RAJIV GANDHI PROUDYOGIKI VISHWA VIDYALAYA, BHOPAL (M.P.)
MASTER OF ARCHITECTURE

FIRST YEAR (2nd Semester)

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	Total Marks
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment/ Quiz	End Sem	Studio Work/ Sessional					
1.	MAR -121	Project Assessment & Management	70	20	10	-	-	3	1	-	4	100
2.	MAR -122	Advance Building Construction Techniques	70	20	10	-	-	3	1	-	4	100
3.	MAR -123	Transportation Planning	70	20	10	-	-	3	1	-	4	100
4.	MAR -124	Seminar-I	-	-	-	100	-	-	-	4	4	100
5.	MAR -125	Elective-II	-	-	-	90	60	3	1	4	4	150
6.	MAR -126	Architectural Design Studio-II	-	-	-	90	60	-	-	12	6	150
		TOTAL	**210**	**60**	**30**	**280**	**120**	**12**	**4**	**20**	**26**	**700**

Elective-II : 1. Heritage & Urban Conservation, 2. High Rise Buildings

SEMESTER – II

MAR 121; PROJECT ASSESSMENT & MANAGEMENT

OBJECTIVE:

After successful completion of this course, student should be able to:

- Develop an awareness Significance and Architect's role in Project Management, & Process of Project Management & organization
- To impart knowledge on project management methods and techniques

CONTENTS:

1 Introduction to project management, probability theory and its application in construction planning and project management.

2 Introduction to network techniques LOB, CPM, PERT application to mass housing; Scheduling and controlling of construction projects

3 Personal management- concept, definition, growth, role and function of manpower estimation for company and for projects; Personal administration at the project site.

4 Building construction industry- components of building industry, building material industry.

5 Development of value analysis techniques and life cycle costing of buildings, components of cost, criteria for cost companies and cost industries.

6 Case studies- critical appraisal of few selected projects.

SUGGESTED BOOKS:

- Naik, B.M., "Project Management: Scheduling and Monitoring by PERT/CPM", South Asia Books. 1985
- Kerzner, H., " Project Management: A Systems Approach to Planning, Scheduling, and Controlling", 10th ed., John Wiley & Sons. 2009
- Lewis, J. P.," Fundamentals of Project Management", Amacom. 2007
- Wholey, J. S., Harry, P. H. And Newcomer, K.E., "Handbook of Practical Program Evaluation", John Wiley & Sons 2004
- . Binnekamp, R., Gunsteren L. A. And Peter-Paul van Loon, " Open Design- A Stakeholder Oriented Approach in Architecture, Urban Planning and Project Management ", Tudelft. 2006
- Berger, S. And Godel, J.B., "Estimating and Project Management for Small Construction Firms", Van Nostrand Reinhold Co. 1977".

MAR-122; ADVANCE BUILDING CONSTRUCTION TECHNIQUES

OBJECTIVES:

To impart knowledge on advancements in different disciplines related to building technology.

CONTENTS:

1 Evolution of building technology and advancements; Industrial Revolution and its impact, mass housing, rapid construction methods and materials; Structural systems as elements of architectural expressions, modernism and post-modernism.

3 Shells, cable, frame, prismatic and geodesic structures, load carrying mechanism, large span structure, lessons from failures

3 Passive building technologies, building skin, material and construction details for thermal, light and ventilation control; Traditional Architecturevernacular vocabulary.

4 Indoor environment, HVAC and artificial lighting, Sick Building Syndrome, performance efficiency, energy efficiency, CFL and LED

5 Construction technology and lean construction; Toyota experience- just-intime, controlled inventory.

6 Building management system(BMS); Safety-entry control; CCTV; Fire and smoke detection, alarm; Thermal and working environment - temperature, humidity, air movement, light level; Occupancy sensors; Simulation techniques.

SUGGESTED BOOKS:

1. Clements, C. D.J, “Intelligent Buildings – Design, Management & Operation”, Thomas Telford. 2004
2. Haulden, G., Saldanha, M. And Liedt P., “Climate Skin : Building Skin Concepts that can do more with less energy”, Birkhauser. 2008
3. Alarcen, L., “Lean Construction”, Balkema 1997
4. Salvadori, M. And Heller R., “ Structure in Architecture”, Engle Wood. 1986
5. Bansal, N.K., “Practical Handbook on Energy Conservation in Buildings”, Indian Building Congress, Nabhi Publication

MAR-123 ; TRANSPORTATION PLANNING

OBJECTIVE:

- To acquire professional capacity in traffic and transportation planning

CONTENTS:

