

SAVITRIBAI PHULE PUNE UNIVERSITY

SYLLABUS FOR

**MASTER IN ARCHITECTURE
M.ARCH (CONSTRUCTION MANAGEMENT)**

(To be implemented w.e.f. A.Y. 2017-18)

BOARD OF STUDIES IN ARCHITECTURE

FACULTY OF ENGINEERING

**MASTER IN ARCHITECTURE
(CONSTRUCTION MANAGEMENT)**

DETAILED SYLLABUS

(Effective from the Academic year 2017-18)

SEM I

For Approval from Faculty

SEMESTER I

• Construction Management I			
Subject Code –CM101			
Teaching Scheme		Examination Scheme	
Lectures/ week	7	Paper	100
Studio Periods/ week	5	Term work	Nil
		Sessional (Internal)	100
		Sessional (External)	100
Total Contact Periods/ week	12	Oral (Internal)	25
		Oral (External)	25
Total Credits	9	Total Marks	350

Objective:

To expose students to framework of project management as define in PMBOK (PMI USA) with emphasis on following core knowledge areas

- Project Scope Management
- Project Resource management
- Project Communications Management
- Environmental Management

Course Content:

- Plan scope management, collect requirements, define scope and create WBS
- Plan Human resource management
- Plan Communications management

Sessional/Term Work:

- Group of students will be assigned to live projects throughout 3 semester where in classroom learning will be validated with live projects
- Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples, sketches and supportive material.
- Students will work on at least one project taken up in the studio and work on details of the project relating to all the above mentioned topics in the form of report .
- At-least one assignment on MS Project.

Assessment:

- The sessional work and Viva Voce as stipulated above will be assessed internally and externally with equal weightage of 125 marks each and a consolidated list of both will be submitted to the university.

Recommended Readings:

- PMBOK by PMI
- Construction Planning & management By P S Gahlot & B M Dhir , New Age International Limited Publishers
- Construction Project planning & Scheduling By Charles Patrick, Pearson, 2012
- Construction Project Management Theory & practice --- Kumar Neeraj Jha, Pearson,2012
- Construction management Fundamantals by Knutson, Schexnayder, Fiori, Mayo, Tata McGraw Hill, 2nd Edition, 201

- Modern construction management--Harris, Wiley India.
- Project Management – K Nagrajan – New age International Ltd.
- Professional Construction Management Barrie-Paulson-McGraw Hill Institute Edition.
- Project Management – Ahuja H.N. – John Wiley, New York.
- Construction Project Management Planning, Scheduling and Controlling-Chitakara- Tata McGraw Hill, New Delhi
- Construction Management – Roy, Pilcher
- Construction Management – O'Brien.
- Project Management-Planning and Control---Rory Burkey 4th ed.—Wiley,India.

For Approval from Faculty

• Advanced Construction Technologies & Materials I			
Subject Code –CM102			
Teaching Scheme		Examination Scheme	
Lectures/ week	2	Paper	Nil
Studio Periods/ week	3	Term work	Nil
		Sessional (Internal)	75
		Sessional (External)	75
Total Contact Periods/ week	5	Sessional Viva (Internal)	Nil
		Sessional Viva (External)	Nil
Total Credits	4	Total Marks	150

Objective:

- To give a coverage on aspects of construction technologies related to building projects and sustainable building materials
- The objective of the course is to introduce the structural system concepts and design processes & methodology in relation to architectural and structural systems of building projects.
- These concepts will help in the selection of the appropriate structural systems and the broader understanding of the design process and structural detailing aspects

Course Content:

- Geo-technical survey to define strata for building foundations.
- Foundation Systems and deep basement construction for high rise buildings
- Basement, waterproofing – advanced technologies and materials
- Concrete technology, basic materials
- Shore piling
- Superstructure – Framed Structure system design and arrangements of structural elements.

Sessional/Term Work:

- Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples, sketches and supportive material.
- Students will work on at least one project taken up in the studio and work on details of the project relating to all the above mentioned topics in the form of report .

Assessment:

- The sessional work will be assessed internally and externally with equal weightage of 75marks each and a consolidated list of both will be submitted to the university.

