

SEMESTER-X														
S.No.	CODE	SUBJECTS	L	TS	PS	CREDITS (L+0.5TS+1.5PS)	MSE		ESE		TA	MARKS	Course Category	Total Periods
							Theory	Viva	Theory	Viva				
1	AREP5211	Professional Practice	3	0	0	3	30	0	50	0	20	100	Essential Program Requirements (EPR)	3
2	AREP5212	Professional Elective-IV	3	0	0	3	30	0	50	0	20	100	Professional Elective (PE)	3
3	ARPE5211	Professional Elective-V	3	0	0	3	30	0	50	0	20	100	Professional Elective (PE)	3
4	ARPC5221	Architectural Thesis-II	0	8	4	10	0	200	0	300	500	1000	Professional Core (PC)	12
5	ARPC5221	Comprehensive Viva	0	2	0	1	0	100	0	100	0	200	Professional Core (PC)	2
Total			9	10	4	20						1500		23





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B.Arch. Syllabus
Semester - X

1.	Department proposing the course	Architecture
2.	Course Title	Professional Practice
3.	L-T-P Structure	3-0-0
4.	Credits/# of period	3/3
5.	Course number (Code)	AREP5211
6.	Status (Core/Essential/Elective)	Essential Program Requirements (EPR)
7.	Pre-requisites (course no./title)	NIL
8.	Frequency of offer	Annual
9.	Course Objectives (CO): 1. To understand the legalities involved in Architectural Profession and to develop professionalism, integrity, and competency. 2. To learn the process of Tenders and Contracts.	
10.	Course Syllabus: Unit-1: Architectural Profession a. Difference between Profession and Business. b. Various Professional Bodies for Architects. c. Architects Act 1972 with Amendments. d. Council of Architecture, its role, and responsibilities. Unit-2: Professional Ethics a. Code of professional conduct. b. Condition of engagement and scale of professional fees. c. Copyright Act as applicable to architectural work. d. Architectural competitions. Unit-3: Contracts and Tenders a. Types of tenders, process of calling tenders and selection process. b. Pre-Tender qualifications and registration. c. Concept of Contract, types of contract and process of contract filing. d. Duties and liabilities of Architects, Clients, and Contractors. Unit-4: Legal Procedures and Legislation a. Articles of Agreement, Execution of Works, and Schedule of Payments. b. The Arbitration and Conciliation Act, 1996 with Amendments. c. Right of Easements- The Indian Act of Easements 1882 with Amendments. Unit-5: Architects' Office Management a. Professional Practice; Office Management, Office Structure, Filing, Documentation and Working. b. Tax- liability. c. Role of Design Staff and Supporting Managerial Staff; Personal Management and Training Responsibilities. d. Procedure of Operation in Government Organization. <i>The assignments may be in form of sketches, term-papers, reports, drawings, presentations, etc.</i>	
11.	References: - i. Apte, V. S. (2008). Architectural Practice and Procedure. Pune: Padmaja Bhide. ii. COA. (2020). Handbook of Professional Documents. Council of Architecture. iii. Namavati, R. (1984). Professional practice. Mumbai: Lakhani Book Depot.	



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B.Arch. Syllabus Semester - X

