Hours Per Week**
- **CIE – Continuous Internal Exam**
- **SEE – Semester End Exam**
- **Th- Theory**
- **Tu – Tutorial**
- **P - Practical**

***Seminar should be evaluated for 50 marks and then converted to Grade.**
*** Student Seminars will be done by students on Semester I and II subjects.**

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MBA Year-II – Semester-III

Course Code	Course Title	Nature	Credits	HPW (Theory+Tutorials) (4+1)	Max Marks (CIE+SEE) (20+80=100)
MB301	Operations Management	Core	5	5	20+80
MB302	E- Business	Core	5	5	20+80
MB303	Total Quality Management	Core	5	5	20+80
MB304	Global Business Strategies	Core	5	5	20+80
MB305	**Discipline Specific Elective:**	DSE	10	10	
	Finance:				
MB 305-F-I	Investment Management		(5)	(5)	20+80
MB 305-F-II	International Finance		(5)	(5)	20+80
	Marketing:				
MB 305-M-I	Marketing Engineering		(5)	(5)	20+80
MB 305-M-II	Advertisement and Retail Management		(5)	(5)	20+80
	Human Resources:				
MB 305-HR-I	Industrial Relations and Labour Laws		(5)	(5)	20+80
MB 305-HR-II	Organizational Development		(5)	(5)	20+80
	Systems:				
MB 305-S-I	Data Base Management Systems		(5)	(5)	20+20+60 (SEE=60) (CIE=20) (CLE=20)
MB 305-S-II	Business Analytics		(5)	(5)	20+80
MB306 *	**Tutorials** Project work Synopsis		2	2	Grade
Semester Credits			**32**	**32**	**600**
Total credits at the end of III[rd] Semester			**106**	**106**	**2025**

- **CIE – Continuous Internal Exam**
- **SEE – Semester End Exam**
- **CLE – Computer Lab Exam**

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MBA Year-II – Semester-IV

Course Code	Course Title	Nature	Credits	HPW (Theory+Tutorials) (4+1)	Max Marks (CIE+SEE) (20+80=100)
MB401	Business Policy & Strategy	Core	5	5	20+80
MB402	Business Intelligence	Core	5	5	20+80
MB403	Supply Chain Management	Core	5	5	20+80
MB404	**Discipline Specific Elective:**	DSE	10	10	
	Finance:				
MB 404-F-I	Financial Risk Management		(5)	(5)	20+80
MB 404-F-II	Banking and Insurance		(5)	(5)	20+80
	Marketing				
MB 404-M-I	Buyer Behaviour		(5)	(5)	20+80
MB 404-M-II	Services and Digital Marketing		(5)	(5)	20+80
	Human Resources				
MB 404-HR-I	Leadership and Change Management		(5)	(5)	20+80
MB 404-HR-II	Performance Management		(5)	(5)	20+80
	SYSTEMS				
MB 404-S-I	Data Visualization		(5)	(5)	20+20+60 (SEE=60) (CIE =20) (CLE=20)
MB 404-S-II	Data Mining For Business		(5)	(5)	20+80
MB405*	Project Work	------	2	2	Grade
MB406*	Comprehensive Viva - Voce	------	2	---	Grade
Semester Credits			**29**	**27**	**500**
Total credits at the end of IVth Semester			**135**	**133**	**2525**

- **Evaluation will be done for 100 marks**
- **CIE – Continuous Internal Exam**
- **SEE – Semester End Exam**
- **CLE - Computer Lab Exam**

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MBA Year-I Semester –I

Course Code	Course Title	Nature	Credits	HPW (Th+Tu+P)	Max Marks (CCE+ESE)
MB101	Management & Organizational Behaviour	Core	4	4Th + 1 Tu	40+60
MB102	Accounting for Management	Core	4	4Th + 1 Tu	40+60
MB103	Marketing Management	Core	4	4Th + 1 Tu	40+60
MB104	Statistics for Management	Core	4	4Th + 1 Tu	40+60
MB105	Economics for Managers	Core	4	4Th + 1 Tu	40+60
MB106	IT Applications for Management	Core	4	3Th+2P	40+40+20P*
Total credits at the end of I Semester			**24**		**600**

- **HPW – Hours Per Week**
- **CCE – Continuous and Comprehensive Evaluation**
- **ESE – End Semester Exam**
- **Th- Theory**
- **Tu – Tutorial**
- **P - Practical**

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MBA Year-I Semester –II

Course Code	Course Title	Nature	Credits	HPW (Th+Tu+P)	Max Marks (CCE+ESE)
MB201	Human Resources Management	Core	4	4Th + 1 Tu	40+60
MB202	Financial Management	Core	4	4Th + 1 Tu	40+60
MB203	Operations Research	Core	4	4Th + 1 Tu	40+60
MB204	Entrepreneurship Development	Core	4	4Th + 1 Tu	40+60
MB205	Business Research Methods	Core	4	4Th + 1 Tu	40+60
MB206	Business Law and Ethics	Core	4	4Th + 1 Tu	40+60
MB207	Seminar Presentation *	Core	2		Grade
Semester Credits			**26**		**600**
Total Credits at the end of II Semester			**50**		**1200**

- **HPW – Hours Per Week**
- **CCE – Continuous and Comprehensive Evaluation**
- **ESE – End Semester Exam**
- **Th- Theory**
- **Tu – Tutorial**
- **P - Practical**

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MASTER OF BUSINESS ADMINISTRATION