Recommended Readings:

- Construction Technology: Analysis and Choice, 2ed, Bryan, Wiley India
- Construction Planning, Equipment and methods – Peurifoy-Tata McGraw Hill Publication
- Construction Equipment Planning and Applications – Dr. Mahesh Varma
- Journals such as CE & CR. Construction world, International Construction.
- Document Reports of actual major works executed.
- Construction Technology by Roy Chudley and Roger Greeno, Prentice Hall, 2005.

• Advanced Building Services I			
Subject Code –CM103			
Teaching Scheme		Examination Scheme	
Lectures/ week	2	Paper	Nil
Studio Periods/ week	3	Term work	Nil
		Sessional (Internal)	50
		Sessional (External)	50
Total Contact Periods/ week	5	Sessional Viva (Internal)	25
		Sessional Viva (External)	25
Total Credits	4	Total Marks	150

Objective:

- To expose students to advanced building services, its design and application in high-rise building construction
- Help them learn how various services work, need and co-ordination in space planning and selecting right services.

Course Content:

- Water supply and Drainage: Water and Waste Management Services and Systems
- Water Management Water quality and quantity assessment
- Fire-fighting and detection
- STP/WTP systems
- Operation, Maintenance and Planning for Retrofitting of Services Systems

Sessional /Term Work:

- Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples, sketches and supportive material.
- Students will work on at least one project and work on details of the project relating to all the above mentioned topics in the form of report.

Assessment:

- The sessional work and Viva Voce as stipulated above will be assessed internally and externally with equal weightage of 75 marks each and a consolidated list of both will be submitted to the university.

Recommended Readings:

- Building Services—S.M.Patil---(ISBN-978-81-7525-980-5), 1-C,102,Saamana Pariwar
- Building Maintenance Management, 2ed,---Chanter, Wiley India
- Maintenance of Buildings—A.C.Panchodhari—New Age International Publishers.
- Construction Engineering & management of Projects(For Infrastructure & Civil Works) by S. C. Sharma, Khanna Publishers, 2nd Edition, 2011

• Law and Legal Aspects in Construction			
Subject Code –CM104			
Teaching Scheme		Examination Scheme	
Lectures/ week	2	Paper	100
Studio Periods/ week	1	Term work	25
		Sessional (Internal)	Nil
		Sessional (External)	Nil
Total Contact Periods/ week	3	Sessional Viva (Internal)	Nil
		Sessional Viva (External)	Nil
Total Credits	3	Total Marks	125

Objective:

- The objective of the course is to provide an overview of all laws and regulations related to construction projects in the various stages of the project cycle.

Course Content:

- Laws related to land development. Land acquisition, lease & easement rights, property acts and Gunthewari acts.
- Permits and approval for construction activities; statutory requirements and clearance related to environment impact, urban form, fire regulation, completion certificate.
- Laws and legislation related to construction Industry labour laws & consumer protection Act, MRTTP act. The building and construction workers (regulation of employment and conditions of service) Act, 1996, workmen's compensation Act. Payment of wages Act, The employee's provident fund and Miscellaneous provisions Act 1995 etc.
- Industrial act and Labour laws, Environmental laws.
- National Building code, role of Zilla Parishad & IRDP in rural housing.

Sessional /Term Work:

- Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples and supportive material.
- Students will work on at least one project and work on details of the project relating to all the above mentioned topics in the form of report.

Assessment:

- The term work as stipulated above will be assessed internally for 25marks will be submitted to the university

Recommended Readings:

- Construction Law : 11th Revised edition, John Uff, Publisher: Sweet & Maxwell, May 2013
- Labour and Industrial Laws, P.L. Malik
- Labour and Industrial Laws, Universal Law Publishing Co. Pvt. Ltd.

