

NATIONAL INSTITUTE OF TECHNOLOGY RAIPUR

PROPOSED NEW SCHEME OF EXAMINATION FOR

TEN SEMESTER INTEGRATED COURSE OF B. ARCH.(APPLICABLE FROM 2010-11)

SEVENTH SEMESTER

S.No.	Subject Code	Subject	Periods per week			Scheme of Examination			Total Marks	Credit [L+{(T+P)/2}]
			L	T	P	ESE	FE/SE	TA		
1	1711	Architectural Design VII	2	0	0	0	50	100	150	2
2	1712	Building Construction and Technology VII	2	0	0	70	30	75	175	2
3	1713	Advanced Structural Design and Systems	3	2	0	70	30	20	120	4
4	1714	Town Planning and Landscape	3	1	0	70	30	20	120	4
5	1715	Project Introduction	2	1	0	0	100	50	150	3
6	1716	Elective - I	2	1	0	70	30	30	130	3
7	1721	Architectural Design VII Studio	0	0	6	50	0	0	50	3
8	1722	Building Construction Technology VII Studio	0	0	3	25	0	0	25	2
9	1727	Elective - II	0	0	5	50	0	30	80	3
TOTAL			14	5	14	405	270	325	1000	26

Elective – I: -

1. Urban Design
2. Architectural Conservation
3. Housing
4. Acoustics and Illumination

Elective – II: -

1. Interior Design
2. Art in Architecture
3. Advanced Computing

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SYLLABUS FOR FIVE YEARS B.ARCH. DEGREE COURSE (A Ten semester integrated course)

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Subject Code	Subject	Periods per week			Scheme of Examination			Total Marks	Credit [L+{(T+P)/2}]
		L	T	P	ESE	FE / SE	TA		
1711	Architectural Design VII	2	0	0	0	50	100	150	2

1. In the design studio stress shall be given on building design with use of modern technology. Multi-storeyed building with use of lifts, escalators, air conditioning etc. Stress is also to be given on detailing of the services, parking and fire fighting.
2. Problem should be of different nature in terms of scale, site potentials and constraints. E.g. Factories, Film Studios, Computer Centres, Hotel, Multi-storeyed offices, Apartments. Commercial Centres etc.

Two time problems, in addition to regular studio assignment shall be given.

Note:

Submission of the Sessional will be in the form of drawings and models along with Technical report for the design dealt. The evaluation shall be done in intermediate reviews consisting of internal and external experts. There should be regular site visits to buildings, dealt in studio problems, so as to document them with the help of photographs, slides, videocassettes etc.

References:

1. Joseph De Chiara, Michael J Crosbie, Time Saver Standards for Building Types, McGraw Hill Professional 2001.
2. Julius Panero, Martin Zelnik, Human Dimension and Interior Space, Whitney Library of Design, 1975
3. Joseph De Chiara, Julius Panero, Martin Zelnik, Time Saver Standards for Interior Design and Space Planning, McGraw Hill 2001.
4. Ernst Neuferts Architects Data, Blackwell 2002
5. Ramsey et al, Architectural Graphic Standards, Wiley 2000
6. Richard P. Dober, Campus Planning
7. Kanvinde, Campus Planning in India
8. Kevin Lynch, Site planning, MIT Press, Cambridge, 1967
9. Sam F. Miller, Design Process: A Primer for Architectural and Interior Design, Van Nostrand Reinhold, 1995

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Subject Code	Subject	Periods per week			Scheme of Examination			Total Marks	Credit [L+{(T+P)/2}]
		L	T	P	ESE	FE / SE	TA		
1712	Building Construction and Technology VII	2	0	0	70	30	75	175	2

Design and drawing of constructional details of:

UNIT 1	Shop fronts, including interior of shops for storage, display etc.
UNIT 2	Suspended ceilings and false flooring for services.
UNIT 3	Partitions and screens.
UNIT 4	Wall panelling, sound proof construction including various types of materials and construction details. Various interior and exterior surface treatments such as cladding, lining, rendering etc.
UNIT 5	Design details of different types of counters for various shops, banks, post offices, jewellers store, general merchandise shops, bar counters etc.

