

**MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR**  
**(A Govt. Aided UGC Autonomous Institute Affiliated to RGPV, Bhopal)**

**BOARD OF STUDIES MEETING**  
**Nov 2020**

**DEPARTMENT OF ARCHITECTURE**

## Contents

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**Table 1 : Courses where revision was carried out**

<b>Total No. of Courses offered during Dec 2020-June 2021 Session</b>	<b>Revision of Syllabus Carried out (No. of Courses &amp; Course Details)</b>	<b>% of Courses where syllabus revision was done</b>	<b>% change in syllabus from existing</b>	<b>Item/Agenda No.</b>	<b>Pg. No.</b>
45	Architectural Design – I (210111)	<b>Change in Examination Scheme</b>	<b>15%</b>	8	28
	Building Materials (210112)	<b>Change in Examination Scheme</b>	<b>5%</b>	8	28
	Graphics – I (210113)	<b>Change in Examination Scheme</b>	<b>15%</b>	8	28
	Structure I (210114)	<b>Change in Examination Scheme</b>	<b>5%</b>	8	28

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History of Architecture-I (210115)	<b>Change in Examination Scheme</b>	<b>5%</b>	8	28
Workshop – I (210116)	<b>Change in Examination Scheme</b>	<b>25%</b>	8	28
Professional Communication (210117)	<b>Change in Examination Scheme</b>	<b>5%</b>	8	28
Architectural Design – II (210211)	<b>Change in Examination Scheme</b>	<b>15%</b>	8	28
Building Construction I (210212)	<b>Change in Examination Scheme</b>	<b>15%</b>	8	28
Graphics II (210213)	<b>Change in Examination Scheme</b>	<b>15%</b>	8	28
Structure II (210214)	<b>Change in Examination Scheme</b>	<b>5%</b>	8	28
History of Architecture-II (210215)	<b>Change in Examination Scheme</b>	<b>5%</b>	8	28
Theory of Design (210216)	<b>Change in Examination Scheme</b>	<b>5%</b>	8	28
Workshop – II (210217)	<b>Change in Examination Scheme</b>	<b>25%</b>	8	28
Architectural Design – VIII (210801)	<b>Subject Introduced</b>	<b>100%</b>	-	31

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	Dissertation (210804)	<b>Subject Introduced</b>	<b>100%</b>	-	31
	Disaster management (100007)	<b>Subject Introduced</b>	<b>100%</b>	-	31
	Thesis (AR801)	<b>Subject Dissolved</b>	-	-	31

**Table 2 : New courses added**

<b>Total No. of Courses offered during July-December 2020 Session</b>	<b>Total No. of New courses added</b>	<b>Name of New courses added</b>	<b>Agenda/ Item No.</b>	<b>Pg. No.</b>
31	6	Role of Craft and Technology in Interior - Architecture	1	6
		Visual Communication Design for Digital Media	1	6
		Principles and applications of building science	1	6
		Structural System in Architecture	3	6
		Urban Land Use and transportation planning	3	6
		Urban governance and Development Management (UGDM)	3	6

**Table 3 : Courses focusing on employability/entrepreneurship/skill development**


  
 4/12/20      4 R. 2020      Nil 04-12-2020      4/12/20

Total No. of Courses offered during July-December 2020 Session	Total No. of Courses focusing on employability /entrepreneurship/skill development	Name of Courses focusing on employability/entrepreneurship/skill development	Agenda/Item no.	Pg. No.
31	11	Graphics III (210303),	-	54
		Human Settlement (210511)	2	88
		Interior Design (210512)	2	89
		Estimating and Costing & Specification (210704)	-	114
		Professional Training (AR901)	-	117
		Visual Communication Design for Digital Media (210508)	1	13
		Role of Craft and Technology in Interior - Architecture (210508)	1	14
		Building Materials and Composites (210508)	1	16
		Structural System in Architecture (210751)	3	11
		Urban Land Use and transportation planning (210752)	3	9
		Urban governance and Development Management (UGDM) (210753)	3	7
		Inclusive Urban Planning (Elective-I) (670311)	-	153
		Planning for Tourism (Elective-I) (670312)	-	153
		Environment, Development & Disaster Management (Elective-II) (670313)	-	153

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		Energy, Climate Change & Urban Development (Elective-II) (670314)	-	154
		Seminar (670303)	-	154
		Pre-Dissertation (670304)	-	154

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DEPARTMENT OF ARCHITECTURE

**Minutes of the meeting of Board of Study of Architecture Department Meeting**

The meeting of Board of Studies of Architecture was held on 28<sup>th</sup> November 2020 at 12.30 PM on Google Meet.

The following members were present:

1. Dr. S. S. Jadon, Professor, Department of Architecture MITS, Gwalior
  2. Dr. A. S. Patil, AssoProfessor, Department of Architecture MITS, Gwalior
  3. Richa Mishra, Asst. Professor, Department of Architecture MITS, Gwalior
  4. Pranshi Jain, Asst. Professor, Department of Architecture MITS, Gwalior
  5. Apurva Tomar, Asst. Professor, Department of Architecture MITS, Gwalior
  6. Ankit Kumar, Asst. Professor, Department of Architecture MITS, Gwalior
  7. Shweta Singh, Asst. Professor, Department of Architecture MITS, Gwalior
  8. Dr. Manmohan Kapshe, Professor, Department of Architecture and Planning, MANIT, Bhopal.  
Subject experts from outside the parent university (RGPV) BoS Member
  9. Dr. Vasudha Gokhale, Professor, Department of Architecture, BNCA, Pune M.S. Subject experts from outside the parent university (RGPV) BoS Member
  10. Dr. Sandip Sankat, Asso Professor, SPA, Bhopal
  11. Ar. Rakhi Taparia, Architect, New Delhi, Industry Corporate Member, BOS,
- Leave of absence granted to Dr. Sanjiv Singh, Professor, School of Planning and Architecture Bhopal Madhya Pradesh (M.P.), nominee -honorable Vice – chancellor, RGPV BoS, Member  
Ar. Punit Pandey, Architect Indore, meritorious alumni, MITS, Gwalior, BoS, Member

Following points were discussed during BOS meeting.

***In BOS Agenda Item No. 01***

- Subjects Furniture Design (210811), Adv. Structural Design (210813), Town Planning (210814) were finalized for VII semester in offline mode under Departmental Elective category.

***In BOS Agenda Item No. 04***

- Subject Housing (210611) and Architectural Journalism (210614) were finalized for VI semester under Departmental Elective courses.

***In BOS Agenda Item No. 05***

- Subjects Sustainable Architecture (210651) and Geographic Information System (210654) were finalized from SWAYAM/NPTEL/MOOC platform for VI semester under Departmental Elective courses.

Ankit  
9-12-2020

*In BOS Agenda Item No. 13*

Equivalence list of courses for B. Architecture programmes (for 2017-18, 2018-2019, 2019-2020 & the 2020 admitted batch) as per Annexure -VI

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Pranshi Jain,  
Asst. Professor, Department of  
Architecture MITS, Gwalior

Ankit  
4-12-2020

Ankit Kumar,  
Asst. Professor, Department of  
Architecture MITS, Gwalior

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Richa Mishra,  
Asst. Professor, Department of  
Architecture MITS, Gwalior

Apurva  
Tomar

Apurva Tomar,  
Asst. Professor, Department of  
Architecture MITS, Gwalior

P

Shweta Singh  
Asst. Professor, Department of  
Architecture MITS, Gwalior

Dr. A. S. Patil

(Dr. A. S. Patil)  
Asst. Professor, Department of  
Architecture MITS, Gwalior

Dr. S. S. Jadon  
01-12-2020

Professor, Department of  
Architecture MITS, Gwalior

P

DrVasudhaGokhale,  
Professor, Department of Architecture, BNCA,  
Pune M.S. Subject experts from outside the  
parent university (RGPV) BoS Member

P

DrSandipSankat,  
Asso Professor, SPA, Bhopal

P

DrManmohan Kapshe  
Professor, Department of Architecture and  
Planning, MANIT Bhopal Subject experts from  
outside the parent university (RGPV) BoS Member

P

Ar. RakhiTaparia, Architect, New  
Delhi, Industry Corporate  
Member, BOS

Dr. Manaree Pandit

Dr. Manaree Pandit  
Dean Academics, MITS  
Gwalior  
DEAN (ACADEMICS)  
MITS  
GWALIOR



## Agenda of the BOS

(Approved by the Academic Development Cell for all BOS Meetings Scheduled in 28 November 2020)