• Software lab I			
Subject Code –CM105			
Teaching Scheme		Examination Scheme	
Lectures/ week	1	Paper	Nil
Studio Periods/ week	2	Term work	125
		Sessional (Internal)	Nil
		Sessional (External)	Nil
Total Contact Periods/ week	3	Sessional Viva (Internal)	Nil
		Sessional Viva (External)	Nil
Total Credits	3	Total Marks	125

Objective:

- The course is to introduce application software and their usage in different phases of construction and rigorously impart training for using the project management software by ongoing projects

Course Content:

- Information technology in construction
- Advanced excel
- Introduction to MS Project
- Database management system

Sessional /Term Work:

Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples, sketches and supportive material.

Students will work on at least one project and work on details of the project relating to all the above mentioned topics in the form of report.

Assessment:

- The term work as stipulated above will be assessed internally for 125marks will be submitted to the university

• Elective I			
Subject Code –CM106			
Teaching Scheme		Examination Scheme	
Lectures/ week	1	Paper	Nil
Studio Periods/ week	1	Term work	NIL
		Sessional (Internal)	50
		Sessional (External)	50
Total Contact Periods/ week	2	Sessional Viva (Internal)	Nil
		Sessional Viva (External)	Nil
Total Credits	2	Total Marks	100

- Design management using Building information modeling (BIM)
- Green building certification - Process and Management
- Building modeling for energy efficiency
- MOEF approval – Process and Management

Sessional/Term Work:

- Students will work on at least one project taken up in the studio and work on details of the project relating to all the above mentioned topics in the form of report .

Assessment:

- The sessional work as stipulated above will be assessed internally and externally with equal weightage of 50 marks each and a consolidated list of both will be submitted to the university.

Recommended Readings:

- All books/ Journals/ Magazines/ unpublished thesis related to the topic selected by the individual student.

**MASTER IN ARCHITECTURE
(CONSTRUCTION MANAGEMENT)**

DETAIL SYLLABUS

(Effective from the Academic year 2017-18)

SEM II

For Approval from Faculty

SEMESTER II

• Construction Management II			
Subject Code –CM107			
Teaching Scheme		Examination Scheme	
Lectures/ week	7	Paper	100
Studio Periods/ week	5	Term work	Nil
		Sessional (Internal)	100
		Sessional (External)	100
Total Contact Periods/ week	12	Sessional Viva (Internal)	25
		Sessional Viva (External)	25
Total Credits	9	Total Marks	350

Objective:

- Project time management
- Project cost management
- Project quality management
- Project risk management
- Project stakeholder management
- Project finance management

Course Content:

- Plan schedule management, define activities, sequence activities, estimate activity resources, estimate activity duration, develop schedule
- Plan cost management, estimate costs and determine budget
- Plan risk management, identify risks, perform quantitative and qualitative risk analysis, plan risk responses
- Plan quality management and plan stakeholder management

Sessional/Term Work:

- Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples, sketches and supportive material.
- Students will work on at least one project taken up in the studio and work on details of the project relating to all the above mentioned topics in the form of report .

Assessment:

- The sessional work and Viva Voce will be assessed internally and externally with equal weightage of 125 marks each and a consolidated list of both will be submitted to the university.

Recommended Readings:

- Construction Management and Planning by Sengupta and Guha-Tata McGraw Hill publication.
- The cost management toolbox; A Managers guide to controlling costs and boosting profits. Oliver, Lianabel. Tata McGraw Hill, 1999.
- Kotler, P. and Armstrong, G. (1997) Marketing An Introduction. Fourth Edition. New Jersey. Prentice Hall International
- Kotler, P., Armstrong, G., Saunders, J. and Wong, V. (1999) Principles of Marketing, 2nd Edition, New Jersey: Prentice Hall

- Assael, H. (1992) Consumer Behaviour and Marketing Action, 4th Edition, USA: PWS-Kent
- Construction Management & PWD Accounts --- D Lal, S. K. Kataria & Sons, 2012
- Construction Management and Accounts -- Singh H. Tata McGraw Hill, New Delhi, 1988

For Approval from Faculty

• Advanced Construction Technologies & Materials II			
Subject Code –CM108			
Teaching Scheme		Examination Scheme	
Lectures/ week	2	Paper	Nil
Studio Periods/ week	3	Term work	Nil
		Sessional (Internal)	75
		Sessional (External)	75
Total Contact Periods/ week	5	Sessional Viva (Internal)	Nil
		Sessional Viva (External)	Nil
Total Credits	4	Total Marks	150