MBA Year-II Semester –III

Course Code	Course Title	Nature	Credits	HPW (Th+Tu+P)	Max Marks (CIE+SEE)
MB301	Operations Management	Core	4	4Th + 1 Tu	30+70
MB302	E- Global Business	Core	4	4Th + 1 Tu	30+70
MB303	Total Quality Management	Core	4	4Th + 1 Tu	30+70
	Finance				
MB304-F-I	Investment Management	Elective	5	4Th + 1 Tu	30+70
MB304-F-II	Financial System & Services	Elective	5	4Th + 1 Tu	30+70
	Marketing				
MB304-M-I	Marketing Engineering	Elective	5	4Th + 1 Tu	30+70
MB304-M-II	Advertisement and Retail Management	Elective	5	4Th + 1 Tu	30+70
	Human Resources				
MB304-HR-I	Compensation Management	Elective	5	4Th + 1 Tu	30+70
MB304-HR-II	Industrial Relations and Labour Laws	Elective	5	4Th + 1 Tu	30+70
	Entrepreneurship				
MB-304-E-I	Business Feasibility & Analysis	Elective	5	4Th + 1 Tu	30+70
MB304-E-II	Innovation & Design Thinking	Elective	5	4Th + 1 Tu	30+70
	Systems				
MB304-S-I	Data Base Management Systems	Elective	5	3Th + 2P+1 Tu	30+20 +50
MB304-S-II	Business Analytics	Elective	5	4Th + 1 Tu	30+70
CS301	Case Study		2		50
RD301	Research Design		1		25
PS301	Progress Seminar		1		25
Semester Credits			**26**		**600**
Total Credits at the end of III Semester			**76**		**1800**

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Hyderabad-500 007, T.S., India.

MASTER OF BUSINESS ADMINISTRATION
MBA Year-II Semester–IV

Course Code	Course Title	Nature	Credits	HPW (Th+Tu+P)	Max Marks (CIE+SEE)
MB401	Business Process Reengineering	Core	4	4Th + 1 Tu	30+70
MB402	Logistics and Supply Chain Management	Core	4	4Th + 1 Tu	30+70
MB403	Business Intelligence	Core	4	3Th + 2P	30+50+20P*
	Finance				
MB404-F-III	Banking and Insurance	Elective	5	4Th + 1 Tu	30+70
MB404-F-IV	International Finance	Elective	5	4Th + 1 Tu	30+70
	Marketing				
MB404-M-III	Buyer Behaviour	Elective	5	4Th + 1 Tu	30+70
MB-404-M-IV	Services and Digital Marketing	Elective	5	4Th + 1 Tu	30+70
	Human Resources				
MB404-HR-III	Leadership and Change Management	Elective	5	4Th + 1 Tu	30+70
MB404-HR-IV	Performance Management	Elective	5	4Th + 1 Tu	30+70
	Entrepreneurship				
MB404-E-III	Technology for Entrepreneurs	Elective	5	4Th + 1 Tu	30+70
MB404-E-IV	Social Entrepreneurship	Elective	5	4Th + 1 Tu	30+70
	Systems with Business Analytics				
MB404-S-III	Data Visualization	Elective	5	3Th + 2 P	30+50+20P*
MB404-S-IV	Data Mining for Business	Elective	5	4Th + 1 Tu	30+70
MB405	Dissertation		1		25
MB406	Final Presentation		2		50
MB407	Viva Voce during Final Presentation		1		25
Semester Credits			**26**		**600**
Total Credits at the end of IV Semester			**102**		**2400**

- **HPW –Hours Per Week**
- **CIE–Continuous Internal Exam**
- **SEE– Semester End Exam**

Th- Theory
Tu – Tutorial
P – Practical

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Osmania University

Faculty of Informatics

Master of Computer Applications (MCA)

Semester I and II

2019 – 2020

Scheme of Instruction

and

Syllabi

Osmania University
Hyderabad

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Osmania University
Proposed Scheme of Instruction
Master of Computer Applications (MCA) Scheme W.E.F 2019-2020

Sem	Course-1	Course-2	Course-3	Course-4	Course-5	Lab-1	Lab-2	Lab-3	Hours	Credits	Categories
I	Discrete Mathematics (4) BSC	Introduction to Logic Theory (4) PCC	Python Programming (4) ETC	Data Structures with CPP (4) PCC	Data Communications (4) PCC	Python Programming Lab (2) LTC	Data Structures with CPP Lab (2) LCC	Soft Skills Lab (2) LHC	32	26	BSC=4 PCC=12 ETC=4 LCC=2 LHC=2 LTC=2
II	Probability and Statistics (4) BSC	Operating Systems (4) PCC	Computer Organization (4) PCC	Java Programming (4) PCC	Database Management Systems (4) PCC	Operating Systems Lab (2) LCC	Java Programming Lab (2) LCC	Database Management Systems Lab (2) LCC	32	26	BSC=4 PCC=16 LCC=6
III	Design and Analysis of Algorithms (4) PCC	Computer Networks (4) PCC	Web Programming (4) PCC	Automata Theory and Compiler Design (4) PCC	Distributed Computing (4) ETC	Algorithms Design Lab (2) LCC	Computer Networks Lab (2) LCC	Web Programming Lab (2) LCC	32	26	PCC=16 ETC=4 LCC=6
IV	Data Mining (4) ETC	Artificial Intelligence (4)ETC	Software Engineering (4) PCC	Professional Elective – I Advanced Java Programming / Programming using C# and ASP.NET / Internet Programming using PHP (4)PEC	Open Elective - I Human Relation at Work/Ethics and Holistic Life / Gender Sensitization (4) HSC	Data Mining Lab (2) LTC	Software Design Lab using UML (2) LCC	Professional Elective –I Lab (2) LPC	32	26	PCC=4 ETC=8 PEC=4 HSC=4 LCC=2 LPC=2 LTC=2
V	Cryptographic Algorithms and Network Security (4) PCC	Big Data and Hadoop (4) ETC	Cloud Computing (4) ETC	Professional Elective – II Adhoc and Sensor Networks /Internet of Things /Blockchain	Open Elective – II Economics for Engineers/ Fundamentals of Management for Engineers / Project Managemen	Big Data and Hadoop Lab (2) LTC	Technical Seminar (1) LCC	--	26	23	PCC=4 ETC=8 PEC=4 MGC=4 LCC=1 LTC=2