<b>Item 1:</b>	<p>To propose the list of courses which the students can opt from SWAYAM/ NPTEL/ MOOC Platform. to be offered in <b>offline mode under Departmental Elective (DE) category</b>, for credit transfer in the <b>VIII Semester (Batch admitted in 2017-18)</b>: applicable during January-June 2021 academic session</p> <p><b>Proposed list of courses which students can opt offline mode under Departmental Elective category in the VIII Semester as per</b> <span style="float: right;"><b>Annexure-I</b></span></p>
<b>Item 2:</b>	<p>To propose the list of courses which the students can opt from SWAYAM/ NPTEL/ MOOC Platform to be offered (for students of other departments) in <b>online mode under Open Category (OC)</b> for credit transfer in the <b>VIII Semester (Batch admitted in 2017-18)</b>: applicable during January-June 2021 academic session</p> <p><b>As per Council of Architecture Norms, no open course is offered in Architecture branch</b></p>
<b>Item 3:</b>	<p>To propose the list of "Additional Courses" which can be opted for getting an</p> <p style="margin-left: 40px;">(i) <b>Honours (for students of the host department)</b> (ii) <b>Minor Specialization (for students of other departments)</b></p> <p><i>[These will be offered through SWAYAM/NPTEL/MOOC based Platforms for the VI semester (for the batch admitted in 2018-19) and for VIII semester students (for the batch admitted in 2017-18)]</i> applicable during January-June 2021 academic session</p> <p><b>As per Council of Architecture Norms, Honours &amp; Minor Specialization is not offered in Architecture branch</b></p>
<b>Item 4:</b>	<p>To review and finalize the list and syllabi for all <b>Departmental Elective (DE) Courses of VI Semester</b> to be offered to (the batch admitted in 2018-19) under the flexible curriculum along with their COs; { applicable during January-June 2021 academic session}</p> <p><b>The list and syllabi for all Departmental Elective (DE) Courses of VI Semester to be offered to (the batch admitted in 2018-19) under the flexible curriculum along with their Cos as Per agenda is reviewed.</b></p>
<b>Item 5:</b>	<p>To review and finalize the list of Courses from SWAYAM/NPTEL/MOOC Platform to be offered (for batch admitted in 2018-19) in online mode under <b>Departmental Elective (DE) Courses</b> for credit transfer in the <b>VI Semester</b>{applicable during January-June 2021 academic session}</p> <p><b>The list of Courses from SWAYAM/NPTEL/MOOC Platform to be offered (for batch admitted in 2018-19) in online mode under Departmental Elective (DE) Courses for credit transfer in the VI Semester{applicable during January-June 2021 academic session} is reviewed as per</b> <span style="float: right;"><b>Annexure-II</b></span></p>
<b>Item 6:</b>	<p>To review and finalize the Courses &amp; Syllabi to be offered (for batch admitted in 2018-19) under the <b>Open Category (OC) Courses</b> for <b>VI semester</b> students of other departments along with their Cos</p> <p><b>As per Council of Architecture Norms, no open course is offered in Architecture branch</b></p>
<b>Item 7:</b>	<p>To review and finalize the <b>Courses &amp; Syllabi</b> to be offered (to the batch admitted in 2018-19) under <b>Departmental Core (DC) Courses</b> for the <b>IV&amp;VI semester</b> students along with their COs</p> <p><b>Courses &amp; Syllabi to be offered (to the batch admitted in 2018-19) under Departmental Core (DC) Courses for the IV&amp;VI semester students along with their COs as per</b> <span style="float: right;"><b>Annexure-III</b></span></p>
<b>Item 8:</b>	<p>To review and finalize the <b>Scheme &amp; Syllabi (I &amp; II semester)</b> of the <b>NEW B. Tech.</b> programme(s) to be started by the departments w.e.f. the batch admitted in 2020-21</p> <p><b>Will follow the scheme &amp; syllabi adopted earlier for batch 2019-2020</b></p>
<b>Item 12:</b>	<p>To identify <b>gaps in CO attainment levels</b> for <b>Jan-June 2020 semester</b> and propose corrective measures for improvement.</p>
<b>Item 13:</b>	<p>To prepare and propose the equivalence list of courses for B. Architecture programmes (for 2017-18, 2018-2019, 2019-2020 &amp; the 2020 admitted batch)</p> <p><b>The equivalence list of courses for B. Architecture programmes (for 2017-18, 2018-2019, 2019-2020 &amp; the 2020 admitted batch) as per</b> <span style="float: right;"><b>Annexure -IV</b></span></p>

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## Agenda of the BOS

*(Approved by the Academic Development Cell for all BOS Meetings Scheduled in 28 November 2020)*

<b>Item 1:</b>	To propose the list of courses which the students can opt from SWAYAM/ NPTEL/ MOOC Platform. to be offered in <b>offline mode under Departmental Elective (DE) category</b> , for credit transfer in the <b>VIII Semester (Batch admitted in 2017-18)</b> . applicable during January-June 2021 academic session <b>Proposed list of courses which students can opt offline mode under Departmental Elective category in the VIII Semester as per Annexure-1</b>
<b>Item 2:</b>	To propose the list of courses which the students can opt from SWAYAM/ NPTEL/ MOOC Platform to be offered (for students of other departments) in <b>online mode under Open Category (OC)</b> for credit transfer in the <b>VIII Semester (Batch admitted in 2017-18)</b> . applicable during January-June 2021 academic session <b>As per Council of Architecture Norms, no open course is offered in Architecture branch</b>
<b>Item 3:</b>	To propose the list of "Additional Courses" which can be opted for getting an (i) <b>Honours (for students of the host department)</b> (ii) <b>Minor Specialization (for students of other departments)</b> [These will be offered through SWAYAM/NPTEL/MOOC based Platforms for the VI semester (for the batch admitted in 2018-19) and for VIII semester students (for the batch admitted in 2017-18)] applicable during January-June 2021 academic session <b>As per Council of Architecture Norms, Honours &amp; Minor Specialization is not offered in Architecture branch</b>
<b>Item 4:</b>	To review and finalize the list and syllabi for all <b>Departmental Elective (DE) Courses of VI Semester to be offered to (the batch admitted in 2018-19)</b> under the flexible curriculum along with their COs : { applicable during January-June 2021 academic session} <b>The list and syllabi for all Departmental Elective (DE) Courses of VI Semester to be offered to (the batch admitted in 2018-19) under the flexible curriculum along with their Cos as Per agenda is reviewed.</b>
<b>Item 5:</b>	To review and finalize the list of Courses from SWAYAM/NPTEL/MOOC Platform to be offered (for batch admitted in 2018-19) in online mode under <b>Departmental Elective (DE) Courses</b> for credit transfer in the <b>VI Semester</b> {applicable during January-June 2021 academic session} <b>The list of Courses from SWAYAM/NPTEL/MOOC Platform to be offered (for batch admitted in 2018-19) in online mode under Departmental Elective (DE) Courses for credit transfer in the VI Semester{applicable during January-June 2021 academic session} is reviewed as per Annexure-II</b>
<b>Item 6:</b>	To review and finalize the Courses & Syllabi to be offered (for batch admitted in 2018-19) under the <b>Open Category (OC) Courses</b> for VI semester students of other departments along with their Cos <b>As per Council of Architecture Norms, no open course is offered in Architecture branch</b>
<b>Item 7:</b>	To review and finalize the Courses & Syllabi to be offered (to the batch admitted in 2018-19) under <b>Departmental Core (DC) Courses</b> for the IV&VI semester students along with their COs <b>Courses &amp; Syllabi to be offered (to the batch admitted in 2018-19) under Departmental Core (DC) Courses for the IV&amp;VI semester students along with their COs as per Annexure-I</b>
<b>Item 8:</b>	To review and finalize the <b>Scheme &amp; Syllabi (I &amp; II semester)</b> of the <b>NEWB. Tech.</b> programme(s) to be started by the departments w.e.f. the batch admitted in 2020-21 <b>Will follow the scheme &amp; syllabi adopted earlier for batch 2019-2020</b>
<b>Item 12:</b>	To identify <b>gaps in CO attainment levels</b> for <b>Jan-June 2020 semester</b> and propose corrective measures for improvement.
<b>Item 13:</b>	To prepare and propose the equivalence list of courses for B. Architecture programmes (for 2017-18, 2018-2019, 2019-2020 & the 2020 admitted batch) <b>The equivalence list of courses for B. Architecture programmes (for 2017-18, 2018-2019, 2019-2020 &amp; the 2020 admitted batch) as per Annexure-VI</b>

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Item 14:	Any other matter NEP ( National Education Policy)
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**BOS Agenda Item NO.1.**

**Proposed list of courses which students can opt offline mode under Departmental Elective category in the VIII Semester.**

- a. Furniture Design (210811)
- b. Adv. Structural Design (210813)
- c. Town Planning (210814)

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**BOS Agenda Item NO. 5.**

**List of Courses from SWAYAM/NPTEL/MOOC Platform to be offered (for batch admitted in 2018-19) in online mode under *Departmental Elective (DE) Courses* for credit transfer in the VI Semester**

- a. Sustainable Architecture - 210651
- b. Geographic Information Systems - 210654

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## BOS Agenda Item No. 13

### Equivalency Report:-Architecture Department

Propose equivalence list of courses for B. Architecture programmes (for 2017-18, 2018-2019, 2019-2020 & the 2020 admitted batch)

S.No.	Flexi Curriculum Grading(B. Arch.) / Grading System (MUP)2020-21	Flexi Curriculum Grading(B. Arch.) / Grading System (MUP) 2018-19	Flexi Curriculum Grading(B. Arch.) / Grading System (MUP) 2017-2018	Whether Equivalence or Not	Remark
1	-	210110 Building Materials	210102 Architecture Material	Equivalent	
2	-	210111 Professional Communication	210109 Technical English	Equivalent	
3	-	210108 Structure -I	210106 Structure -I	Equivalent	
4	-	210208 Structure -I	210206 Structure -I	Equivalent	
5	<b>670111</b> Planning Principles And Theory	670101 Planning Principles And Theory	670101 Planning History And Theory	Equivalent	
6	<b>670115</b> Housing	<b>670105</b> Housing	<b>670105</b> Housing and Environmental Planning	Equivalent	
7	<b>670211</b> City And Metropolitan Planning	670201 City And Metropolitan Planning	670201 City And Metropolitan	Equivalent	
8	<b>Elective-I</b> <b>670311-</b> Inclusive Urban Planning. <b>670312-</b> Planning for Tourism	<b>670301</b> Elective-I Inclusive Urban Planning for Tourism		Equivalent	
9	<b>ELECTIVE-II</b> <b>670313 -</b> Environment, Development and Disaster Management, <b>670314-</b> Energy, Climate change and Urban Development	<b>670302</b> Elective-II Environment, Development And Disaster Management Energy, Climate change and Urban Development		Equivalent	

**Item 1. Details Syllabus of DE Courses**

**a. FURNITURE DESIGN**

S.No	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT HR S.	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem.	Mid Sem.	Quiz/ Assignment	End Sem.	Lab work & Sessional						
6.	210811	Furniture Design	DE-6	50	30	20	-	-	100	3	2	1	-	3

**UNIT-1 INTRODUCTION TO ERGONOMICS AND FURNITURE DESIGN**

Introduction to importance of ergonomics for human being in man-made world, Gross human anatomy. Ergonomics for different age group and gender in relation object used in interior.

**UNIT-2 HUMAN FACTORS AND FURNITURE DESIGN**

Brief study of Anthropometrics –man –machine-environment, static and dynamic. Muscles and work physiology, Static and Dynamic work including maximum capacity, Furniture ergonomics for different age group and gender.

**UNIT-3 ERGONOMIC FOR BUILT ENVIRONMENT**

Built environment for the physically handicapped – Ramp, toilets and corridor design, Spatial Requirements for wheel chair movement-Design issues in the design of old age homes – Criteria to be considered when designing for the Visually handicapped.

**UNIT-4 ENVIRONMENTAL ERGONOMICS**

Study of Biomechanics, Environmental Condition including, thermal, illumination, noise and vibration. Bi transducers Environmental stress, Psycho Psychological aspects of design.

**UNIT-5 ERGONOMICS FOR FURNITURE DESIGN**

Study Of Furniture ergonomics for different space like, office, residential, children, Aged and Physically and visually handicapped user.