- Introduction to traffic and transportation planning in urban and regional context; Traffic and transportation characteristics and problems of India.
- Types of roads and planning standards; Road design and layout;
- Road intersections; Road cross sections; Street furniture; Design for road safety.
- Traffic and transportation surveys; Traffic zones, cordon lines and control stations; O and D surveys, home interviews and travel pattern data; Inventory of existing transportation facilities including parking.
- Traffic Management- traffic control systems, traffic signs, signals, speed regulations etc; Design for traffic segregation; Planning for parking.
- Traffic planning and forecasting- trip generation and methods of predicting trip generation; Models of traffic assignments.
- Roads and transport services in urban and rural settlement; Mass transportation in urban environment; Urban form in relation to traffic and transportation patterns; Sustainable transport systems; Environmental considerations.
- Case studies on best practices of traffic management and transportation services from India and abroad; New innovations and concepts in traffic and transportation

SUGGESTED BOOKS:

- Bohlinger, M., “Planning Traffic Management”, Springer.
- Bruton, M.J., “Introduction to Transportation Planning”, Amazon Co.
- Burton E. And Mitchell, L., “Inclusive urban design: streets for life”, Elsevier
- Tiwari G., “The Way Forward Transportation Planning and Road Safety”, IITD Publication.
- Kadiyal, L.R “Traffic Engineering and Transport Planning”, Khanna Publisher.
- Vuchic, V.R. “Urban Transport Systems and Technology”, Wiley & Sons.

MAR-: 124; Seminar-I (Discussion Seminar)

OBJECTIVE:

(1) To facilitate discussion on a particular subject
(2) Expose students to various points of and
(3) To teach them how to formulate and articulate arguments Research.

Pedagogy: Where discussion on pre-assigned readings or on brief lectures/Presentations.

MAR-125; ELECTIVE-II

1) Heritage And Urban Conservation

OBJECTIVE

- To generate an understanding of concepts and principles of conservation and the organization
- To study various conservation management processes through case Studies.

CONTENT:

- History of Conservation – terms associated with conservation practice like rehabilitations redevelopment, revitalization, regeneration, redevelopment – role of UNESCO and other bodies, Heritage Act.
- Basic principles of Conservation, Degrees of interventions, study of different characteristics from the world.
- Introduction to historic structures and structural systems of India – study of traditional materials and historic structural components in India, methodologies for evaluation of heritage buildings.
- Parameters of quality management - management of historic buildings – Site level management.
- Different case studies related to conservation.

SUGGESTED BOOKS:

- Chukwunyere C. Ugochukwu, Urban Neighborhood Revitalization and Heritage Conservation: The Architecture of Urban Redesign,) Edwin Mellen Press Ltd. 2006
- James Strike, Architecture in Conservation: Managing Development at Historic Sites, Routledge, 2012
- Kenneth Williamson, Development and Design of Heritage Sensitive Sites: Strategies for Listed Buildings and Conservation Areas 1st Edition, Routledge, 2010
- Aylin Orbasli, Philip Grover, Architectural Conservation: Principles and practicejohn Wiley & Sons, 2007

2) High Rise Buildings

OBJECTIVE:

To understand basic design concepts and emerging technologies of high rise buildings.

CONTENT:

1. Introduction, high rise buildings in urban environment, physical planning considerations.
2. Architectural design considerations for high rise buildings, space planning and design standards, building byelaws and codes.
3. Structural systems in RCC and steel for high rise buildings, composite structural system considerations for wind loads and earthquake loads.
4. Building services- mechanical, electrical, firefighting and protection, vertical transportation, HVAC, BAS and parking; Codes for these services.
5. Construction planning and management, equipments and construction techniques, materials for cladding, prefabrication.
6. An approach to sustainable and green high rise buildings including the concepts of Zero Energy Habitat.

SUGGESTED BOOKS:

- Smith, B.S. and Coull, A., "Tall Building Structures- Analysis and Design" John Wiley & Son.
- Lin, C.F., "Construction Technology for Tall Buildings", Singapore University Press.
- Viswanath H.R., Tolloczko J.J.A. and Clarke J.N. , "Multi-purpose High Rise Towers and Tall Buildings" , Taylor & Francis.Craighead G., "High Rise Security & Fire Life Safety", butter worth heinemann
- Viswanath H.R., Tolloczko J.J.A. and Clarke J.N. , "Multi-purpose High Rise Towers and Tall Buildings" , Taylor & Francis.

MAR- 126; ARCHITECTURAL DESIGN STUDIO-II

OBJECTIVE: To explore challenging aspects of building design through architectural design studio exercises.

CONTENT:

1.Building functional efficiency in relation to space, form and aesthetics.

2. Building standards and building bye laws for different types of buildings in various locations.

3. Design of low rise and mid rise buildings with high density.

4. Specialized buildings design such as hospital, airport and hotel.

5. Disaster resistant building design.

6. Sustainable building design aspects and Green buildings design concepts.

Studio: Major design exercises in large scale housing projects, especially mid rise with high density, urban design projects, hospital projects etc. Minor design exercises related to disaster resistant buildings for earthquake, cyclone etc.; Disaster mitigation and rehabilitation projects; Sustainable and green building design.