Objective:

- The focus is on imparting knowledge and skills required for planning, management and effective delivery of large scale projects

Course Content:

- Monolithic construction systems like Aluminum form, tunnel form, precast RCC members
- Precast building façade systems
- Factory made components
- Specialized finishing materials
- Specialized waterproofing systems

Sessional/Term Work:

- Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples, sketches and supportive material.
- Students will work on at least one project taken up in the studio and work on details of the project relating to all the above mentioned topics in the form of report .

Assessment:

- The sessional work will be assessed internally and externally with equal weightage of 75marks each and a consolidated list of both will be submitted to the university.

Recommended Readings:

- Construction Technology: Analysis and Choice, 2ed, Bryan, Wiley India
- Construction Planning, Equipment and methods – Peurifoy-Tata McGraw Hill Publication
- Construction Equipment Planning and Applications – Dr. Mahesh Varma
- Brochures Published by various agencies associated with construction.
- Journals such as CE & CR. Construction world, International Construction.
- Document Reports of actual major works executed.
- Construction Technology by Roy Chudley and Roger Greeno, Prentice Hall, 2005.

• Advanced Building Services II			
Subject Code –CM109			
Teaching Scheme		Examination Scheme	
Lectures/ week	2	Paper	Nil
Studio Periods/ week	3	Term work	Nil
		Sessional (Internal)	50
		Sessional (External)	50
Total Contact Periods/ week	5	Sessional Viva (Internal)	25
		Sessional Viva (External)	25
Total Credits	4	Total Marks	150

Objective:

Co-ordination and management of design and installation of various building services systems during the design and construction stages in particular the builder's works.

Course Content:

- HVAC: Air-conditioning System Types Direct Expansion units, Package units Central chilled water systems Ventilation Systems, Selection Criteria
- Electrical LV/EV –CCTV, Networking, BMS System
- Specialized Services
- Solar lighting /water

Sessional /Term Work:

- Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples, sketches and supportive material.
- Students will work on at least one project and work on details of the project relating to all the above mentioned topics in the form of report.

Assessment:

- The sessional work and Viva Voce will be assessed internally and externally with equal weightage of 75 marks each and a consolidated list of both will be submitted to the university.

Recommended Readings:

- Buiding Services—S.M.Patil---(ISBN-978-81-7525-980-5), 1-C,102,Saamana Pariwar
- Building Maintenance Management, 2ed,---Chanter, Wiley India
- Maintenance of Buildings—A.C.Panchodhari—New Age International Publishers.
- Construction Engineering & management of Projects(For Infrastructure & Civil Works) by S. C. Sharma, Khanna Publishers, 2nd Edition, 2011

• Research I			
Subject Code –CM110			
Teaching Scheme		Examination Scheme	
Lectures/ week	2	Paper	100
Studio Periods/ week	1	Term work	25
		Sessional (Internal)	Nil
		Sessional (External)	Nil
Total Contact Periods/ week	3	Sessional Viva (Internal)	Nil
		Sessional Viva (External)	Nil
Total Credits	3	Total Marks	125

Objective:

- The objective of research methodology is to impart knowledge about the various processes undertaken in research, through quantitative and qualitative methods.

Course Content:

- **Introduction to Research:** Meaning of research types of research, process of research, Sources of research problem, Criteria / Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem, formulation of research hypotheses. Search for causation.
- **Developing a Research Proposal:** Format of research proposal, Individual research proposal, Institutional research proposal, significance, objectives, methodology, funding for the proposal, different funding agencies.

Sessional /Term Work:

- Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples, sketches and supportive material.
- Students will work on at least one project and work on details of the project relating to all the above mentioned topics in the form of report.
- Term work should consist of --- Spiral bound report preferably, printed on both the sides of A4 paper on the topic of dissertation work and should be submitted in a standard format having the following contents.
- Students should prepare a power point presentation to be delivered in 15 minutes and should be able to answer questions asked in remaining five minutes.