**COURSE OUTCOME:**

After completion of this course the student will be able to:

CO1	Introduce the vocabulary of Anthropometry and furniture design.
CO2	Study various components of ergonomics adapted in furniture design.
CO3	Relate applied Ergonomics and furniture design with human environment.
CO4	Study components of Ergonomics and furniture design like design for special need. Biomechanics.

*Atul Anil J N*

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	Psychological aspects.
CO5	Design a product for specific purpose.

## REFERENCES:

1. De Chiara and Callender - Time Savers Standards for Building Types
2. De Chiara and Callender - Time Savers Standards for Architectural data
3. Time Saver Standards for Interior Design.
4. An invitation to Design, Helen Marie Evans.
5. Francis D.K.Ching, Interior Design Illustrated, VNR Publications, New York. 1987

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**b. Adv Structural Design**

**OBJECTIVE:** The objective of the subject is to introduce the students about the fundamentals of stability of Modern structures in R. C. C. and various factors of R.C. C. structure designing.

S.No	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT HR S.	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem.	Mid Sem.	Quiz/Assignment	End Sem.	Lab work & Sessional						
6.	210813	Advanced Structural Design	DE-6	50	30	20	-	-	100	3	2	1	-	3

**UNIT- 1**

Design of continuous and isolated footings  
 Design of combined footing: - types of combined footing, design of combined footing (rectangular and trapezoidal only)  
 Pre stressed concrete: - pre stress and pre stressing methods, type and classification of pre stressing, losses of pre stressed.

**UNIT- 2**

Design of Flat Slab  
 Modern construction systems such as lift slab, folded plates, tensile structures etc.

**UNIT- 3**

Appropriate methods for an analysis for frames by portal method, cantilever method (horizontal forces only)  
 Space frames, geodesic domes, Large span roofing, special areas, Gymnasium, Airports and Stadiums.

**UNIT- 4**

Specific constructional considerations for earthquake resistance structures, coastal areas.

**UNIT- 5**

Conceptual structural systems for high rise buildings such as veranda trusses, shearwall etc. Domes, shells, vaults, arches (all types) in masonry, R.C.C., timber.

**COURSE OUTCOME:**

After completion of this course the student will be able to:

CO1	Design the structure for stability, strength and serviceability.
CO2	Prevent overturning, sliding or buckling of the structure, or parts of it, under the action of loads
CO3	Resist safely the stresses induced by the loads in the various structural members.

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## REFERENCES:

1. SALVADORI, "Structures inArchitecture".
2. SALVADORI, "Structural Design inArchitecture".
3. ROBERT, E. FISCHER, "New Structure", McGraw HillCo.
4. WOLFGANG SCHUELLER, "The design of building Structures".

NOTE: I) I.S. code 456-2000, SP -16 is permitted in examination.

II) Sessional work should include the analysis and design of simple elements along with the drawings using limit state method only for units from 1 to 3 and for rest only an idea along with sketches shall be taught to the students.

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## c. TOWN PLANNING

To understand the various elements and planning principal of city planning, its shapes. To familiarize the students with Planning concepts and process in Urban and Regional Planning. To familiarize the student with the process of evolution of cities, concepts related to humanitarian planning processes and skill development to identify planning issues in existing areas and develop solutions at basic levels.

S.No	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT HR S.	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem.	Mid Sem.	Quiz/Assignment	End Sem.	Lab work & Sessional						
1.	210814	Town Planning	DE-6	50	30	20	-	-	100	3	2	1	-	3

### Unit 1 Introduction to Town Planning & Theories

Definitions of town planning, form of planning, Elements and planning principal of city plan. Shapes of plan in accordance to road networks. Introduction to basic planning theories Indus Valley, Ancient (Vedic) planning systems.

### Unit 2 Planning Concepts and Evolution

Planning concepts related to City beautiful movement (Chicago, Chandigarh), Urban Utopia (Broadacre), Garden city (Letchworth), Radburn Theory (Radburn) and Neighbourhood planning.

### Unit 3 Planning Process & Standards

Understanding of planning process. Relevance of standards in planning as per URDPFI guidelines prepared by TCPO.

### Unit 4 Roads and Traffic Studies

Awareness of concepts related to various traffic problems in India. Understanding of PCU, Traffic volume, Road capacities, Road types; their sections and intersections, Traffic calming as per IRC guidelines.

### Unit 5 Modern Transportation Systems

New concepts in mass and rapid transportation systems e.g. BRT, LRT and Metro rail.

### Unit 6 Modern Approach in Planning

Introduction, Benefits and Planning components of Green City (e.g. Vancouver), Compact City (e.g. Sky city, China) and Smart City (e.g. Malta)

**COURSE OUTCOME:** After completion of this course the student will be able to:

CO 1	To develop an appreciation of the planning issues involved at the scale of a town or a city.
CO 2	To expose the students to the history and development of planning.
CO 3	To understand town planning relevance & its application to modern day principles of town planning.

### REFERENCE BOOKS

- John Ratcliffe, An Introduction to Town and Country Planning, Hutchinson 1981
- Arthur B. Gallion and Simon Eisner, The Urban Pattern – City planning and Design, Van Nostrand Reinhold



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company

3. Rangwala, Town Planning, Charotar publishing house
4. Rame Gowda, Urban and Regional planning
5. V.N.Ambedkar, Town and country planning and Housing, orient longman, 1971
6. URDPFI Guidelines for Planning by TCPO.
7. IRC Guidelines.
8. Abir Bandhopadhyay, Town Planning.
9. Binode Behari Dutt, Town Planning in Ancient India.

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**Item 5.**

**a. SUSTAINABLE ARCHITECTURE**

Opted from SWAYAM/NPTEL By Prof. Avlokita Agrawal, IIT Roorkee

S.N o.	Subject Code	Subject Name	Category	Maximum Marks Allotted							Total Marks	CT HR S.	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot		MOOC				L	T	P	
				End Sem	Mid Sem	Quiz/ Assig nment	End Se m.	Lab work & Sessi o nal	Assignm ent	Exam						
21075 4	Sustainable Architecture	DE- 4	-	-	-	-	-	-	25	75	100	3	2	1	-	3

The pace at which resource consumption is increasing in every field, it has become imperative to consider sustainability in all aspects. Buildings are a major consumer of resources through their life time. This has been realized by the nations world over and hence stricter norms and laws for construction are being laid. Buildings are supposed to be more and more efficient and optimal in consuming resources. Such buildings are called sustainable buildings and all buildings will be required to be sustainable. Hence this course becomes important in understanding-

1. The basic parameters of sustainable buildings.
2. Design, Practices and technology which would lead to creation of such buildings.
3. Science behind performance of efficient buildings.

INTENDED AUDIENCE: Architecture and Planning

PREREQUISITES: Climatology, Building materials

INDUSTRY SUPPORT: IGBC, GRIHA, BEE, BIS, Green Building Consultants, Practice in Architecture Firms

**COURSE LAYOUT**

Week 1: Fundamentals of sustainability, definitions, historical development of the concept of sustainability and sustainable development. Sustainable architecture as a subset of sustainable development.

Week 2: Impacts of built environment on natural environment, Sustainable Development. Agenda 21. UN Goals

Week 3: Characteristics of sustainable architecture, fundamentals of passive designing and climatology thermal comfort, visual comfort, acoustic comfort

Week 4: Sustainable buildings, parameters of sustainable buildings, Green buildings, indicators of green buildings, Terminologies related to sustainable buildings- carbon footprint, life cycle analysis.

Week 5: Site development- site selection, UHI, Public Transport, vegetation, development footprint, storm water runoff, SRI



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Week 6: Water – estimating the use, reductions in consumption, recycling, reuse, landscape requirements, strategies and technology for water conservation

Week 7: IEQ- day lighting, views, CFC free, ventilation, comfort, VOC free

Week 8: Materials and Resources- segregation, recycling, reduction in waste, reuse of materials and building, renewability

Week 9: Energy- energy efficiency, energy conservation, ECBC, renewable energy. M&V

Week 10: Codes and compliances – ECBC, NBC, other rating systems prevalent in india

Week 11: Vernacular architecture and sustainability, culture and sustainability

Week 12: Software use for Energy compliance- Design Builder, Climate Consultant etc

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## Geographic Information Systems

Opted from SWAYAM/NPTEL By Prof. Arun K. Saraf | IIT Roorkee

S.N	Subject Code	Subject Name	Category	Maximum Marks Allotted						Total Marks	CT HR S.	Contact Periods per week			Total Credits	
				Theory Slot			Practical Slot		MOOC			L	T	P		
				End Sem	Mid Sem	Quiz/Assignment	End Sem.	Lab work & Sessional	Assignment							Exam
210755	Geographic Information Systems	DE-4	-	-	-	-	-	25	75	100	3	2	1	-	3	

The proposed course provides detailed understanding about Geographic Information Systems and their applications in Civil Engineering and Earth Sciences. All aspects starting from data input to modelling would be discussed in this course. Further, in the proposed course various datasets including DEMs, their source, generation techniques, derivatives, errors and limitations would be discussed extensively. Surface Hydrologic Modelling using DEMs, modelling derivatives and their applications would also be discussed.