1.	Department proposing the course	Architecture
2.	Course Title	Physical Planning Theory and Techniques
3.	L-T-P Structure	3-0-0
4.	Credits/# of period	3/3
5.	Course number (Code)	AREP5212-1
6.	Status (Core/Essential/Elective)	Professional Elective (PE)-IV
7.	Pre-requisites (course no./title)	NIL
8.	Frequency of offer	Annual
9.	Course Objectives (CO): 1. To make students aware of physical planning as a field of specialization. 2. To equip the students with the knowledge of spatial planning interventions.	
10.	Course Syllabus: Unit-1: Landuse-I a. Landuse Theories Such as Concentric Zone Theory, Multiple Nuclei Theory, etc. b. Landuse Planning Approaches Such as Incremental Approach, Rationalistic Approach, etc. c. Landuse Patterns and Classifications. d. Indicators in Physical Planning Such as Social Indicators, Performance Indicators, etc. Unit-2: Landuse-II a. Physical Planning Concepts. b. Goals of Landuse Planning. c. Landuse Zoning, Conversions and Regulations. d. Compatible and Incompatible Landuse. Unit-3: Site Planning a. Site Research and Community Engagement. b. Neighborhood Planning. c. Form-Based Spatial Planning. d. Performance Zoning and TOD. Unit-4: Delineation Techniques a. Different Spatial Delineation Techniques Such as Weighted Index Number Method, Variable Index Method, Cluster Method, etc. b. SWOT Analyses. c. Feasibility Analyses and Cost-Benefit Analysis. d. Land Suitability Analyses. Unit-5: Central Place Theory a. Range and Threshold. b. Principles of Spatial Arrangement of Central Places. c. Different Graphical Techniques such as Scalogram, Sociogram, Graph Theory, etc. d. Threshold Analyses. <i>The assignments may be in form of sketches, term-papers, reports, drawings, presentations, etc.</i>	
11.	References: - i. Allmendinger, P. (2009). <i>Planning Theory</i> . 2. Utgave. ii. Bandyopadhyay, A. (1997). <i>Textbook of town planning</i> . India: Books and Allied Ltd. iii. Crane, R., & Weber, R. (Eds.). (2015). <i>The Oxford handbook of urban planning</i> . Oxford University Press. iv. Levy, J. M. (2016). <i>Contemporary urban planning</i> . Taylor & Francis. v. Gallion, A. B. and Simon E. <i>Urban Pattern: City Planning and Design</i> , , CBS Publishers.	



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B.Arch. Syllabus
Semester - X

1.	Department proposing the course	Architecture
2.	Course Title	Sustainable Cities and Communities
3.	L-T-P Structure	3-0-0
4.	Credits/# of period	3/3
5.	Course number (Code)	AREP5212-2
6.	Status (Core/Essential/Elective)	Professional Elective (PE)-IV
7.	Pre-requisites (course no./title)	NIL
8.	Frequency of offer	Annual
9.	Course Objectives (CO): 1. To impart the knowledge and skills to develop sustainable cities and communities. 2. To learn human physical, social, and psychological needs in urban and rural communities.	
10.	Course Syllabus: Unit-1: Urbanization a. Cultural and Social Transformation. b. Sustainability in Urban Governance. c. Urban Public Finance and Taxation. Unit-2: Urban Systems a. Urban Risks and Vulnerabilities. b. Law, Order and Conflicts. c. Management and Planning. Unit-3: Urban Environment a. Air, Water, Food and Natural Resources. b. Urban Agriculture for Sustainable Cities. c. Climate Impacts, Adaptation and Mitigation. d. Brownfield Regeneration. Unit-4: Sustainable Urban Services and Infrastructure a. Sustainable Environmental Services and Infrastructure. b. Sustainable Transport Planning. c. Sustainable Urban Energy Systems. Unit-5: Case Studies a. Best Practices. b. National and International case studies. <i>The assignments may be in form of sketches, term-papers, reports, drawings, presentations, etc.</i>	
11.	References: - i. Castles, S. (2001). <i>Development, social transformation, and globalisation</i> . Centre for Asia Pacific Social Transformation Studies, University of Wollongong. ii. Dixon, T., Raco, M., Catney, P., & Lerner, D. N. (Eds.). (2008). <i>Sustainable brownfield regeneration: Liveable places from problem spaces</i> . John Wiley & Sons. iii. Haughton, G., & Hunter, C. (2004). <i>Sustainable cities</i> . Routledge. iv. Hutton, B. (2013). <i>Planning Sustainable Transport</i> . Routledge. v. Jenks, M., & Dempsey, N. (2005). <i>Future forms and design for sustainable cities</i> . Routledge. vi. Nijkamp, P., & Perrels, A. (2014). <i>Sustainable cities in Europe</i> . Routledge.	



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B.Arch. Syllabus
Semester - X