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				(4) PEC	t and Entrepreneurship (4) MGC						
VI	Main Project Dissertation and Presentation (4) LCC								8	4	LCC=4

Categories of Courses and Credits

Abbreviation	Full Form	Credits	Abbreviation	Full Form	Credits
BSC	Basic Science Course	8	PEC	Professional Elective Course	8
PCC	Professional Core Course	52	LCC	Laboratory Core Course	21
ETC	Emerging Technological Course	24	LTC	Laboratory Technological Course	6
HSC	Humanities and Social Science Course	4	LPC	Laboratory Professional Course	2
MGC	Management Course	4	LHC	Laboratory Humanities Course	2
Total	**131**				

Abbreviation	Full Form	Abbreviation	Full Form
BSC	Basic Science Course	LTC	Laboratory Technological Course
PCC	Professional Core Course	LPC	Laboratory Professional Course
ETC	Emerging Technological Course	LHC	Laboratory Humanities Course
HSC	Humanities and Social Science Course	CIE	Continuous Internal Evaluation
MGC	Management Course	SEE	Semester End Evaluation
PEC	Professional Elective Course	L	Lecture
LCC	Laboratory Core Course	P	Practical

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With effect from the academic year ***2019-2020***

PROPOSED SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER- I

SNo	Course Code	Course Title	Cate-gory	Hours/ Week		No of Credits	Scheme of Examination		
							Max Marks		Duration (hrs)
THEORY				L	P		SEE	CIE	SEE
1	BSC101	Discrete Mathematics	BSC	4	-	4	70	30	3
2	PCC102	Introduction to Logic Theory	PCC	4	-	4	70	30	3
3	ETC103	Python Programming	ETC	4	-	4	70	30	3
4	PCC104	Data Structures with CPP	PCC	4	-	4	70	30	3
5	PCC105	Data Communications	PCC	4	-	4	70	30	3
PRACTICAL									
6	LTC151	Python Programming Lab	LTC	-	4	2	50	25	3
7	LCC152	Data Structures with CPP Lab	LCC	-	4	2	50	25	3
8	LHC153	Soft Skills Lab	LHC	-	4	2	50	25	3
			Total	20	12	26	500	225	-

Abbreviation	Full Form	Abbreviation	Full Form
BSC	Basic Science Course	LTC	Laboratory Technological Course
PCC	Professional Core Course	LPC	Laboratory Professional Course
ETC	Emerging Technological Course	LHC	Laboratory Humanities Course
HSC	Humanities and Social Science Course	CIE	Continuous Internal Evaluation
MGC	Management Course	SEE	Semester End Evaluation
PEC	Professional Elective Course	L	Lecture
LCC	Laboratory Core Course	P	Practical

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With effect from the academic year 2019-2020

PROPOSED SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER- II

SNo	Course Code	Course Title	Cate-gory	Hours/ Week		No of Credits	Scheme of Examination		
							Max Marks		Duration (hrs)
THEORY				**L**	**P**		**SEE**	**CIE**	**SEE**
1	BSC201	Probability and Statistics	BSC	4	-	4	70	30	3
2	PCC202	Operating Systems	PCC	4	-	4	70	30	3
3	PCC203	Computer Organization	PCC	4	-	4	70	30	3
4	PCC204	Java Programming	PCC	4	-	4	70	30	3
5	PCC205	Database Management Systems	PCC	4	-	4	70	30	3
PRACTICALS									
6	LCC251	Operating Systems Lab	LCC	-	4	2	50	25	3
7	LCC252	Java Programming Lab	LCC	-	4	2	50	25	3
8	LCC253	Database Management Systems Lab	LCC	-	4	2	50	25	3
			Total	**20**	**12**	**26**	**500**	**225**	-

Abbreviation	Full Form	Abbreviation	Full Form
BSC	Basic Science Course	LTC	Laboratory Technological Course
PCC	Professional Core Course	LPC	Laboratory Professional Course
ETC	Emerging Technological Course	LHC	Laboratory Humanities Course
HSC	Humanities and Social Science Course	CIE	Continuous Internal Evaluation
MGC	Management Course	SEE	Semester End Evaluation
PEC	Professional Elective Course	L	Lecture
LCC	Laboratory Core Course	P	Practical

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PROPOSED SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER- III

SNo	Course Code	Course Title	Category	Hours/ Week		No of Credits	Scheme of Examination		
							Max Marks		Duration (hrs)
THEORY				**L**	**P**		**SEE**	**CIE**	**SEE**
1	PCC301	Design and Analysis of Algorithms	PCC	4	-	4	70	30	3
2	PCC302	Computer Networks	PCC	4	-	4	70	30	3
3	PCC303	Web Programming	PCC	4	-	4	70	30	3
4	PCC304	Automata Theory and Compiler Design	PCC	4	-	4	70	30	3
5	ETC305	Distributed Computing	ETC	4	-	4	70	30	3
PRACTICALS									
6	LCC351	Algorithms Design Lab	LCC	-	4	2	50	25	3
7	LCC352	Computer Networks Lab	LCC	-	4	2	50	25	3
8	LCC353	Web Programming Lab	LCC		4	2	50	25	3
			Total	**20**	**12**	**26**	**500**	**225**	-