**INTENDED AUDIENCE** : Under and post-graduate engineering, post graduate and doctoral students

### COURSE LAYOUT

- Week 1: What is Geographic Information Systems?
  - Short conceptual of GIS
  - Different types of vector data
  - Concepts of GIS
  - Demonstration through GIS software
- Week 2: Raster data model and comparisons with Vector
  - Raster data model and comparisons with raster
  - Source of spatial data and their types
  - Vector Data Compression Techniques
  - Demonstration through GIS software
- Week 3: Raster Data Compression Techniques-01
  - Raster Data Compression Techniques-02
  - Georeferencing
  - Pre-processing of spatial datasets-01
  - Demonstration through GIS software
- Week 4: Pre-processing of spatial datasets-02
  - Pre-processing of spatial datasets-03
  - Spatial Interpolation Techniques-01
  - Spatial Interpolation Techniques-02
  - GIS Analysis-01
- Week 5: GIS Analysis-01
  - GIS Analysis-02
  - GIS Analysis-03
  - GIS Analysis-04
  - GIS Analysis-05
  - Demonstration through GIS software

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## Week 6: GIS Analysis-06

GIS Analysis-07  
Attributes Classification Methods  
Spatial Database systems and their types-01  
Demonstration through GIS software

## Week 7: Spatial Database systems and their types-02

Concept of NoData in Raster  
Different map projections  
Concept of digital elevation model (DEM) and how it is represented  
Demonstration through GIS software

## Week 8: Various techniques to generate digital elevation models-1

Various techniques to generate digital elevation models-2  
Various techniques to generate digital elevation models-3  
Digital Elevation Models and different types of resolutions  
Demonstration through GIS software

## Week 9: How to assess quality of a DEM

Integration of DEMs with satellite data  
Common derivatives of DEMs - Slope and aspect-01  
Common derivatives of DEMs - Slope and aspect-02  
Demonstration through GIS software

## Week 10: Common derivatives of DEMs - Slope and aspect-03

DEM derivatives-1  
DEM derivatives-2  
DEM derivatives-3  
DEM derivatives-4

## Week 11: Triangular Irregular Network (TIN) and its derivatives

Shaded relief models and their applications  
DEM based on 2D Hydrologic Modelling-1  
DEM based on 3D Hydrologic Modelling-2  
DEM and Data Simulation and its application in groundwater hydrology

## Week 12: DEMs Sources, Limitations and future of Digital Elevation Models

Applications of DEMs in Viewshed and Flood Hazard Mapping  
Applications of DEMs in solar and wind energy potential estimations  
Errors in GIS and key elements of maps  
Limitations and Rules of GIS

## BOOKS AND REFERENCES

1. For latest development in GIS - the best resource is Internet. There are many authentic sites e.g. various USGS, ESA, ISRO etc.
2. Learning Geospatial Analysis with Python: Understand GIS Fundamentals and Perform Remote Sensing Data Analysis with Python, Joel Lawhead, 3rd Edition, 2016.
3. Introduction to Geographical Information Systems by Chang Langston, (Karl), 2016
4. An Introduction to Geographical Information Systems (4th Edition) by Ian Heywood, Sarah Cornelius and Scott Wilson

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**Item 7.**

**a. Architectural Design- IV(Code210401)**

**Objectives–**

The course aims to obtain knowledge of Architecture as responding to Social issues such as community, culture, religion, politics etc, designing for special groups such as the villagers, elderly, and the handicapped.

S. No	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT HR S.	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem	Mid Sem	Quiz/Assignment	End Sem	Lab work & Sessional						
1.	210401	Architectural Design – IV	DC-10	100	30	20	50	50	250	7	2	3	2*(1.5)	8

**PROJECT 1(Prototype): VILLAGE SURVEY & RURAL HOUSING**

Study of the physical, socio economic and cultural aspects of a selected village by conducting various surveys to understand the settlement pattern, housing stock and amenities that are existing or required – To understand the linkages between Occupation, Social structure and Religious beliefs and their physical manifestation in the form of the settlement – Identification of a suitable Design intervention that would improve the quality of life – Ex. Design of housing prototypes for a particular community occupation using rural building materials & cost effective technology. Design exercise may include the design of any facility required such as Primary health center / Community hall / Farm training center etc.

**PROJECT 2(Prototype): DESIGN OF COMMUNITY FACILITIES**

Community facilities –Design of Community hall, Nursing home, Youth hostel, Old age home etc. encourage the student to explore concepts an agglomeration of simple spaces with particular emphasis on the special needs of elderly, handicapped etc. It also focuses on the bioclimatic approach to the design of the building envelope i.e. articulation of openings, choice of materials for roof & walls of different orientations etc. Concepts integrating the use of passive, active & hybrid solar technologies with the design proposals are encouraged.

**PROJECT 3 & 4(Prototype): Time bound Problems of 6 hours to 48 hours.**

**COURSE OUTCOME:** -After completion of this course student will be able to-

CO1	Explain the Settlement pattern in village and socio-cultural, geographic and economic aspects that shape the built environment.
CO2	Analyze design of any rural settlement that evolved organically over a period of time.
CO3	Analyze housing typology, locally available materials, craftsmanship and integration of landscape with the built environment.
CO4	Explore concepts of agglomeration of simple spaces with particular emphasis on the special needs of elderly, handicapped etc
CO5	Develop presentation of concepts through 2D and 3D presentation including sketches and models.

**REFERENCES:**

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- 1 Time saver standards for building types, DeChiara and Callender, McGrawHill company.
- 2 Neufert Architect's data, Bousmaha Baiche & Nicholas Walliman. Blackwell science Ltd
- 3 National Building Code - ISI.
- 4 Time saver standards for landscape architecture - Charles W Harris - McGrawHill
- 5 New Metric Handbook - Patricia Tutt and David Adler - The Architectural Press.

**Note :** Design exercises that explore Architecture as responding to Social issues such as community, culture, religion, politics etc. Students familiarize themselves with designing for special groups such as the villagers, elderly, and the handicapped.

**Note:** One design problem shall be given in End Semester Examination. 6X2hour examination.

**b. History of Architecture-IV (Code- 210404)**

**Objectives –**

The course aims to obtain knowledge of Design philosophies of colonial, post independent and contemporary architecture in Indian context, modern design philosophies in the evolution of innovative architectural forms and designs, the effect of industrial revolution on architecture.

o.	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT HRS	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem.	Mid Sem	Quiz/Assignment	End Sem.	Lab work & Sessional						
4.	210404	History Of Architecture-IV	DC- II	50	30	20	-	-	100	3	2	1	-	3

**UNIT-1 INDUSTRIAL REVOLUTION**

Impact of the Industrial Revolution on Architectural practices. Transformation from iron to steel and the demand for a new Architecture.

**UNIT -2 MODERNISM**

Context of Origin; Characteristics; Key Movements – Arts and Crafts, Constructivism, Bauhaus, Expressionism, International Style, Minimalism, Brutalism. Works of notable conforming Architects: Frank Lloyd Wright, Ludwig Mies van der Rohe, Le Corbusier, Walter Gropius. Oscar Niemeyer and Alvar Aalto.

**UNIT-3 DECONSTRUCTIVISM**

Origin and influences breaking away from Modernism and Postmodernism, Deconstructivist philosophy. Influence on Architectural practice; Works of notable conforming Architects: Frank Gehry, Daniel Libeskind, Rem Koolhaas, Peter Eisenman, Coop Himmelb(l)au, and Bernard Tschumi.

**UNIT-4 NEO-MODERNISM AND OTHER POST-POST MODERN REACTIONS**

Origin and Characteristics, Other associated movements: Metamodernism, Re-modernism. Neo-futurism, Neo- Historism. Works of Richard Meier, Charles Gwathmey, I.M. Pei, Tadao Ando, ZahaHadid, and Santiago Calatrava.

**UNIT-5 COLONIAL, POST COLONIAL CONTEMPORARY INDIAN ARCHITECTURE**

Architecture in colonial India and post-independence, Indo-Sarcenic Architecture. Modernism and Postmodernism. Works of notable contemporary Architects.

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## COURSE OUTCOME: -

After completion of this course student will be able to-

CO1	Understand the basic terminology of the subject and know the chronology and typology of western architecture in the 20th/21st century.
CO2	Identify the stylistic characteristics of different epochs in different western Indian countries and relate them to structural/tectonic systems, architectural theories and socio-economic and cultural conditions of their emergence.
CO3	Know the life and masterpieces of the most renowned western architects.
CO4	Understand types of Cladding systems and finishes
CO5	Gain an in-depth knowledge of modern design philosophies in the evolution of innovative architectural forms and designs.

## REFERENCES:

1. Kenneth Frampton, Modern Architecture: A Critical History, Thames and Hudson. London.
2. Sigfried Giedion, Space time and Architecture: The Growth of a New tradition, Harvard University Press.
3. Tzonis Alexander, Santiago Calatrava, International Publications, January 2005, New York.
4. Steele James, Hassan Fathy - The complete works, London : Thames and Hudson.

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**c. Architectural Design – VI (Code – 210601)**

**Objectives –**

The course aims to obtain knowledge of Architecture as a design response to Technology, hospitality industry in the first project & requires the student, large scale building with Innovation & experimentations.

S.No	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT HRS	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem.	Mid Sem.	Quiz/ Assignment	End Sem.	Lab work & Sessional						
1.	210601	Architectural Design – VI	DC- 13	100	30	20	50	100	300	9	2	2	1*(15)	10

**PROJECT I: DESIGN FOR HOSPITALITY INDUSTRY**

The project requires the understanding of the special nature and functioning of the hotel industry and to respond with suitable concepts of space planning, circulation, interior design, materials and lighting. Example: Hotels- Business, resort, heritage, boutique etc. The student needs to concentrate on site planning, space planning, circulation, services and the various aspects of interior design such as furniture, flooring, ceiling, lighting etc. Students get exposure to the difference between a business hotel & a resort as well as the special needs of heritage and Boutique hotels. Exercises in interior space visualization using computer software is attempted.

**PROJECT II: URBAN INFRASTRUCTURE PROJECTS**

Contemporary transportation terminals and stadiums are large buildings with multiple entries & exits dealing with large crowds and having multiple levels with large spans, complex services and demanding environmental conditions. Function, convenience and security will become the basic design parameters. Example - Bus terminal / Railway station / Indoor sports complex / Aquatics complex etc. This studio challenges the designer to come up with a feasible structural solution after undertaking a study of large span structural systems. Moreover planning for transport terminals requires understanding of safety norms & to design sport facilities understanding of optimum environmental parameters is the requisite.

**OUTCOME:**

After completion of this course the student will be able to:

CO1	Summarize basic concept of spatial planning of different types of buildings such as Hospitality and Infrastructure projects
CO2	Apply large span structural systems in design
CO3	Apply building bye laws in building design.
CO4	Apply various essential services in complex buildings.
CO5	Analyze the project with respect to various environmental

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	parameters.
CO6	Design Hospitality and Infrastructure projects

## REFERENCES:

1. Time saver standards for building types, De Chiara and Callender, McGraw hill company
2. Neufert Architect's data, Bousmaha Baiche & Nicholas Walliman, Blackwell science Ltd
3. National Building Code - ISI
4. New Metric Handbook - Patricia Tutt and David Adler - The Architectural Press

Note: One design problem shall be given in End Semester

Examination. 6X3 hours examination.

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**d. Site Planning & Landscaping (Code – 210608)**

**Objectives –**

The course aims to obtain understanding of environment, human interventions and its impacts on nature and knowledge about various measures of protecting it, various concepts, ideas and techniques prevalent in landscape architecture, concepts of site planning and effective measures of doing it, the historic development of landscaping and site planning to students.