1.	Department proposing the course	Architecture
2.	Course Title	Human Settlement and Spatial Organization
3.	L-T-P Structure	3-0-0
4.	Credits/# of period	3/3
5.	Course number (Code)	AREP5212-3
6.	Status (Core/Essential/Elective)	Professional Elective (PE)-IV
7.	Pre-requisites (course no./title)	NIL
8.	Frequency of offer	Annual
9.	Course Objectives (CO):	1. To understand various elements, classifications, and typology of Human Settlements. 2. To familiarize with the process of evolution of cities and their concepts. 3. To understand the settlement patterns and growth.
10.	Course Syllabus:	Unit-1: Evolution of Settlement patterns: Pre-Industrial Revolution a. Ekistics, its role and understanding. b. Role of society in evolution of human settlement. c. Early rural and urban settlements. Unit-2: Evolution of Settlement patterns: Post-Industrial Revolution a. Various concepts and theories. b. Role of technology in evolution of human settlement. c. Analysis of settlement patterns and its growth magnets. Unit-3: Spatial Organization and culture. a. Organization based on community practices. b. Place memory and its role in Spatial Organization. c. Concept of Dynapolis, Futuristic cities, Utopic City, etc. Unit-4: Morphology and city boundaries. a. Factors responsible for city forms. b. City Form – Advantages and Disadvantages. c. Growth potential based on morphology. Unit-5: People and City a. Regeneration of Urban city cores. b. Social and Physical Boundary. c. Settlement as Organism, Quality of Life, etc. <i>The assignments may be in form of sketches, term-papers, reports, drawings, presentations, etc.</i>
11.	References: -	i. Bertaud, A. (2018). <i>Order Without Design: How Markets Shape Cities</i> . United States: MIT Press. ii. Bowen, W. M., Gleason, R. E. (2018). <i>The Evolution of Human Settlements: From Pleistocene Origins to Anthropocene Prospects</i> . Germany: Springer International Publishing. iii. Doxiadis, K. A. (1968). <i>Ekistics: An Introduction to the Science of Human Settlements</i> . United States: Oxford University Press. iv. Hanson, J. (2003). <i>Decoding Homes and Houses</i> . United Kingdom: Cambridge University Press. v. Hillier, B., Julienne, H. (2014). <i>The Social Logic of Space</i> . (n.p.): Cambridge University Press. vi. Gruyter D. (2014). <i>Spatial Analysis and Social Spaces: Interdisciplinary Approaches to the Interpretation of Prehistoric and Historic Built Environments</i> . Germany.



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B.Arch. Syllabus Semester - X

1.	Department proposing the course	Architecture
2.	Course Title	Remote Sensing and Basic of GIS
3.	L-T-P Structure	3-0-0
4.	Credits/# of period	3/3
5.	Course number (Code)	ARPE5211-1
6.	Status (Core/Essential/Elective)	Professional Elective (PE)-V
7.	Pre-requisites (course no./title)	NIL
8.	Frequency of offer	Annual
9.	Course Objectives (CO): 1. To introduce a multidisciplinary field of Remote Sensing and GIS. 2. To learn mapping and modelling the present and future scenario based on the current trends.	
10.	Course Syllabus: Unit-1: Introduction a. Introduction to Remote Sensing. b. Thermal Bands, Scales and Resolution. Unit-2: Image Processing a. Image Processing such as Image Restoration, Image Enhancement, Image Classifications, etc. c. Photogrammetry. Unit-4: Geographic Information Systems a. Introduction to GIS. b. GIS Data (Vector and Raster). c. Use of GPS in GIS. d. Crowd Sourcing and Mobile Mapping. Unit-3: Maps in GIS a. Coordinate Systems. b. Projections. c. Thematic Maps and Layers. Unit-5: Applications of Remote Sensing and GIS a. Geospatial database creation such as preparation of base maps, attribute tables, etc. b. GIS mapping and modelling such as urban growth modelling, urban utility mapping, etc. c. Applications of GIS. <i>The assignments may be in form of sketches, term-papers, reports, drawings, presentations, etc.</i>	
11.	References: - i. Bhatta, B. (2008). <i>Remote sensing and GIS</i> . Oxford University Press, USA. ii. Cook, E. A. (1995). <i>Remote sensing and image interpretation: Thomas M. Lillesand and Ralph W. Kiefer, 3rd edn.</i> , Wiley, New York, 1994, 750 pp., ISBN 0-471-57783-9. iii. Dale, M. R., & Fortin, M. J. (2014). <i>Spatial analysis: a guide for ecologists</i> . Cambridge University Press. iv. Goodchild, M. F., Longley, P. A., Maguire, D. J., & Rhind, D. W. (2005). <i>Geographic information systems and science</i> . Wiley & Sons, West Sussex, UK, 17, 517. v. Lillesand, T., Kiefer, R. W., & Chipman, J. (2015). <i>Remote sensing and image interpretation</i> . John Wiley & Sons. vi. Longley, P. A., Goodchild, M. F., Maguire, D. J., & Rhind, D. W. (2005). <i>Geographic information systems and science</i> . John Wiley & Sons. vii. Netzband, M., Stefanov, W. L., & Redman, C. (Eds.). (2007). <i>Applied remote sensing for urban planning, governance, and sustainability</i> . Springer Science & Business Media.	