Abbreviation	Full Form	Abbreviation	Full Form
BSC	Basic Science Course	LTC	Laboratory Technological Course
PCC	Professional Core Course	LPC	Laboratory Professional Course
ETC	Emerging Technological Course	LHC	Laboratory Humanities Course
HSC	Humanities and Social Science Course	CIE	Continuous Internal Evaluation
MGC	Management Course	SEE	Semester End Evaluation
PEC	Professional Elective Course	L	Lecture
LCC	Laboratory Core Course	P	Practical

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PROPOSED SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER- IV

SNo	Course Code	Course Title	Cate-gory	Hours/ Week		No of Credits	Scheme of Examination		
							Max Marks		Duration (hrs)
THEORY				**L**	**P**		**SEE**	**CIE**	**SEE**
1	ETC401	Data Mining	ETC	4	-	4	70	30	3
2	ETC402	Artificial Intelligence	ETC	4	-	4	70	30	3
3	PCC403	Software Engineering	PCC	4	-	4	70	30	3
4	**Professional Elective - I**		PEC	4	-	4	70	30	3
4a	PEC411	Advanced Java Programming							
4b	PEC412	Programming using C# and ASP.NET							
4c	PEC413	Internet Programming using PHP							
5	**Open Elective - I**		HSC	4	-	4	70	30	3
5a	HSC421	Human Relations at Work							
5b	HSC422	Ethics and Holistic Life							
5c	HSC423	Gender Sensitization							
PRACTICALS									
6	LTC451	Data Mining Lab	LTC	-	4	2	50	25	3
7	LCC452	Software Design Lab using UML	LCC	-	4	2	50	25	3
8	LPC453	Professional Elective – I Lab	LPC		4	2	50	25	3
			Total	20	12	26	500	225	-

Abbreviation	Full Form	Abbreviation	Full Form
BSC	Basic Science Course	LTC	Laboratory Technological Course
PCC	Professional Core Course	LPC	Laboratory Professional Course
ETC	Emerging Technological Course	LHC	Laboratory Humanities Course
HSC	Humanities and Social Science Course	CIE	Continuous Internal Evaluation
MGC	Management Course	SEE	Semester End Evaluation
PEC	Professional Elective Course	L	Lecture
LCC	Laboratory Core Course	P	Practical

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PROPOSED SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER-V

SNo	Course Code	Course Title	Cate-gory	Hours/ Week		No of Credits	Scheme of Examination		
							Max Marks		Duration (hrs)
THEORY				**L**	**P**		**SEE**	**CIE**	**SEE**
1	PCC501	Cryptographic Algorithms and Network Security	PCC	**4**	**-**	**4**	**70**	**30**	**3**
2	ETC502	Big Data and Hadoop	ETC	**4**	**-**	**4**	**70**	**30**	**3**
3	ETC503	Cloud Computing	ETC	**4**	**-**	**4**	**70**	**30**	**3**
4	**Professional Elective - II**		PEC	**4**	**-**	**4**	**70**	**30**	**3**
4a	PEC511	Ad-Hoc and Sensor Networks							
4b	PEC512	Internet of Things							
4c	PEC513	Blockchain							
5	**Open Elective - II**		MGC	**4**	**-**	**4**	**70**	**30**	**3**
5a	MGC521	Economics for Engineers							
5b	MGC522	Fundamentals of Management for Engineers							
5c	MGC523	Project Management and Entrepreneurship							
PRACTICALS									
6	LTC552	Big Data and Hadoop Lab	LTC	**-**	**4**	**2**	**50**	**25**	**3**
7	LCC553	Technical Seminar	LCC		**2**	**1**	**50**	**25**	**3**
			Total	**20**	**6**	**23**	**450**	**200**	**-**

Abbreviation	Full Form	Abbreviation	Full Form
BSC	Basic Science Course	LTC	Laboratory Technological Course
PCC	Professional Core Course	LPC	Laboratory Professional Course
ETC	Emerging Technological Course	LHC	Laboratory Humanities Course
HSC	Humanities and Social Science Course	CIE	Continuous Internal Evaluation
MGC	Management Course	SEE	Semester End Evaluation
PEC	Professional Elective Course	L	Lecture
LCC	Laboratory Core Course	P	Practical

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PROPOSED SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER-VI

SNo	Course Code	Course Title	Category	Hours/ Week		No of Credits	Scheme of Examination		
							Max Marks		Duration (hrs)
PRACTICALS				L	P		SEE	CIE	SEE
1	LCC651	Main Project Dissertation and Presentation	LCC	-	8	4	100	50	3
			Total	-	8	4	100	50	-

Abbreviation	Full Form	Abbreviation	Full Form
BSC	Basic Science Course	LTC	Laboratory Technological Course
PCC	Professional Core Course	LPC	Laboratory Professional Course
ETC	Emerging Technological Course	LHC	Laboratory Humanities Course
HSC	Humanities and Social Science Course	CIE	Continuous Internal Evaluation
MGC	Management Course	SEE	Semester End Evaluation
PEC	Professional Elective Course	L	Lecture
LCC	Laboratory Core Course	P	Practical