S.No	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT H R S.	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem.	Mid Sem.	Quiz/ Assignment	End Sem	Lab work & Sessional						
3.	210608	Site Planning & Landscaping	DC- 14	50	30	20	-	-	100	3	2	1	3	

**UNIT-1 INTRODUCTION & ELEMENTS OF LANDSCAPE ARCHITECTURE AND LANDSCAPE DESIGN**

Introduction to landscape architecture, ecology, ecological balance, landscape conservation, reclamation and landscaping of derelict lands, environmental impact assessment. Elements of landscape – land elements, land form plants and planting, water, lighting etc. characteristics and classification of plant materials, basic principles of landscape design: Factors to be considered, Use and application of plant materials in landscape design, and other components involved

**UNIT-2 HISTORY OF LANDSCAPE ARCHITECTURE & URBAN LANDSCAPE**

Development of landscape design: Detailed study of selected examples from Eastern, Central and Western traditions; Ancient Heritage - Mesopotamia, Egypt, Greece, Rome: Western Civilization – Europe: Italy, France, and England; The middle-east - The Persian tradition and its far reaching influence Eastern Civilization: China and Japan Ancient and medieval period in India; Mughal and Rajput Landscapes and study of contemporary landscape architecture.

Basic principles and elements of Urban landscape, Significance of landscape in urban areas, introduction to street furniture, road landscaping, waterfront development, landscaping of residential areas, Industrial Landscaping.

**UNIT-3 INTRODUCTION TO SITE ANALYSIS & SITE INFLUENCING FACTORS**

Introduction to Site analysis, Importance of site analysis: interrelationship between nature and human interventions, thematic traditions in site design, history of site design as a source for precedent analysis

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On site and off site factors; Analysis of natural, cultural and aesthetic factors; topography, hydrology, soils, landforms, vegetation, climate, microclimate. Influence of water bodies

## UNIT-4 DESIGN OF LANDFORMS IN A SITE & SITE PLANNING PRINCIPLES AND TECHNIQUES

Contours - representation of landforms and landform design, interpolation of contours. slope analysis. uses and function. Grading - Symbols and grading and alignment of paths/roads, angle of repose and use of retaining walls. Grading terraces. Drainage - surface drainage, functional and aesthetic considerations. Site Zoning. Organization of vehicular and pedestrian circulation; parking; street widths; turning radii; street intersections; steps and ramps. Site planning considerations in relation to water systems, sewage disposal, outdoor electrical systems.

## UNIT-5 SITE CHARACTERISTICS AND DESIGN REQUIREMENTS & LANDSCAPE EXERCISE

Landscape design of a neighborhood open space (area of 2000 to 3000 sq. meters) Exploration of site planning options for residential, commercial, office, industrial and mixed-use projects; street network, civic space, and open space planning; emphasis on walkable, mixed-use, transit-oriented sustainable development.

### COURSE OUTCOME:

After completion of this course the student will be able to:

CO1	Summarize various elements of landscape architecture and design.
CO2	Analyze different aspects of landscape architecture history through various design principles of urban landscape.
CO3	Examine various parameters of site analysis along with different site influencing factors like topography, hydrology, soil, landforms etc.
CO4	Illustrate contours as representation of landforms and its application in analysis of various physical characteristics like grading, drainage pattern, etc.
CO5	Apply the various techniques in landscape exercise which includes different site planning projects.

### REFERENCES:

1. T S S for Landscape Architecture, Mc Graw Hill, Inc, 1995.
2. Grant W Reid, From Concept to Form in Landscape Design. Van Nostrand Reinhold Company, 1993.
3. Brian Hacket, Planting Design.
4. T.K. Bose and Chowdhury, Tropical Garden Plants in Colour. Horticulture And Allied Publishers, Calcutta, 1991.
5. Motloch, J.L., "Introduction to Landscape Design", Van Nostrand Reinhold Publishing Co., New York, 1991., McGraw Hill Book Co., New

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York, 1981. Sam kubba, "Green construction project management and cost oversight", Elseiver, 2010

6. Kevin Lynch, "Site Planning", MIT Press, 1967
7. Time Savers Standards for Site Planning, McGraw Hill, Inc, 1995
8. Richard Untermann and Robert Small, "Site planning for cluster housing", Van Nostrand Reinhold Company, 1977
9. Michael Laurie, "An Introduction to Landscape Architecture", Elsevier, 1986
10. TSS for Landscape Architecture, McGraw Hill, Inc, 1995
11. John Ormsbee Simonds, "Landscape Architecture: A manual of site planning & design", McGraw

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**Scheme of Examination**  
**Bachelor of Architecture, First Year, II Semester**

**For batches admitted in Academic Session 2020-21 onward**

S.No	Subject Code	Subject Name	Category	Maximum Marks Allotted			Total Marks	CT HRS.	Contact Periods per week			Total Credits	
				Theory Slot	Practical Slot	Lab work & Sessional			L	T	P		
1.	210201	Architectural Design - II	DC-4	100	30	20	50	50	7	2	3	2*(1.5)	8
2.	210202	Building Construction - I	BSAE-3	50	30	20	20	30	5	2	1	2*(1.5)	6
3.	210203	Graphics - II	DC-5	50	30	20	20	30	4	1	1	2	3
4.	210208	Structure II	BSAE-4	50	30	20	-	-	3	2	1	-	3
5.	210205	History of Architecture-II	DC-6	50	30	20	-	-	3	2	1	-	3
6.	210206	Theory of Design	DC-7	50	30	20	-	-	2	2	-	-	2
7.	210207	Workshop - II	SEC-3	-	-	-	20	30	4	-	-	4	2
		<b>Total</b>		<b>350</b>	<b>180</b>	<b>120</b>	<b>110</b>	<b>140</b>	<b>28</b>	<b>11</b>	<b>7</b>	<b>10</b>	<b>27</b>

**Summer Internship Project- I (Institute level)(Qualifier): Minimum two weeks duration**

\*One Design Studio/ Construction Studio/ Project/ Thesis Period/ Hour shall have 1.5 Credit



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**Scheme of Examination**

**2019-2020 batch onwards**

**Bachelor of Architecture, Second Year, IV Semester**

S. No.	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT HRS	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem.	Mid Sem. Exam.	Quiz/Assignment /Sessional	End Sem.	Term work Lab Work & Sessional						
1.	210401	Architectural Design - IV	DC-10	100	30	20	50	50	250	7	2	3	2*(1.5)	8
2.	210402	Building Construction -III	BSAE-8	50	30	20	50	50	200	5	2	1	2*(1.5)	6
3.	210403	Building Services-I (Water Supply & Sanitation)	BSAE-9	50	30	20	-	-	100	3	2	1	-	3
4.	210404	History of Architecture-IV	DC-11	50	30	20	-	-	100	3	2	1	-	3
5.	210405	Structure -IV	BSAE-10	50	30	20	-	-	100	3	2	1	-	3
6.	-	ELECTIVE -I	DE-1	50	30	20	-	-	100	3	2	1	-	3
7.	210407	Tour/ Seminar / Workshop/ NASA Training during winter break	SEC-5	-	-	-	50	-	50	2	-	-	2	1
<b>Total</b>				<b>350</b>	<b>180</b>	<b>120</b>	<b>150</b>	<b>100</b>	<b>900</b>	<b>26</b>	<b>12</b>	<b>8</b>	<b>6</b>	<b>27</b>
<b>NSS/NCC</b>														
<b>Summer Internship Project- II (Softskill based): Minimum two weeks duration: Evaluation in V semester</b>														

S no	Elective	Sub code	Sub Name	Remark
1	ELECTIVE -I	210411	Ecology & Environment	
		210412	Society, Culture And Architecture	

\*One Design Studio/ Construction Studio/ Project/ Thesis Period/ Hour shall have 1.5 Credit

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DEAN (ACADEMICS)

MITS  
30<sup>th</sup> May Revised Aug 2020  
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**Scheme of Examination**

**2018-2019 batch onwards**

**Bachelor of Architecture, Third Year, VI Semester**

S.No	Subject Code	Subject Name	Category	Maximum Marks Allotted			MOOC		Total Marks	CT HR	Contact Periods per week			Total Credits	
				Theory Slot	Practical Slot	MOOC	MOOC	L			T	P			
1.	210601	Architectural Design - VI	DC-13	100	30	20	50	100	300	8	2	2	4*(1.5)	10	
2.	210602	Building Services-III (Acoustic & Fire Fighting)	BSAE-14	50	30	20	-	100	100	4	3	1	-	4	
3.	210608	Site Planning and Landscaping Architecture	DC-14	50	30	20	-	100	50	4	-	-	4	2	
4.	210604	Working Drawing	PAEC-2	-	-	-	20	30	100	3	1	2	-	3	
5.	-	ELECTIVE-III	DE-3	50	30	20	-	100	100	3	2	1	-	3	
6.	-	ELECTIVE-IV	DE-4	-	-	-	-	25	50	2	-	-	2	1	
7.	210607	Tour/ seminar / Workshop/ Training during winter break	SEC-8	-	-	-	50	120	130	26	10	7	10	26	
<b>Total</b>				<b>250</b>	<b>120</b>	<b>80</b>	<b>120</b>	<b>130</b>	<b>25</b>	<b>800</b>	<b>27</b>	<b>10</b>	<b>7</b>	<b>10</b>	<b>26</b>

**Summer Internship Project- III: Minimum four weeks duration: Evaluation in VII semester**

S no	Elective	Sub code	Sub Name	Remark
1	ELECTIVE-III	210611	Housing	
		210614	Architectural Journalism	
2	ELECTIVE-IV <sup>#</sup>			opted from NPTEL platform

<sup>#</sup> **Compulsory registration for one online course using SWAYAM/NPTEL/MOOC**

\*One Design Studio/ Construction Studio/ Project/ Thesis Period/ Hour shall have 1.5 Credit

DEAN (ACADEMICS)

M.T.S

GWALIOR<sup>08</sup> May Revised 2020

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**MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR**  
(A Govt. Aided UGC Autonomous Institute Affiliated to RGPV, Bhopal)