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B.Arch. Syllabus Semester - X

1.	Department proposing the course	Architecture
2.	Course Title	Building Certification and Rating Systems
3.	L-T-P Structure	3-0-0
4.	Credits/# of period	3/3
5.	Course number (Code)	ARPE5211-2
6.	Status (Core/Essential/Elective)	Professional Elective (PE)-V
7.	Pre-requisites (course no./title)	NIL
8.	Frequency of offer	Annual
9.	Course Objectives (CO):	- To give understanding of different rating and certification agencies. - To learn the importance of rating in building industry.
10.	Course Syllabus:	Unit-1: Introduction - Idea and concept of Rating Systems. - Importance of rating systems. - National and International Rating Systems. - Environmental, Economic, and Social Parameters in Building Rating Tools. Unit-2: Certification - Introduction to Certification. - ECBC, Fire Certification, etc. - Universal Design, Social Responsiveness, etc. Unit-3: Indian Green Building Rating Systems - Government Rating Systems like GRIHA, BEE, etc. - Private Rating Systems like IGBC, LEED-India, etc. Unit-4: International Green Building Rating Systems - International Green Construction Code. - Building Research Establishment Environmental Assessment Method (BREEAM). - Building Owners and Managers' Association (BOMA-360), WELL, etc. Unit-5: Other Certifications and Rating Systems - Comprehensive Assessment System for Built Environment Efficiency (CASBEE). - ASSOCHAM GEM Green Building Council, etc. - Leadership in Energy and Environmental Design (LEED). - German Sustainable Building Council (DGNB - abbreviation in German) certification, etc. <i>The assignments may be in form of sketches, term-papers, reports, drawings, presentations, etc.</i>
11.	References: -	- MNRE, T. (2010). <i>GRIHA Manual, Volume 1: Introduction to National Rating System-GRIHA, An E-valuation Tool to Help Design, Build, Operate, and Maintain a Resource-efficient Built Environment</i>. New Delhi, India. - Reeder, L. (2010). <i>Guide to green building rating systems: understanding LEED, Green Globes, Energy Star, the National Green Building Standard, and more</i> (Vol. 12). John Wiley & Sons. - Steinfeld, E., & Maisel, J. (2012). <i>Universal design: Creating inclusive environments</i>. John Wiley & Sons. - Yudelson, J. (2009). <i>Green Building Through Integrated Design</i> (Green Source Books). McGraw-Hill Education.



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B.Arch. Syllabus
Semester - X

1.	Department proposing the course	Architecture
2.	Course Title	Building Economics and Sociology
3.	L-T-P Structure	3-0-0
4.	Credits/# of period	3/3
5.	Course number (Code)	ARPE5211-3
6.	Status (Core/Essential/Elective)	Professional Elective (PE)-V
7.	Pre-requisites (course no./title)	NIL
8.	Frequency of offer	Annual
9.	Course Objectives (CO): 1. To understand the effects of Sociology and Economics in Architecture. 2. To learn various sociological and economic concepts.	
10.	Course Syllabus: Unit-1: Basic Concepts of Economics a. Broad concepts and theories of Economics. b. Factors of production linked to architecture such as Land, labor, Money, Market, etc. c. Laws of Demand and Supply. Unit-2: Building Economics a. Building efficiency and Cost reduction through planning. b. Relationship of economics and built environment. c. Theories of Land values such as Bid rent theory, concentric zone model etc. Unit-3: Economic analysis of Projects a. Financing for projects, source of capital. b. Basic concept of interest, capital, Internal rate of return and present value of assets. c. Cost benefit analysis. d. Law related to properties and building such as Rent Control Act, RERA Act, etc. Unit-4: Basics of Sociology a. Introduction to sociology. b. Basic concepts- Society, Group, Community (Rural and Urban), Association, Institution. c. Concept of society and its types – rural and urban. Unit-5: Sociology and Architecture a. Sociology of space and built environment. b. Urban rural migration and Urbanization. c. Dynamics of Urban growth and society. <i>The assignments may be in form of sketches, term-papers, reports, drawings, presentations, etc.</i>	
11.	References: - i. Abraham M. F. (2014). <i>Contemporary Sociology: An introduction to Concepts and Theories</i> Oxford Publication. ii. Chaudhuri, S. and Sen, A. (2010). <i>Economics</i> . McGraw Hill iii. Dewett, K. K. (2009). <i>Modern Economic Theory</i> . S. Chand Publications. iv. Jones, Paul (2011). <i>The Sociology of Architecture: Constructing Identities</i> . Liverpool University Press. v. Smell, M. <i>Cost – benefit Analysis – a practical guide</i> . Thomas Telford Publishing vi. Teck, H. and Hian, O. (1998). <i>Economics: theory and applications</i> . Taiwan: McGraw-Hill.	