Assessment:

- The term work as stipulated above will be assessed internally for 25 marks will be submitted to the university.

Recommended Readings:

- Research Methodology: concepts and cases—Deepak Chawla and Neena Sondhi, Vikas Publishing House Pvt. Ltd. (ISBN 978-81-259-5205-3)
- Research Methods for Business—Sekaran—Wiley,India
- Research Methodology: Methods and Trends’, by Dr. C. R. Kothari--- New Age International Publishers.

- Research Methods in Education---Louis Cohen, Manion, Morrison---Routledge(Taylor &Francis Group) / -- Cambridge University Press India Pvt. Ltd.-ISBN-978-0-415-58336-7
- Research Methodology: An Introduction' by Wayne Goddard and Stuart Melville
- Research Methodology: A Step by Step Guide for Beginners', by Ranjit Kumar

For Approval from Faculty

• Software lab II			
Subject Code –CM111			
Teaching Scheme		Examination Scheme	
Lectures/ week	1	Paper	Nil
Studio Periods/ week	2	Term work	125
		Sessional (Internal)	Nil
		Sessional (External)	Nil
Total Contact Periods/ week	3	Sessional Viva (Internal)	Nil
		Sessional Viva (External)	Nil
Total Credits	3	Total Marks	125

Objective:

- The course is to introduce application software and their usage in different phases of construction and rigorously impart training for using the project management software by ongoing projects

Course Content:

- Software used in construction project management for scheduling, cost estimation, contract management, billing
- ERP software used in construction industry
- Emerging areas of construction specific information technologies
- Basic internet and web based management technologies

Sessional /Term Work:

- Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples, sketches and supportive material.
- Students will work on at least one project and work on details of the project relating to all the above mentioned topics in the form of report.

Assessment:

- The term work as stipulated above will be assessed internally for 125 marks will be submitted to the university.

• Elective II			
Subject Code –CM112			
Teaching Scheme		Examination Scheme	
Lectures/ week	1	Paper	Nil
Studio Periods/ week	1	Term work	Nil
		Sessional (Internal)	50
		Sessional (External)	50
Total Contact Periods/ week	2	Sessional Viva (Internal)	Nil
		Sessional Viva (External)	Nil
Total Credits	2	Total Marks	100

- Fire safety in high rise building
- Critical appraisal of building services in hotel/hospital projects
- Services for mixed used development project
- Facility planning and management for township project

Sessional/Term Work:

- Students will work on at least one project taken up in the studio and work on details of the project relating to all the above mentioned topics in the form of report .

Assessment:

- The sessional work will be assessed internally and externally with equal weightage of 50 marks each and a consolidated list of both will be submitted to the university.

Recommended Readings:

- All books/ Journals/ Magazines/ unpublished thesis related to the topic selected by the individual student.

**MASTER IN ARCHITECTURE
(CONSTRUCTION MANAGEMENT)**

DETAIL SYLLABUS

(Effective from the Academic year 2017-18)

SEM III

For Approval from Faculty

SEMESTER III

• Construction Management III			
Subject Code –CM 201			
Teaching Scheme		Examination Scheme	
Lectures/ week	7	Paper	100
Studio Periods/ week	5	Term work	Nil
		Sessional (Internal)	100
		Sessional (External)	100
Total Contact Periods/ week	12	Sessional Viva (Internal)	25
		Sessional Viva (External)	25
Total Credits	9	Total Marks	350

Objective:

To expose students to framework of project management as define in PMBOK (PMI USA) with emphasis on following core knowledge areas

- Project Procurement and Contracts Management
- Project Integration Management
- Project Claims Management
- Project Safety Management

Course Content:

- Plan, Conduct, Control and Close procurements
- Plan, Execute and Control Contracts and Contracting procedures
- Develop Project Charter
- Direct and manage, monitor and control project work
- Perform Integrated change, control & close project or phase
- Construction Claims - Extra items and causes of claims. Types of construction claims, documentation, settlement of claims, extension of time.
- Construction Safety Management and Accident Prevention
- Safety training; safety policy; safety committees; safety inspection; safety audit; reporting accidents and dangerous occurrences.
- Job safety analysis; fault tree analysis; accident management

Sessional/Term Work:

- Group of students will be assigned to live projects throughout 3 semester where in classroom learning will be validated with live projects
- Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples, sketches and supportive material.
- Students will work on at least one project taken up in the studio and work on details of the project relating to all the above mentioned topics in the form of report .
- At-least one assignment on MS Project.