**Scheme of Examination**

**2017-2018 batch onwards**

**Bachelor of Architecture, Fourth Year, VIII Semester**

S.N	Subject Code	Subject Name & Title	Category	Maximum Marks Allotted				Total Marks	CT HRS	Contact Periods per week			Total Credits	
				End Sem.	Mid Sem. Exam	Quiz/ Assignment / Sessional	End Sem.			Practical Slot				
										Term Work & Lab Work & Sessional	L	T		P
1.	210801	Architectural Design - VIII	DC-17	-	-	-	150	100	8	-	-	8*(1.5)	12	
2.	210802	Urban Design	DC-18	50	30	20	20	30	150	5	2	1	2	4
3.	210803	Professional Practice & Ethics	PAEC-5	50	30	20	-	-	100	3	2	1	-	3
4.	210804	Dissertation	PAEC-6	-	-	-	20	30	50	4	-	-	4	2
5.	100007	Disaster management (MC)	MC-4	70	20	10	-	-	100	3	2	1	-	3
6.	210805	ELECTIVE- VI	DE-6	50	30	20	-	-	100	3	2	1	-	3
7.	210806	Tour/ seminar/ NASA/Workshop/Training during winter break	SEC-10	-	-	-	50	-	50	2	-	-	2	1
		<b>Total</b>		<b>220</b>	<b>110</b>	<b>70</b>	<b>240</b>	<b>160</b>	<b>800</b>	<b>28</b>	<b>8</b>	<b>4</b>	<b>16</b>	<b>28</b>

\*One Design Studio/ Construction Studio/ Project/ Thesis Period/ Hour shall have 1.5 Credit

Sno	Elective	Sub code	Sub Name	Remark
1	ELECTIVE-VI	210811	Furniture Design	
		210812	City & metropolitan planning	
		210813	Adv Structural Design	

*M. Swade*  
JEAN (ACADEMICS)

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GWALIOR

330<sup>th</sup> Ann Revised Aug 2020

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**MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR – 474005**  
 (An Autonomous Institute under rajivGandhiProudyogikiVishwavidyalaya, Bhopal)  
**CBCS SCHEME OF EXAMINATION- BACHELOR OF ARCHITECTURE WEF 2016**

For Batch2015-20  
2016-21

**FIFTH YEAR TENTH SEMESTER**

Sl. No	Subject Code	Subject Name	Maximum Marks Allotted				Credit Allotted		Total credits		
			Theory	Practical	Theory	Practical					
			End Sem	Mid Sem Test	Assignment/ Quiz	End Sem	Studio Work	Assignment/ Quiz	Theory	Practical	
1	ARI001	Training	-	-	-	200	250	-	-	18	18
2	ARI002	General Proficiency	-	-	-	50	-	-	-	2	2
		<b>Total</b>	-	-	-	<b>250</b>	<b>250</b>	-	-	<b>20</b>	<b>20</b>

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**670111-PLANNING PRINCIPLES AND THEORY**

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670111	PLANNING PRINCIPLES AND THEORY	70	20	10	-	-	3	1	-	4	100

**Evolution of City Building**

Relevance of the study of evolution of settlements; Hunter, gatherer, farmer and formation of organized society; Cosmological and other influences, origins and growth of cities, effects of cultural influence on physical form; Human settlements as an expression of civilizations; Basic elements of the city; Concepts of space, time, scale of cities.

**Planning History**




Town Planning practices worldwide, Town planning in ancient India; Medieval, renaissance, industrial and post industrial cities; City as a living spatial entity; Concepts of landmark, axis, orientation; City form as a living space; City as a political statement: New Delhi, Chandigarh, Washington D.C. Brasilia etc.; Contribution of individuals to city planning: Lewis Mumford, Patrick Geddes, Peter Hall, etc; Dynamics of the growing city, impact of industrialization and urbanization, metropolis and megalopolis.

**Definitions and Objectives of Planning**

Definitions of town and country planning; Orthodoxies of planning; Goal formulation, objective, scope, limitations; Sustainability and rationality in planning; Components of sustainable urban and regional development.

**Theories of City Development and Planning Theories**

Theories of city development including Concentric Zone Theory, Sector Theory, Multiple Nuclei Theory and other latest theories; Land use and land value theory of William Alonso; Ebenezer Howard's Garden City Concept; and Green Belt Concept; City as an organism: a physical, social, economic and political entity; Emerging Concepts: global city, inclusive city, safe city, etc.; City of the future and future of the city; Shadow cities, divided cities; Models of planning; Advocacy and Pluralism in Planning; Systems approach to planning: rationalistic and incremental approaches, mixed scanning and middle range planning; Equity planning; Political Economy Model; Types of development plans, plan making process.

*Verde*  
*Auscha*   

**670102- SOCIO-ECONOMIC BASIS FOR PLANNING**

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670102	SOCIO-ECONOMIC BASIS FOR PLANNING	70	20	10	-	-	3	1	-	4	100

**Nature and Scope of Sociology**

Sociological concepts and methods, man and environment relationships; Socio-cultural profile of Indian society and urban transformation; Tradition and modernity in the context of urban and rural settlements; Issues related to caste, age, sex, gender, health safety, and marginalized groups; Displacement, resettlement and rehabilitation due to compulsory land acquisition.

**Elements of Micro and Macro Economics**

Concepts of demand, supply, elasticity and consumer markets; concept of revenue costs; Economies of scale, economic and social costs, production and factor market; Different market structures and price determination; market failures, cost-benefit analysis, public sector pricing; Determinants of national income, consumption, investment, inflation, unemployment, capital budgeting, risk and uncertainty, and long-term investment planning.

**Development Economics and Lessons from Indian Experiences**

Economic growth and development, quality of life; Human development index, poverty and income distribution, employment and livelihood; Economic principles in land use planning; Policies and strategies in economic planning, balanced versus unbalanced growth, public sector dominance; changing economic policies, implications on land.



**670103-PLANNING TECHNIQUES**

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670103	PLANNING TECHNIQUES	70	20	10	-	-	3	1	-	4	100

**Survey Techniques and Mapping**

Data base for physical surveys including land use, building use, density, building age, etc., and socio-economic surveys; Survey techniques; Land use classification or coding and expected outputs; Techniques of preparing base maps including understanding the concepts of scales, components and detailing for various levels of plans like regional plan, city plan, zoning plan, and local area plan.

**Analytical Methods**

Classification of regions, delineation techniques of various types of regions, analysis of structure of nodes, hierarchy, nesting and rank size; Scalogram, sociogram, etc.; Planning balance sheet; Threshold analysis; Input output analysis, SWOT analysis;

**Demographic Methods**

Methods of population forecasts and projections; Lorenz Curve, Ginni Ratio, Theil's index, ratios: urban – rural, urban concentration, metropolitan concentration; Location dimensions of population groups – social area and strategic choice approach – inter connected decision area analysis.

**Planning Standards**

Spatial standards, performance standards and benchmarks, and variable standards; UDPFI guidelines, Zoning regulations and development control rules and regulations.

*Verka*  
*Abhinav*  
*J*  
*R*  
*ES*  
*Jan*

**670104-INFRASTRUCTURE ANDTRANSPORT PLANNING**

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670104	INFRASTRUCTURE ANDTRANSPORT PLANNING	70	20	10	-	-	3	1	-	4	100

**Role of Infrastructure in Development**

Elements of Infrastructure (physical, social, utilities and services); Basic definitions, concepts, significance and importance; Data required for provision and planning of urban networks and services; Resource analysis, provision of infrastructure, and land requirements; Principles of resource distribution in space; Types, hierarchical distribution of facilities, Access to facilities, provision and location criteria, Norms and standards, etc.

**Planning and Management of Water, Sanitation and Storm Water**

Water – sources of water, treatment and storage, transportation and distribution, quality, networks, distribution losses, water harvesting, recycling and reuse, norms and standards of provision, institutional arrangements, planning provisions and management issues; Sanitation – points of generation, collection, treatment, disposal, norms and standards, grey water disposal, DEWATS, institutional arrangements, planning provisions and management issues.

Storm water – rainfall data interpretation, points of water stagnation, system of natural drains, surface topography and soil characteristics, ground water replenishment, storm water collection and disposal, norms and standards, institutional arrangements, planning provisions and management issues;

**Planning and Management of Municipal Wastes, Power and Fire**

Municipal and other wastes – generation, typology, quantity, collection, storage, transportation, treatment, disposal, recycling and reuse, wealth from waste, norms and standards, institutional arrangements, planning provisions and management issues.

Power – Sources of power procurement, distribution networks, demand assessment, norms and standards, planning provisions and management issues.

Fire – History of fire hazards, vulnerable locations, methods of firefighting, norms and standards, planning provisions and management issues.

**City Development and Transport Infrastructure Planning, Management and Design**

Role of transport, types of transport systems, evolution of transport modes, transport problems and mobility issues; Urban form and Transport patterns, land use – transport cycle, concept of accessibility; Hierarchy, capacity and geometric design elements of roads and intersections; Basic principles of Transport infrastructure design; Traffic and transportation surveys and studies, traffic and travel characteristics; Urban transport planning process – stages, study area, zoning, data base, concept of trip generation Transport, environment and safety issues; principles and approaches of traffic management, transport system management.

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*Arun*

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**670115- HOUSING**

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670115	HOUSING	70	20	10	-	-	3	1	-	4	100

**Concepts and Definitions**

Shelter as a basic requirement, determinants of housing form, Census of India definitions, Introduction to policies, housing need, demand and supply, dilapidation, structural conditions, materials of constructions, housing age, occupancy rate, crowding, housing shortage, income and affordability, poverty and slums, houseless population

Various housing typologies viz. traditional houses, plotted development, group housing, multi- storied housing, villas, chawls, etc., slums and squatters, night shelters, public health issues related to housing, various theories of housing, concept of green housing, green rating of housing projects.

**Social and Economic Dimensions**

Housing as social security, role of housing in development of family and community well-being, status and prestige related to housing, safety, crime and insecurity, deprivation and social vulnerability, ghettoism, gender issues, housing for the elderly.

Contribution of housing to micro and macro economy, contribution to national wealth and GDP, housing taxation, national budgets, fiscal concessions, forward and backward linkages.

**Housing and the City**

Understanding housing as an important land use component of city plan / master plan, considerations for carrying out city level housing studies, projections, land use provisions; Suitability of land for housing, housing stress identification, projecting housing requirements, calculating housing shortages, housing allocation.