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With effect from the academic year 2020-2021

Osmania University

Faculty of Informatics

Two years MCA Program

Master of Computer Applications 2020

Syllabi for Semesters – I and II

With Effect from Academic Year 2020 – 2021

Osmania University
Hyderabad

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Uppal, Hyderabad-500092

SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER- I

SNo	Course Code	Course Title	Hours/ Week			Scheme of Examination				No of Credits
						Max Marks			Duration (hrs)	
THEORY			L	T	P	CIE	SEE	Total Marks	SEE	
1	PCC101	Mathematical Foundations of Computer Science	4	-	-	30	70	100	3	4
2	PCC102	Data Structures using C	4	-	-	30	70	100	3	4
3	PCC103	Object Oriented Programming using Java	3	-	-	30	70	100	3	3
4	PCC104	Computer Architecture	3	1	-	30	70	100	3	3
5	PCC105	Probability & Statistics	3	-	-	30	70	100	3	3
6	MGC106	Managerial Economics and Accountancy	3	1	-	30	70	100	3	3
PRACTICALS										
7	LCC151	Data Structures using C Lab	-	-	3	25	50	75	3	2
8	LCC152	Java Programming Lab	-	-	3	25	50	75	3	2
9	HSC153	Soft Skills Lab	-	-	3	25	50	75	3	2
			20	2	9	255	570	825	-	26

Abbreviation	Full Form	Abbreviation	Full Form
PCC	Professional Core Course	CIE	Continuous Internal Evaluation
PEC	Professional Elective Course	SEE	Semester End Evaluation
MGC	Management Course	L	Lecture
LCC	Laboratory Core Course	P	Practical

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SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER – II

SNo	Course Code	Course Title	Hours/ Week			Scheme of Examination				No of Credits
						Max Marks			Duration (hrs)	
THEORY			L	T	P	CIE	SEE	Total Marks	SEE	Cr
1	PCC 201	Operating Systems	3	1	-	30	70	100	3	3
2	PCC 202	Database Management System	4	-	-	30	70	100	3	4
3	PCC 203	Design and Analysis of Algorithms	3	1	-	30	70	100	3	3
4	PCC 204	Artificial Intelligence	4	-	-	30	70	100	3	4
5	PCC 205	Machine Learning	3	-	-	30	70	100	3	3
6	MGC 206	Operations Research	3	1	-	30	70	100	3	3
PRACTICALS										
7	LCC 251	Operating Systems Lab	-	-	3	25	50	75	3	2
8	LCC 252	AI with Python Lab	-	-	3	25	50	75	3	2
9	LCC 253	Database Management Systems Lab	-	-	3	25	50	75	3	2
10	SIP 321	Summer Internship*	-	-	-	-	-		-	-
			20	3	9	255	570	825	-	26

***Summer Internship**: After second semester, the students are expected to do summer internship and Its grade will be credited in the third semester memo after evaluation.

Abbreviation	Full Form	Abbreviation	Full Form
PCC	Professional Core Course	CIE	Continuous Internal Evaluation
PEC	Professional Elective Course	SEE	Semester End Evaluation
HSC	Humanities and Social Science Course	L	Lecture
LCC	Laboratory Core Course	P	Practical

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Aurora's PG College (MBA)
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PROPOSED SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER- III

SNo	Course Code	Course Title	Hours/ Week			Scheme of Examination				No of Credits
						Max Marks			Duration (hrs)	
THEORY			L	T	P	CIE	SEE	Total	SEE	Cr
1	PCC301	Software Engineering	4	-	-	30	70	100	3	4
2	PCC302	Computer Networks	4	-	-	30	70	100	3	4
3	PCC303	Data Science	3	1	-	30	70	100	3	3
4	PCC304	Web Technologies	3	1	-	30	70	100	3	3
5	PEC**	Professional Elective–I	3	-	-	30	70	100	3	3
6	PEC**	Professional Elective–II	3	-	-	30	70	100	3	3
PRACTICALS										
7	LCC351	Computer Networks Lab	-	-	3	25	50	75	3	2
8	LCC352	Software Engineering Lab	-	-	3	25	50	75	3	2
9	LCC353	Data Science Lab	-	-	3	25	50	75	3	2
10	SIP321	Summer Internship	-	-	-	50	-	50	-	2
			20	2	9	305	570	875	-	28

Professional Electives

Course Code-PEC**	Professional Elective -1
PEC 311	Information Security
PEC 312	Distributed Systems
PEC 313	Internet of Things
PEC 314	Information Retrieval System

Course Code-PEC**	Professional Elective – II
PEC 321	Network Security
PEC 322	Cloud Computing
PEC 323	Enterprise Architecture
PEC 324	Natural Language Processing

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PROPOSED - SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER- IV

SNo	Course Code	Course Title	Hours/ Week		Scheme of Examination				No of Credits
					Max Marks			Duration (hrs)	
THEORY			L	P	CIE	SEE	Total	SEE	Cr
1	PEC**	Professional Elective –III	3	-	30	70	100	3	3
2	PEC**	Professional Elective –IV	3	-	30	70	100	3	3
3	OE**	Open Elective	2	-	30	70	100	3	2
PRACTICALS									
4	PW 401	Project Work	-	24	50	100	150	3	12
		Total	8	24	140	310	450	-	20

Professional Electives

Course Code-PEC**	Professional Elective – III
PEC411	Block Chain Technologies
PEC412	Big Data Analytics
PEC413	Software Quality Testing
PEC 414	Deep Learning