Assessment:

- The sessional work and Viva Voce as stipulated above will be assessed internally and externally with equal weightage of 125 marks each and a consolidated list of both will be submitted to the university.

Recommended Readings:

- PMBOK by PMI
- Construction Planning & management By P S Gahlot & B M Dhir , New Age International Limited Publishers
- Construction Project planning & Scheduling By Charles Patrick, Pearson, 2012
- Construction Project Management Theory & practice --- Kumar Neeraj Jha, Pearson,2012
- Construction management Fundamentals by Knutson, Schexnayder, Fiori, Mayo, Tata McGraw Hill, 2nd Edition, 201
- Modern construction management---Harris, Wiley India.
- Project Management – K Nagrajan – New age International Ltd.
- Professional Construction Management Barrie-Paulson-McGraw Hill Institute Edition.
- Project Management – Ahuja H.N. – John Wiely, New York.
- Construction Project Management Planning, Scheduling and Controlling-Chitakara- Tata McGraw Hill, New Delhi
- Construction Management – Roy, Pilcher
- Construction Management – O'Brien.
- Project Management-Planning and Control---Rory Burkey 4th ed.—Wiley,India.

• Advanced Equipment & Material Management			
Subject Code –CM 202			
Teaching Scheme		Examination Scheme	
Lectures/ week	2	Paper	Nil
Studio Periods/ week	3	Term work	Nil
		Sessional (Internal)	75
		Sessional (External)	75
Total Contact Periods/ week	5	Sessional Viva (Internal)	Nil
		Sessional Viva (External)	Nil
Total Credits	4	Total Marks	150

Objective:

To learn about equipment and materials used in construction, during all phases and their management for optimum benefits.

Course Content:

- Importance of Materials Management
- Codification and procurement
- Inventory and Stores Management
- Equipment Management
- Construction Equipment

Sessional/Term Work:

- Group of students will be assigned to live projects throughout the semester where in classroom learning will be validated with live projects
- Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples and supportive material.
- Students will work on at least one project taken up in the studio and work on details of the project relating to all the above mentioned topics in the form of report .

Assessment:

- The sessional work will be assessed internally and externally with equal weightage of 75marks each and a consolidated list of both will be submitted to the university.

Minimum 1 Case study be discussed /analyzed in each of the above topics.

Reference Books:

1. Construction Technology: Analysis, and Choice, 2ed, Bryan, Wiley India
2. Construction Planning, Equipment and methods – Peurifoy-Tata McGraw Hill Publication
3. Construction Equipment Planning and Applications – Dr. Mahesh Varma
4. Brochures Published by various agencies associated with construction.
5. Journals such as CE & CR. Construction world, International Construction.
6. Document Reports of actual major works executed.
7. Construction Technology by Roy Chudley and Roger Greeno, Prentice Hall, 2005.
8. Purchasing and Inventory Control- by K. S. Menon, Wheeler Publication.
9. Materials Management, P.Gopalkrishnan, Prentice Hall

10. Handbook of materials management, P.Gopalkrishnan, Sundershan, Prentice Hall.
11. Inventory Management, L.C.Jhamb, Everest Publ.

For Approval from Faculty

• Advanced Building Services III			
Subject Code –CM 203			
Teaching Scheme		Examination Scheme	
Lectures/ week	2	Paper	Nil
Studio Periods/ week	3	Term work	Nil
		Sessional (Internal)	50
		Sessional (External)	50
Total Contact Periods/ week	5	Sessional Viva (Internal)	25
		Sessional Viva (External)	25
Total Credits	4	Total Marks	150

Objective:

To enable students to handle various services in landscape, energy management and audits, and criterion for selecting the right services for High Performance Buildings

Course Content:

- Landscape Services (MEP)
- Energy Management Services and Systems,
- Energy Efficiency and Energy Codes,
- Energy Audits,
- Thermal and Electrical Utilities

Sessional /Term Work:

- Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples, sketches and supportive material.
- Students will work on at least one project and work on details of the project relating to all the above mentioned topics in the form of report.