**Planning for Neighborhoods**

Approaches to neighborhood living in traditional and contemporary societies, elements of neighborhood structure, Planning and design criteria for modern neighborhoods, norms and criteria for area distribution, housing and area planning standards, net residential density and gross residential density, development controls and building byelaws, UDPFI guidelines, NBC 2005 provisions and Case studies of neighborhood planning.

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*Sharma*  
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## 670106- STUDIO I

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670106	STUDIO COURSE-ISTUDIO ASSIGNMENTS/FILM APPRECIATION/ LITERATURE REVIEW/ AREA APPLICATION	-	-	-	90	60	-	-	6	6	150

**Film Appreciation (individual assignment)**

Films related to city development and socio-economic issues will be screened for students. The purpose of these films is to educate the students' understanding of various development issues and to absorb them in the planning practice. At the end of the film, a discourse around the film will also be held.

After viewing the films, each student is expected to write about its main focus, city / region context, its applicability to Indian environment by answering the given questions in not more than half a page.

**Literature Review (individual assignment)**

Each student is expected to read the article given from a journal/book and write a summary of not more than a page (250 words only) highlighting the problem, approach, methodology, analysis, how the author arrived at the conclusion and its relevance to Indian context. There will be a negative marking for writing the same text as in the original (that is copying from the original text given to them).

**Area Appreciation (group assignment)**

The aim of the area appreciation exercise is to enable the students to understand and contextualize the location of the area in relation to the city, zone and area in which the particular place is situated. This is done in relation to the socio-economic, spatial and cultural characteristics of that city, zone, location, etc. The main purpose is to make the students appreciate the locational attributes of land parcels for future development in a city.

Due to the size of the area, this exercise is done in groups of students being assigned to an area.

The following planning issues at area level should be identified:

- Review of the Master Plan / Zonal / Area plan in relation to the selected areas.

*Vereha*  
*Shrivastava*

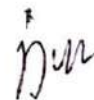
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- Appreciation / Analysis of ward level data.
  - Perception of areas in terms of legal / illegal / authorized / unauthorized, Slums, Urban Aesthetics.
  - Social Categorizations of people - Type of population living, people's perception about area and its planning problems.
  - Land use including Agriculture land and land use conflicts, extent (%) of broad land use such as commercial, industrial, residential, institutional and recreational.
  - Extent of formal / informal activities present in the area including their location and conflicts. General land tenure of the area and land value for different uses.
  - Major types of transport, type of roads, hierarchy of roads, type of transport modes used.
  - Amenities: Location of social and physical infrastructure and their problems as perceived by local population.
  - Look for specific infrastructure such as Water supply, drainage (water logging areas), waste collection and disposal system, sanitation, etc.
- Environmental Issues: Open Spaces – Availability and extent of open space to built-up area, garbage disposal, encroachment (through photographic evidences and sketches). Locating the study area in the zone, city and regional context with respect to all the above aspects.

Venka  
Srivastava



## 670107- STUDIO II

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670107	STUDIO COURSE-IISITE PLANNING/ CITY DEVELOPMENT PLAN	-	-	-	90	60	-	-	6	6	150

**Site Planning (individual assignment)**

Site planning is a process whereby the optimum utilization of potential of site is considered recognizing the constraints the site has. It uses 3-dimensional space of the site and the associated locational advantages, human activities and the regulations that are assigned to a particular site.

The site is developed using a set of standards / norms in a given context which varies from location to location. A student is expected to understand the intricacies and interface between various variables such as soil conditions, topography, environmental dimensions, location, spatial standards applicable to the site, etc.

**Review of city development plan - (group assignment)**

The students are required to understand the dynamics of various components of the city and how and what level interventions can be made to achieve that vision mentioned in the CDP. A group of students are expected to study a city in terms its present problems and issues and review the futuristic vision.

*Vesha*  
*Amish* *J* *Jan* *BJ* *im*

**Master of URBAN PLANNING – II SEMESTER**

**670211 – CITY AND METROPOLITAN PLANNING**

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670211	CITYAND METROPOLITAN PLANNING	70	20	10	-	-	3	1	-	4	100

**Urban Growth and System of Cities**

Growth of cities scale, complexity and its impact on national development, cities as engines of growth, cities as ecosystems, resources in cities. City, fringe and the periphery - physical and functional linkages, peri-urban development.

**Community and Settlements**

Social problems of slums and squatter's communities, urban and rural social transformation and their impact on social life, safety, security; Crimes in urban areas and their spatial planning implications, social structure and spatial planning; Role of socio-cultural aspects on growth patterns of city and neighborhood communities; Social planning and policy, and community participation; Marginalization and concepts of inclusive planning, and gender concerns in planning. Settlement Policy: National Commission on Urbanization, Rural Habitat Policy and experiences from developing countries regarding settlement structure, growth and spatial distribution.

**Metro and Mega Cities: Problems and Issues**

Growth trends and processes, characteristics, problems, concepts and concerns of urban sustainability, issues related to diversity and unintended growth, economic, social and environmental sustainability, quality of life, inclusivity and equity, climate change, transit-oriented development, participatory planning. Inner city – issues and problems, approach to development.

**Human Settlement Planning, Urban Development Policies and programmes**

Concepts, approaches, strategies and tools; Policies and programmes at various levels, impact on metro and mega city development.

**Land and Real Estate Development**

Economic concepts of land, Land Pricing / valuation; Economic principles of land use; demand forecasting for land use: factors affecting land supply and demand; Land development methods, Supply Management, Demand side Management; Real estate markets, type of property development and its impact on supply and demand, method of development, environmental considerations.

**Information System and Urban Reforms**

Spatial and Non - spatial information systems; Urban reforms and acts and policies.

**670202- URBAN HERITAGE CONSERVATION**

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670202	URBAN HERITAGE CONSERVATION	70	20	10	-	-	3	1	-	4	100

**Introduction to Urban Heritage**

Typology / classification, inventories, mapping; Human habitation in historical context; Heritage as a motivating force in sustainable urban conservation and development,

**Heritage Conservation**

Natural heritage conservation - typologies, policies for conservation, regulatory measures, community participation; Concept of Historic Urban Landscapes; Built heritage conservation - determinants of built form on heritage; Historic urban infrastructure and traditional water harvesting systems.

**Integration of historic monuments**

Areas / cores / urban systems in the developmental process and land use, regulatory measures and community involvement; Intangible cultural heritage and development: issues, conservation strategies. Preparation of conservation and heritage management plans.

**Heritage and Tourism, Policies and Programmes, Legislation**

Cultural and heritage-based tourism - nature, potential and prospects, marketing aspects; Acts and laws recognizing conservation / regeneration; Heritage toolkit; Implications of 74th Constitution Amendment Act.

**Design in Human Habitation**

Social / cultural / ecological / energy determinants of design; Imageability of the city; Structure of urban spaces – location criteria of activities and urban uses; Urban Regeneration, renewal, rehabilitation, revitalization, reconstruction and redevelopment - concepts, interventions, processes, approaches and methods, tools.

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 Kewari, Verma, J, J, RSP, Jm



**670203- URBAN DEVELOPMENT FINANCE & PROJECT PLANNING**

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670203	URBAN DEVELOPMENT FINANCE & PROJECT PLANNING	70	20	10	-	-	3	1	-	4	100

**Legislations pertaining to Urban Governance**

Social and economic context; State in India – political culture of the Indian State – Centre – State – Local political economy, Institutional frame and mechanism for urban governance as envisaged in the 73<sup>rd</sup> and 74<sup>th</sup> Constitution Amendment Acts.

**City and the State**

State as a manager of resources – property rights, norms and standards – Government market and market by Government – Regulatory State, Reforming State, and Rent Seeking State – their spatial implications; Development planning and the Indian state – Centralization, powerlessness and decentralization; spatial politics and competition; Politics of the State and bureaucracy; New State spaces, invited and contested spaces – changing role of the state

**Municipal Finance**

Urban reform incentive fund, Sources of revenues; Equities; Loans; Debt financing; City challenge fund, Pooled finance development fund, National urban infrastructure fund, Municipal Bonds, Miscellaneous sources; Structure of finances, fiscal problems and issues of financial management, implications of 74<sup>th</sup> Constitution Amendment Act for municipal finance, expenditure pattern, Bilateral and multi-lateral lending intuitions mobilizing resources for a project - financial resources, land resources, project resources, and other resources.

**Investment Planning and Financing Mechanism**

Link with spatial plans, process, components, investment needs, budgeting, financial investments in infrastructure and services. Financing of urban development, infrastructure and services – mechanisms and instruments, subsidy reduction, cost recovery, public private partnerships; Financial appraisal, investment appraisal; Financial Risk – Sources, Measures and perspectives on risk, Sensitivity analysis.

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**Project Formulation and Appraisal**

Introduction to Projects; Nature of planning projects; Project Life Cycle; Identification of projects  
Relationship between projects and planning issues including sectoral policy at: Local, State and National levels Project appraisal: Market analysis – Macro environment survey, survey methods, market characterization, demand forecasting; Technical Analysis – Magnitude, processes, materials, equipment, factors of production availability, implementation schedule; suitability of the plans, layout and design, location of the project; location analysis; supporting infrastructure requirements- Capital Budgeting – Estimation of costing of components; developing over project cost; Social cost benefit.

**Project Management and Implementation, and Project Evaluation and Monitoring**

Project characteristics - pitfalls in management of a project; Techniques of management; Planning milestones - responsibility charts and principle responsibility, principles of activity planning; Project Implementation – methods, hurdles, facilitative factors; Project culture: line management, steering committee, role of project manager; Project Control: cost and time, quality - ISI standards and its application to Indian context; Introduction to Project Management Software (MS Projects) and its usage. Types of evaluation - concurrent, ex-ante and ex-post. Methods of evaluation, techniques of evaluation, end results, Presentation of evaluation findings, Techniques of Monitoring of Development Works.

*Aravind* *Vedha*

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**670204- LEGAL ISSUES & PROFESSIONAL PRACTICE**

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670204	LEGAL ISSUES & PROFESSIONAL	70	20	10	-	-	3	1	-	4	100

**Need of Urban Policy, its nature and process of making urban policy**

Recent trends in urban policy planning, growth control and decline of management. Nature of urban problems, need of urban policies and its analysis.

Theoretical frameworks, the role of institutions in the policy process, and the motivation of urban policy actors. Steps in Policy Analysis: How are policies made, who influences the policy agenda and what issues affect policy's 'success' and 'failure'? what can we learn from how different nations approach similar policy problems? Case studies in policy process analysis, policy integration: possible areas of integration.