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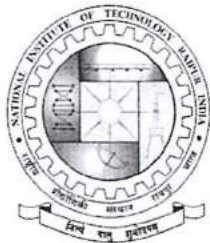
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B.Arch. Syllabus
Semester - X

1.	Department proposing the course	Architecture
2.	Course Title	Architectural Thesis-II
3.	L-T-P Structure	0-8-4
4.	Credits/# of period	10/12
5.	Course number (Code)	ARPC5221
6.	Status (Core/Essential/Elective)	Professional Core (PC)
7.	Pre-requisites (course no./title)	NIL
8.	Frequency of offer	Annual
9.	Course Objectives (CO):	1. To demonstrate design and/or research abilities through the knowledge acquired in the entire program.
10.	Course Syllabus:	The students are expected to demonstrate their Design/Research abilities through an Architectural Thesis Project. The Design/Research development may be based on a certain 'theme' as the primary focus of study. The thesis project shall be done and assessed as per the 'Thesis Manual' prepared by the Department time to time. The process for Design Thesis, Project will include – Description, Case Study, Site Study- Analysis and Inferences, Development of specific Design Guidelines, Design Program and Area Requirements, Conceptual Development, Design Development, Final Design, Presentation, etc. For Research/Study Thesis, it would be an in-depth analysis of various facets of architectural design and built environment. It may include system development, critique of design and trends in building industry, application of various new technologies, best practices, sustainable development, heritage management and conservation, etc. <i>The deliverables shall be in form of Presentation, Report, Portfolio, Sketches, Models, etc.</i>
11.	References: -	- Bloomberg, L. D., & Volpe, M. (2018). <i>Completing your qualitative dissertation: A road map from beginning to end</i>. - Boote, D. N., & Beile, P. (2005). <i>Scholars before researchers: On the centrality of the dissertation literature review in research preparation</i>. <i>Educational researcher</i>, 34(6), 3-15. - Herr, K., & Anderson, G. L. (2014). <i>The action research dissertation: A guide for students and faculty</i>. Sage publications. - Lester, J. D., & Lester, J. D. (2012). <i>Writing research papers: A complete guide</i> (p. 416). Pearson. - Rudestam, K. E., & Newton, R. R. (2014). <i>Surviving your dissertation: A comprehensive guide to content and process</i>.



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B.Arch. Syllabus
Semester - X

1.	Department proposing the course	Architecture
2.	Course Title	Comprehensive Viva
3.	L-T-P Structure	0-2-0
4.	Credits/# of period	1/2
5.	Course number (Code)	ARPC5221
6.	Status (Core/Essential/Elective)	Professional Core (PC)
7.	Pre-requisites (course no./title)	NIL
8.	Frequency of offer	Annual
9.	Course Objectives (CO): 1. To assess the comprehensive knowledge of the students as a part of their holistic development process throughout the degree program.	
10.	Course Syllabus: All the courses in B.Arch. program are designed to cover a vast range of fields of studies and develop all-round skills for designing and executing any architectural project. The courses also cover the areas which may help the students to choose the domain for their higher studies. The viva-voce shall be conducted to assess the overall knowledge and understanding of the courses taught to the students in the entire program including their participations and learnings through various co-curricular activities, extra-curricular activities, design competitions, etc. The viva-voce shall be conducted by a panel constituting institute's faculty. The viva-voce may contain the questions on any of the courses undergone during the entire B.Arch. degree program.	