Assessment:

The sessional work and Viva Voce will be assessed internally and externally with equal weightage of 75 marks each and a consolidated list of both will be submitted to the university.

Recommended Readings:

- Buiding Services—S.M.Patil---(ISBN-978-81-7525-980-5), 1-C,102,Saamana Pariwar
- Building Maintenance Management, 2ed,---Chanter, Wiley India
- Maintenance of Buildings—A.C.Panchodhari—New Age International Publishers.
- Construction Engineering & management of Projects(For Infrastructure & Civil Works) by S. C. Sharma, Khanna Publishers, 2nd Edition, 2011

• Real Estate and Facility Management			
Subject Code – CM 204			
Teaching Scheme		Examination Scheme	
Lectures/ week	2	Paper	100
Studio Periods/ week	1	Term work	25
		Sessional (Internal)	Nil
		Sessional (External)	Nil
Total Contact Periods/ week	3	Sessional Viva (Internal)	Nil
		Sessional Viva (External)	Nil
Total Credits	3	Total Marks	125

Objective:

- Intent of the course is to impart detailed knowledge of all aspects related to management of Real Estate projects to train the students as Real Estate Project Managers.
- To develop students capability to manage various building services and to increase safe and healthy utilization of buildings and properties with minimal breakdown time.

Course Content:

- Planning norms for various Services & Utilities, Township facilities; Schools, Hospitals, Housing, Commercial Complexes etc. Importance of building services, type of services required to keep the facility usable, planning of services, organization structures of services management.
- Role and administrative functions of Supervisors.
- Real Estate Scope
- Real Estate appraisal and valuation; Role, scope, working characteristics and principal functions of real estate participant and stakeholders;
- Real estate consultants and their activities, Role and responsibilities of property managers
- Real Estate investment, sources and related issues; Code of ethics for Real Estate participants.
- Environmental issues related to Real Estate transactions.

Sessional /Term Work:

- Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples, sketches and supportive material.
- Students will work on at least one project and work on details of the project relating to all the above mentioned topics in the form of report.

Assessment:

- The term work as stipulated above will be assessed internally for 25 marks will be submitted to the university.

• Professional Practice & Training**			
Subject Code –CM 205			
Teaching Scheme		Examination Scheme	
Lectures/ week	1	Paper	Nil
Studio Periods/ week	2	Term work	25
		Sessional (Internal)	Nil
		Sessional (External)	Nil
Total Contact Periods/ week	3	Sessional Viva (Internal)	50
		Sessional Viva (External)	50
Total Credits	3	Total Marks	125

Objective:

The objective of professional practice is to acquaint students to professional ethics and code in industry along with hands on training at any MNC or PMC firm.

Course Content:

- Professional code of conduct
- Professional ethics
- Code laid down by Project Management Institute (PMI)

Construction management training includes professional training (40 full working days) to be undertaken during intermediate time between II & III semester.

Sessional /Term Work:

- Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples and supportive material.
- Term work should consist of a spiral bound report on the practical training preferably typed on both the sides of pages and should be submitted in a standard format.

Assessment:

- The sessional work will be assessed internally and externally in form of viva voce with equal weightage of 50 marks each and a consolidated list of both will be submitted to the university.

Recommended Readings:

- PMBOK by PMI

• Elective III			
Subject Code –CM206			
Teaching Scheme		Examination Scheme	
Lectures/ week	1	Paper	Nil
Studio Periods/ week	1	Term work	Nil
		Sessional (Internal)	50
		Sessional (External)	50
Total Contact Periods/ week	2	Sessional Viva (Internal)	Nil
		Sessional Viva (External)	Nil
Total Credits	2	Total Marks	100

- Project Schedule, Monitoring and Controlling using MSP, Hit Office, etc.
- ERP Systems
- Project Documentation Management
- Mega Project Design Evaluation

Sessional/Term Work:

- Students will work on at least one project taken up in the studio and work on details of the project relating to all the above mentioned topics in the form of report .