**Concept of law, Indian Constitution and planning**

Sources of law: custom, legislation and precedent; Meaning and terms of law: legislation, ordinance, bill, act, regulation, and bye-laws; Significance of law and its relationship to urban and regional planning. Statutory powers and responsibilities of the Central Government with respect to Urban Development and the role of implementing agencies. Critical appraisal of the 73rd and 74th Constitutional amendments, their effect on urban governance and local bodies. Legislative competence of Local, State and Central government to deal with various matters concerning Town and Country Planning.

**Evolution of planning legislation & concepts**

Planning in India – Overview, an over view of legal tools connected with urban and regional planning and development. Town and Country Planning Act, Improvement Trust Act, Development Authorities Act: objectives, content, procedures for provision an implementation of regional plans, master plans and land pooling schemes. Concept of Arbitration, betterment levy development charges and public participation in statutory planning process, concept of structure plan, local plan and action plan under the Law.


  
 Scheme and syllabus approved on 05/10/2018

**Policies and acts**

National Environmental Policy Act; Environmental Protection Act; Land Acquisition Act: Concepts, procedure for compulsory acquisition of property and determination of compensation. Regulatory Frameworks Governing Projects. National Rehabilitation and Resettlement Policy (2007) - Social Impact mitigation; National Environmental Policy (2006) – Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP)  
Various Acts related to urban governance, planning and development organizations, land resources, environment protection, and public participation in statutory planning process; Approaches of formulation of policies, appraisal of policies.

**Professional Practice**

Aims and objectives of professional Institutes, sister bodies, professional role and responsibility of planning consultants, professional ethics, code of conduct and scale of professional charges; Formulation of project proposal and outlines, consultancy agreements and contracts, managerial aspects; Role in inter disciplinary groups: Appreciation of the decision-making processes and the process in relation to varied consultancy assignments of planning.

*Shweta* *Vedika* *J* *Rajiv* *im*

670205- RESEARCH METHODOLOGY

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670205	RESEARCH METHODOLOGY	70	20	10	-	-	3	1	-	4	100

To introduce the students to basic principles & methods of Research, specifically in Design at Urban scale, and towards helping them conducting their own authentic & independent research. Research basics, defining research problem, Research Design, Developing a Research Plan, Plagiarism, IPR and other techno-legal aspects. Measurement and Scaling Techniques, Methods of Data Collection, Guidelines for Constructing Schedule. Sampling Fundamentals, Analysis of variance and co-variance, testing of hypothesis, Multivariate analysis technique and importance in research.

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**670206- STUDIO- I**

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670206	STUDIO-I	-	-	-	90	60	-	-	6	6	150

**City Development Plan (Group assignment)**

A City is a multi-dimensional, dynamic and a futuristic space. Understanding city involves appreciating this multi direction and include them in the city making process. A job of physical planner does not merely understand the current conflict in development but to emerge out of this and to come out with a vision for the city. To arrive at this vision, a planner needs to understand the dynamics of various components of the city and how and what level interventions can be made to achieve that vision. A group of students are expected to study a city in terms its present problems and issues and project a futuristic vision in terms of scenario building.

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**670207- STUDIO- II**

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment/ Quiz	End Sem	Studio Work/ Sessional					
1.	670207	STUDIO-II	-	-	-	90	60	-	-	6	6	150

**Geo-Informatics Laboratory Training**

- i) The laboratory training will be conducted in accordance with the studio exercise. Introduction to Geo-informatics, introduction to Remote Sensing – Aerial and Satellite; introduction to GIS, Spatial data and Attribute data; Satellite images as input to GIS; Collection and presentation of baseline information.
- ii) The second exercise is a short and intensive exercise of one-month duration. It pertains to topical issues i.e. property tax reforms, informal sector, development of railway land, etc. The study is based on primary surveys and students are expected to analyze the information and arrive at recommendations.

**Note:** The student is required to undertake summer training of minimum 5 weeks after 2 semesters of course work in any government, private or research organization undertaking urban and regional planning works. The practical training will commence during the summer break between second and third semester. The students are required to give a presentation specifying the work they were involved in during their internship period. The marks for the same will be incorporated with the marks of Seminar 670303.

**PROFESSIONAL TRAINING**

To expose the students to the profession of planning and foster links with the industry so as to develop an understanding of professional nature of various organizations involved in the planning profession.

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**Master of URBAN PLANNING – III SEMESTER**

**670301 ELECTIVE I –**

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670311/ 670312	<u>ELECTIVE – I</u>	70	20	10	-	-	3	1	-	4	100

**I) 670311-INCLUSIVE URBAN PLANNING**

**Module 1-** Understanding Inclusive Planning Definitions and components

**Module 2-** Stakeholders Profile and Needs, Access to Shelter, Services and Livelihoods Urban Poor, Informal Sector, Gender, Children, Elderly, Disabled, Displaced people, etc.; Slums - dimensions, causative factors, determinants, location characteristics of settlements; Informal sector - growth, characteristics, functions, economic contributions, linkages with formal sector, impact on Urban Development

**Module 3-** Participatory Planning Process and Policies, Programmes and Legislation Methods, role of stakeholders (including civil society organizations), etc.; Related Acts, Five-year plans, policies and programmes at various levels.

**Module 4-** Planning Interventions Inclusive zoning, development and building regulations, Slum Improvement.

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*Vishal*

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**II) 670311- PLANNING FOR TOURISM**

**Introduction**-Introduction to Tourism Definitions, scope, nature, classification and dimension, tourism as an industry, tourism in developed and developing world.

**Tourism Sector** – impacts Relationship between Tourism and Urban Development, Tourism multiplier and forecasting methods: capacity building and carrying capacity planning for tourism projects, tourism and cultural and social change: Socio-cultural problems, environmental degradation.

**Planning for Tourism Nature and scope of a tourism plan**- key issues and stages, data requirements, surveys, role of key players / stake holders in tourism policy and planning, sustainable tourism development planning; community planning and tourism; implementation and management, role of travel and tourism promoting agencies, monitoring the tourism development; Tourism marketing - concept, techniques and strategies.

**Policies and Programmes** - Tourism policies at various levels.

**670302 ELECTIVE II-**

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670313/ 670314	ELECTIVE -II	70	20	10	-	-	3	1	-	4	100

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**I) -670313 ENVIRONMENT, DEVELOPMENT AND DISASTER MANAGEMENT**

**Environment, Development and Disaster Management** – Interface Resource use, exploitation and conservation; Impact of human activities on environment; Environment and economy interaction, introduction to environmental accounting.

**Environmental Assessment & Management-** Environmental Impact Assessment, thresholds, indicators, audits, environmental certification, lifecycle analysis, environment and poverty links, environmental policy, Acts and regulations; Environmental education, participatory approaches, emerging concepts. Disaster classification, concepts, hazards, vulnerability, risks, human response to disaster, impacts

**Disaster Mitigation and Management-** Relevance of disaster management in development and environment, disaster preparedness, prevention, displacement and development, Role and responsibilities of government and non– government organizations, Disaster Education – awareness of individuals, communities and participation at various levels; Integrating disaster mitigation in the spatial planning process, provision of infrastructure for disaster mitigation.

**Policies and Legislation-** Environment and Disaster Management Policies and Legislation at various levels.

**II) 670314 - ENERGY, CLIMATE CHANGE AND URBAN DEVELOPMENT**

**Introduction-** Energy, Climate change and Urban Development Interface.

**Energy Generation and Consumption-** Energy Supply and Demand, Energy Consumption in cities, determinants of energy demand, phenomenon of climate change, factors influencing climate change, impacts of climate change

**Energy Planning and Management, and Mitigation and Adaptation to Climate Change-** Energy efficient development, Compact city form, Transit oriented development. Mechanisms and measures for mitigating and adapting to climate change at various levels

**Plans, Policies and Strategies.** Policies Related to energy planning, conservation, climate change mitigation and adaptation.

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670303 – SEMINAR

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670303	SEMINAR	-	-	-	-	100	-	-	6	6	100

The students are required to present a seminar ensuring the following criterion.

- Identification of topic of interest having relevance to planning profession.
- Book reviews and journal article reviews to establish the body of work existing in the selected area of work.
- Exposure to multiple view points and colloquial arguments by the stakeholders, decision makers, urban managers, advocates, technocrats, user groups, etc. on the same topic.
- Identification of key issues related to the area of work.

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670304 – PRE - DISSERTATION

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670304	PRE-DISSERTATION	-	-	-	120	80	-	-	6	6	200

To undertake work on topics of relevance to the planning profession. Students would be encouraged to select topics of relevance in contemporary context and undertake research on past initiatives and future possibilities in the area. The work would include literature review of previous initiatives in the area of research, tools and techniques developed, survey of stake holders' and expert opinions and reporting of findings in a technical report format. The student will be required to make two seminar presentations and submit a report at the end of the semester which will qualify as the literature review and research methodology component of his/her thesis in the forthcoming semester.

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**Master of URBAN PLANNING – IV SEMESTER****670401 – DISSERTATION**

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670401	DISSERTATION	-	-	-	200	300	-	-	20	20	500

The students are required to carry out independent research and prepare a thesis on a topic on urban planning selected by them and approved the faculty under the supervision of a research guide allocated by the department. Final internal presentation of each student before a committee constituted jointly by the HOD and guide is mandatory before submission. MUP dissertation can be submitted only after at least one paper is presented in international conference or published in journal. The students are required to proceed in the following manner: -

- Identification of topic of interest having relevance to planning profession, integration and application of the learnt research processes to the pre-thesis work. Book reviews and journal article compilation to establish the body of work existing in the selected area of work
- Collection of data and opinions by the stakeholders, decision makers, urban managers, advocates, technocrats, user groups, etc. on the topic selected.
- Based on the literature review and inputs from the colloquial arguments, the topics shall be finalized for thesis in the subsequent semester.
- Selection of study area, identification of extent and spread of intervention; collection of data for preparation of base map.
- Development of research thrust and work methodology.
- Identification of data sources.
- Data collection and analysis: sample determination, data tabulation (coding, de-coding, etc.), quantitative and qualitative data analysis. Appropriate and relevant data analysis 32 methods would need to be studied by individual students based on thesis topic and research area.
- Finalization of topic; formulation of problem statement, literature review, working hypothesis, research brief, research methodology, sample determination, data collection and analysis, report structuring.