Course Code-PEC**	Professional Elective – IV
PEC421	Cyber Security
PEC422	Digital Forensics
PEC423	Optimization Techniques
PEC424	Image Processing

Course Code-OE**	Open Elective
OE 411	Professional Ethics
OE 412	Constitution of India
OE 413	Disaster Management
OE 414	Organization Behaviour
OE 415	Intellectual Property & Cyber Law
OE 416	Environmental Science

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NOTE: NPTEL/SWAYAM Course credits can be registered at the end of third semester. Courses with duration of Eight Weeks/Twelve Weeks can be permitted subject to the approval from Chairperson, BOS

Osmania University

Faculty of Informatics

Two years MCA Program

Master of Computer Applications 2021

Syllabi for Semesters – III and IV

With Effect from Academic Year 2021 – 2022

Osmania University
Hyderabad

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Uppal, Hyderabad-500092

SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER- I

SNo	Course Code	Course Title	Hours/ Week			Scheme of Examination			No of Credits
						Max Marks		Duration (hrs)	
THEORY			**L**	**T**	**P**	**CIE**	**SEE**	**SEE**	**Cr**
1	PCC101	Mathematical Foundations of Computer Science	4	-	-	30	70	3	4
2	PCC102	Data Structures using C	4	-	-	30	70	3	4
3	PCC103	Object Oriented Programming using Java	3		-	30	70	3	3
4	PCC104	Computer Architecture	3	1	-	30	70	3	3
5	PCC105	Probability & Statistics-Mathematics for Data Science	3	-	-	30	70	3	3
6	MGC106	Managerial Economics and Accountancy	3	-	-	30	70	3	3
PRACTICALS									
7	LCC151	Data Structures using C Lab	-	-	3	25	50	3	2
8	LCC152	Java Programming Lab	-	-	3	25	50	3	2
9	HSC153	Soft Skills Lab	-	-	3	25	50	3	2
			20	1	9	255	570	-	26

Abbreviation	Full Form	Abbreviation	Full Form
PCC	Professional Core Course	CIE	Continuous Internal Evaluation
PEC	Professional Elective Course	SEE	Semester End Evaluation
MGC	Management Course	L	Lecture
LCC	Laboratory Core Course	P	Practical

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SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER – II

Sno	Course Code	Course Title	Hours/ Week			Scheme of Examination			No of Credits
						Max Marks		Duration (hrs)	
THEORY			**L**	**T**	**P**	**CIE**	**SEE**	**SEE**	**Cr**
1	PCC201	Operating Systems	**3**	**-**	**-**	**30**	**70**	**3**	**3**
2	PCC202	Database Management System	**4**	**-**	**-**	**30**	**70**	**3**	**4**
3	PCC203	Design and Analysis of Algorithms	**3**	**1**	**-**	**30**	**70**	**3**	**3**
4	PCC204	Artificial Intelligence	**4**	**-**	**-**	**30**	**70**	**3**	**4**
5	PCC205	Machine Learning	**3**	**1**	**-**	**30**	**70**	**3**	**3**
6	MGC206	Operations Research	**3**	**-**	**-**				
PRACTICALS									
7	LCC251	Operating Systems Lab	**-**	**-**	**3**	**25**	**50**	**3**	**2**
8	LCC252	AI Lab with python Lab	**-**	**-**	**3**	**25**	**50**	**3**	**2**
9	LCC253	DBMS Lab	**-**	**-**	**3**	**25**	**50**	**3**	**2**
10	**SIP321**	**Summer Internship***	**-**	**-**	**-**	**-**	**-**	**-**	**-**
			20	**2**	**9**	**255**	**570**	**-**	**26**

***Summer Internship**: After second semester, the students are expected to do summer internship and
Its grade will be credited in the third semester memo after evaluation.

Abbreviation	Full Form	Abbreviation	Full Form
PCC	Professional Core Course	CIE	Continuous Internal Evaluation
PEC	Professional Elective Course	SEE	Semester End Evaluation
HSC	Humanities and Social Science Course	L	Lecture
LCC	Laboratory Core Course	P	Practical

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SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER- III

SNo	Course Code	Course Title	Hours/ Week			Scheme of Examination			No of Credits
						Max Marks		Duration (hrs)	
THEORY			L	T	P	CIE	SEE	SEE	Cr
1	PCC301	Software Engineering	4	-	-	30	70	3	4
2	PCC302	Computer Networks	4	-	-	30	70	3	4
3	PCC303	Data Science	3	1	-	30	70	3	3
4	PCC304	Web Technologies	3	1	-	30	70	3	3
5	**PEC****	**Professional Elective–I**	3	-	-	30	70	3	3
6	**PEC****	**Professional Elective–II**	3	-	-	30	70	3	3
PRACTICALS									
7	LCC351	Computer Networks Lab	-	-	3	25	50	3	2
8	LCC352	Software Engineering Lab	-	-	3	25	50	3	2
9	LCC353	Data science Lab	-	-	3	25	50	3	2
10	**SIP321**	Summer Internship	-	-	-	50		-	2
			20	2	9	305	570	-	28

Professional Electives	**Course Code-PEC****	**Professional Elective -1**	
	PEC311	Information Security	
	PEC312	Distributed Systems	
	PEC313	Internet of Things	
	PEC314	Information Retrieval System	
Professional Electives	**Course Code-PEC****	**Professional Elective – II**	
	PEC321	Network Security	
	PEC322	Software Quality Testing	
	PEC323	Image Processing	
	PEC324	Natural Language Processing	