Assessment:

- The sessional work will be assessed internally and externally with equal weightage of 50 marks each and a consolidated list of both will be submitted to the university.

Recommended Readings:

- All books/ Journals/ Magazines/ unpublished thesis related to the topic selected by the individual student.

**MASTER IN ARCHITECTURE
(CONSTRUCTION MANAGEMENT)**

DETAIL SYLLABUS

(Effective from the Academic year 2017-18)

SEM IV

For Approval from Faculty

SEMESTER IV

• Construction Management Project			
Subject Code –CM 207			
Teaching Scheme		Examination Scheme	
Lectures/ week	5	Paper	Nil
Studio Periods/ week	17	Term work	Nil
		Sessional (Internal)	300
		Sessional (External)	300
Total Contact Periods/ week	22	Oral (Internal)	100
		Oral (External)	100
Total Credits	20	Total Marks	800

Objective:

- The objective of the thesis is to provide an opportunity to the students to prepare independent and original study of special project of his own choice.
- The subject for special study may be conceptual or practical but pertaining to Building Design and Construction Management.

Course Content:

- **Format of Dissertation Report:** The dissertation report shall be typed with double space on A4 size bond paper. The total No. of pages shall not be more than 200 and not less than 60. Figures, graphs, annexure etc. be added as per requirement.
- The report should be written in the following format:
 - Title Sheet
 - Certificate
 - Acknowledgment
 - List of figures, Photographs / Graphs / Tables
 - Abbreviations
 - Abstract / Final Synopsis
 - Contents
 - Text with usual scheme of chapters
 - Discussion of the results and conclusion
 - Bibliography (The source of illustrative matter be acknowledged clearly at appropriate place.)

Sessional/Term Work:

- Dissertation Report must be submitted after completion of:
 - Dissertation Copy – 3 (Three)
 - Synopsis (approved) – 05 Copies
 - Internal term work marks (sealed envelope)
 - Xerox copy of all mark lists (attested)
 - Covering Letter of Head of Institute

The final dissertation should be submitted in black bound hard copy as well as a soft copy on CD. The Term Work of Dissertation II of semester IV should be assessed jointly by the Supervisor, Head of Department, and External Examiner, along with oral examination of the same.

Assessment:

- The sessional work and Viva Voce as stipulated above will be assessed internally and externally with equal weightage of 400 marks each and a consolidated list of both will be submitted to the university.

Recommended Readings:

- All books/ Journals/ Magazines/ unpublished thesis related to the topic selected by the individual student.

For Approval from Faculty

• Research II			
Subject Code –CM 208			
Teaching Scheme		Examination Scheme	
Lectures/ week	1	Paper	Nil
Studio Periods/ week	7	Term work	Nil
		Sessional (Internal)	100
		Sessional (external)	100
Total Contact Periods/ week	8	Sessional Viva (Internal)	Nil
		Sessional Viva (External)	Nil
Total Credits	5	Total Marks	200

Objective:

- The objective of the seminar work is to train the students to prepare state of art report by assimilation of concepts / ideas on a chosen topic in the area of Building Engineering and Management through an extensive literature study and data collection from the field.

Course Content:

- The seminar work develops the comprehension and presentation skills of the students.
- The chosen topic may be further extended from the scope of study in the third semester or taken up for thesis work in the final semester.

Sessional/Term Work:

- The progress of the seminar work is presented and discussed by the student periodically in the classroom environment and progress monitored continuously.
- The students are also encouraged to seek guidance from the experts in the related fields.

Assessment

- The sessional work as stipulated above will be assessed internally and externally with equal weightage of 100 marks each for sessional work and a consolidated list of both will be submitted to the university.

Recommended Readings:

- All books/ Journals/ Magazines/ unpublished thesis related to the topic selected by the individual student.