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Abbreviation	Full Form	Abbreviation	Full Form
PCC	Professional Core Course	CIE	Continuous Internal Evaluation
PEC	Professional Elective Course	SEE	Semester End Evaluation
MGC	Management Course	L	Lecture
LCC	Laboratory Core Course	P	Practical

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Osmania University

Faculty of Informatics

Two years MCA Program

Master of Computer Applications 2022-23

Syllabi for Semesters – I and II

With Effect from Academic Year 2022 – 2023

Osmania University
Hyderabad

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SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER- I

SNo	Course Code	Course Title	Hours/ Week			Scheme of Examination				No of Credits
						Max Marks			Duration (hrs)	
		THEORY	L	T	P	CIE	SEE	Total Marks	SEE	
1	PCC101	Discrete Mathematics	4	-	-	30	70	100	3	4
2	PCC102	Data Structures using C	4	-	-	30	70	100	3	4
3	PCC103	Object Oriented Programming using Java	3	1	-	30	70	100	3	4
4	PCC104	Computer Architecture	3		-	30	70	100	3	3
5	PCC105	Probability & Statistics	3	1	-	30	70	100	3	4
6	MGC106	Managerial Economics and Accountancy	3		-	30	70	100	3	3
		PRACTICALS								
7	LCC151	Data Structures using C Lab	-	-	3	25	50	75	3	1.5
8	LCC152	Java Programming Lab	-	-	3	25	50	75	3	1.5
9	HSC153	Soft Skills Lab	-	-	2	25	50	75	3	1
			20	2	8	255	570	825	27	26

Abbreviation	Full Form	Abbreviation	Full Form
PCC	Professional Core Course	CIE	Continuous Internal Evaluation
PEC	Professional Elective Course	SEE	Semester End Evaluation
MGC	Management Course	L	Lecture
LCC	Laboratory Core Course	P	Practical

Note : Each lab should be made with 30 students for batch

With effect from the academic year 2022-2023

SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER – II

SNo	Course Code	Course Title	Hours/ Week			Scheme of Examination				No of Credits
						Max Marks			Duration (hrs)	
THEORY			L	T	P	CIE	SEE	Total Marks	SEE	Cr
1	PCC 201	Operating Systems	4		-	30	70	100	3	4
2	PCC 202	Database Management System	4	-	-	30	70	100	3	4
3	PCC 203	Design and Analysis of Algorithms	3	1	-	30	70	100	3	4
4 *	PCC 204	Data Engineering with Python	4	-	-	30	70	100	3	4
5	PCC 205	Machine Learning	3	-	-	30	70	100	3	3
6	MGC 206	Operations Research	3		-	30	70	100	3	3
PRACTICALS										
7	LCC 251	Operating Systems Lab	-	-	3	25	50	75	3	1.5
8 *	LCC 252	Data Engineering with Python	-	-	3	25	50	75	3	1.5
9	LCC 253	Database Management Systems Lab	-	-	3	25	50	75	3	1.5
10	SIP 321	Summer Internship/ Mini Project*	-	-	-	-	-		-	-
			21	1	9	255	570	825	27	26.5

***Summer Internship/ Mini Project** : After second semester, the students are expected to do summer internship/ Mini Project and Its grade will be credited in the third semester memo after evaluation.

Abbreviation	Full Form	Abb	Full Form
PCC	Professional Core Course	CIE	Continuous Internal Evaluation
PEC	Professional Elective Course	SEE	Semester End Evaluation
HSC	Humanities and Social Science Course	L	Lecture
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Note : Each lab should be made with 30 students for batch

With effect from the academic year 2021-2022

SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER- III

SNo	Course Code	Course Title	Hours/ Week			Scheme of Examination			No of Credits
						Max Marks		Duration (hrs)	
THEORY			**L**	**T**	**P**	**CIE**	**SEE**	**SEE**	**Cr**
1	PCC301	Software Engineering	4	-	-	30	70	3	4
2	PCC302	Computer Networks	4	-	-	30	70	3	4
3	PCC303	Data Science	3	1	-	30	70	3	4
4	PCC304	Web Technologies	3		-	30	70	3	3
5	**PEC****	**Professional Elective–I**	3	-	-	30	70	3	3
6	**PEC****	**Professional Elective–II**	3	-	-	30	70	3	3
PRACTICALS									
7	LCC351	Computer Networks Lab	-	-	3	25	50	3	1.5
8	LCC352	Software Engineering Lab	-	-	3	25	50	3	1.5
9	LCC353	Data science Lab	-	-	3	25	50	3	1.5
10	**SIP321**	Summer Internship/ Mini Project	-	-	-	50		-	2
			20	1	9	305	570	27	27.5

Professional Electives	**Course Code-PEC****	**Professional Elective -1**
	PEC311	Information Security
	PEC312	Distributed Systems
	PEC313	Internet of Things
	PEC314	Information Retrieval System
Professional Electives	**Course Code-PEC****	**Professional Elective – II**
	PEC321	Network Security
	PEC322	Software Quality Testing
	PEC323	Image Processing
	PEC324	Natural Language Processing

Abbreviation	**Full Form**	**Abbreviation**	**Full Form**
PCC	Professional Core Course	CIE	Continuous Internal Evaluation
PEC	Professional Elective Course	SEE	Semester End Evaluation
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With effect from the academic year 2023-2024

Osmania University

Faculty of Informatics

Two years MCA Program

Master of Computer Applications

Syllabi for Semesters – III and IV

With Effect from Academic Year 2023 – 2024

Osmania University
Hyderabad

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With effect from the academic year 2022-2023

SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER- I

SNo	Course Code	Course Title	Hours/ Week			Scheme of Examination				No of Credits
						Max Marks			Duration (hrs)	
		THEORY	**L**	**T**	**P**	**CIE**	**SEE**	**Total Marks**	**SEE**	
1	PCC101	Discrete Mathematics	4	-	-	30	70	100	3	4
2	PCC102	Data Structures using C	4	-	-	30	70	100	3	4
3	PCC103	Object Oriented Programming using Java	3	1	-	30	70	100	3	4
4	PCC104	Computer Architecture	3		-	30	70	100	3	3
5	PCC105	Probability & Statistics	3	1	-	30	70	100	3	4
6	MGC106	Managerial Economics and Accountancy	3		-	30	70	100	3	3
		PRACTICALS								
7	LCC151	Data Structures using C Lab	-	-	3	25	50	75	3	1.5
8	LCC152	Java Programming Lab	-	-	3	25	50	75	3	1.5
9	HSC153	Soft Skills Lab	-	-	2	25	50	75	3	1
			20	2	8	255	570	825	27	26

Abbreviation	Full Form	Abbreviation	Full Form
PCC	Professional Core Course	CIE	Continuous Internal Evaluation
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SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER – II

SNo	Course Code	Course Title	Hours/ Week			Scheme of Examination				No of Credits
						Max Marks			Duration (hrs)	
THEORY			L	T	P	CIE	SEE	Total Marks	SEE	Cr
1	PCC 201	Operating Systems	4		-	30	70	100	3	4
2	PCC 202	Database Management System	4	-	-	30	70	100	3	4
3	PCC 203	Design and Analysis of Algorithms	3	1	-	30	70	100	3	4
4 *	PCC 204	Data Engineering with Python	4	-	-	30	70	100	3	4
5	PCC 205	Machine Learning	3	-	-	30	70	100	3	3
6	MGC 206	Operations Research	3		-	30	70	100	3	3
PRACTICALS										
7	LCC 251	Operating Systems Lab	-	-	3	25	50	75	3	1.5
8 *	LCC 252	Data Engineering with Python	-	-	3	25	50	75	3	1.5
9	LCC 253	Database Management Systems Lab	-	-	3	25	50	75	3	1.5
10	SIP 321	Summer Internship/ Mini Project*	-	-	-	-	-		-	-
			21	1	9	255	570	825	27	26.5

***Summer Internship/ Mini Project** : After second semester, the students are expected to do summer internship/ Mini Project and Its grade will be credited in the third semester memo after evaluation.

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SCHEME OF INSTRUCTION
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER- III

SNo	Course Code	Course Title	Hours/ Week			Scheme of Examination			No of Credits
						Max Marks		Duration (hrs)	
THEORY			**L**	**T**	**P**	**CIE**	**SEE**	**SEE**	**Cr**
1	PCC301	Software Engineering	4	-	-	30	70	3	4
2	PCC302	Computer Networks	4	-	-	30	70	3	4
3	PCC303	Artificial Intelligence	4	-	-	30	70	3	4
4	PCC304	Web Technologies	4	-	-	30	70	3	4
5	**PEC****	**Professional Elective–I**	3	-	-	30	70	3	3
6	**PEC****	**Professional Elective–II**	3	-	-	30	70	3	3
PRACTICALS									
7	LCC351	Computer Networks Lab	-	-	3	25	50	3	1.5
8	LCC352	Software Engineering Lab	-	-	3	25	50	3	1.5
9	LCC353	Web Technologies Lab	-	-	3	25	50	3	1.5
10	**SIP321**	Summer Internship	-	-	-	50		-	1.5
			20	-	9	305	570	-	28

Professional Electives	**Course Code-PEC****	**Professional Elective -1**	
	PEC311	Software Quality & Testing	
	PEC312	Distributed Systems	
	PEC313	Internet of Things	
	PEC314	Image Processing	
Professional Electives	**Course Code-PEC****	**Professional Elective – II**	
	PEC321	Network Security	
	PEC322	Cyber Security	
	PEC323	Information Retrieval System	
	PEC324	Natural Language Processing	

Abbreviation	Full Form	Abbreviation	Full Form
PCC	Professional Core Course	CIE	Continuous Internal Evaluation
PEC	Professional Elective Course	SEE	Semester End Evaluation
MGC	Management Course	L	Lecture
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SCHEME OF INSTRUCTION

MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER- IV

SNo	Course Code	Course Title	Hours/ Week		Scheme of Examination			No of Credits
					Max Marks		Duration (hrs)	
THEORY			L	P	CIE	SEE	SEE	Cr
1	PEC**	Professional Elective –III	3	-	30	70	3	3
2	PEC**	Professional Elective –IV	3	-	30	70	3	3
3	OE**	Open Elective	2	-	30	70	3	2
PRACTICALS								
4	Proj401	Project Work	-	24	50	100	3	12
		Total	8	24	140	310	-	20

Professional Electives

Course Code-PEC**	Professional Elective – III
PEC411	Block Chain Technologies
PEC412	Big Data Analytics
PEC413	Cloud Computing
PEC413	Deep Learning

Course Code-PEC**	Professional Elective – IV
PEC421	Distributed Database Systems
PEC422	Digital Forensics
PEC423	Optimization Techniques
PEC424	Enterprise Architecture

Course Code-OE**	Open Elective
OE 431	Professional Ethics
OE 432	Constitution of India
OE 433	Disaster Management
OE 434	Organization Behaviour
OE 435	Intellectual Property & Cyber Law
OE 436	Environmental Science

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