Note:

1. There shall be regular site visits to buildings, under construction or Constructed, to explain the above topics. Use of audio-visuales should be stressed.
2. Sessional work shall be done as scaled drawings on drawing sheets and freehand drawings along with occasional visits to construction sites.
3. In theory examination there will be a separate question from each unit with choice within the unit/question. All units/questions will be compulsory.

References:

1. De Chiara and Callendar, Time Saver Standard Building Types, McGraw Hill Co,1980.
2. Richardson Dietruck, Big Idea and Small Building, Thames and Hudson, 2002
3. Edward D Mills, Planning – The Architecture Handbook, British Library Cataloguing in Publication Data, 1985
4. Susan Dawson, Architect's Working Details(Volume 1-10), 2004
5. Swimming Pools, Lane Book Company, Menlo Park, California
6. Nelson L Burbank, House Carpentry Simplified, Simmons-Board- Man Publishing Corporation, New York,
7. Grant W. Reid, Landscape Graphics, Whitney Library of Design, 1987

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Subject Code	Subject	Periods per week			Scheme of Examination			Total Marks	Credit [L+{(T+P)/2}]
		L	T	P	ESE	FE / SE	TA		
1713	Advanced Structure Design and Systems	3	2	0	70	30	20	120	4

ADVANCED R.C.C. STRUCTURE DESIGN (L.S.M)

UNIT 1	Design of combined footings (rectangular).
UNIT 2	Design of flat slab.
UNIT 3	Design of column (Biaxial bending) (By using S.P.16).
UNIT 4	Design of beam curved in plan.
UNIT 5	Detailing of Earthquake Resistance construction <ul style="list-style-type: none">• Introduction• Cyclic behaviour of concrete and reinforcement• Significance of ductility• Ductility of beam• Design for ductility• Detailing for ductility

Note:

1. I.S. code 456 and S.P. 16 shall be permitted in examination.
2. Computer aided design of structure (with SAP or other relevant software) could be taught in tutorial classes.
3. Computer aided practical classes could be taken up.
4. Sessional work shall include assignments/tests on the above topics.
5. In theory examination there will be a separate question from each unit with choice within the unit/question. All units/questions will be compulsory.

References:

1. B.C. Punmia, Reinforced Concrete Structures, Vol. 1 & 2, - Laxmi Publications, Delhi, 1994.
2. IS 456:2000, Indian Standard, Plain and Reinforced Concrete – Code of Practice, Bureau of Indian Standards.
3. SP – 16, Design Aids for Reinforced Concrete to IS 456
4. National Building Code of India, 1983
5. IS 1905, Code of Practice for Structural Safety of Buildings
6. P.Dayaratnam , Design of Reinforced Concrete Structures, Oxford and IBH Publishing CO., 1983.
7. N.C.Sinha and S.K.Roy, Fundamentals of Reinforced Concrete, S.Chand and Co., New Delhi, 1983.
8. Ashok K.Jain Reinforced Concrete (Limit State Design) - Nemchand, Bros Roorkee 1983.
9. Krishna Raj, Prestressed Concrete Structures

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Subject Code	Subject	Periods per week			Scheme of Examination			Total Marks	Credit [L+{(T+P)/2}]
		L	T	P	ESE	FE / SE	TA		
1714	Town Planning and Landscape	3	1	0	70	30	20	120	4

This course is intended to give elementary knowledge of subject pertaining to town planning.

UNIT 1	Principles of Planning: <ul style="list-style-type: none"> • Types of planning • Elements of planning • Surveys • Landuses • Character • Densities.
UNIT 2	Introduction to planning processes <ul style="list-style-type: none"> • Zoning, zoning regulations • Site planning. • Types of plans- development plans, action plans, structure plans, • Planning process • Master plan (Development plan) and its components
UNIT 3	Planning techniques and theories: <ul style="list-style-type: none"> • Approaches to physical planning • Internal structures of town. Inner city development. • Various theories of planning like landuse theory, exploratory theories, speculative theories etc. • Systems approach, mixed scanning approach, choice theory.
UNIT 4	Other aspects of planning: <ul style="list-style-type: none"> • Introduction to housing – typology, standards, infrastructure and policies. • Introduction to transport planning – Network characteristics, Intersections, design of roads, survey methods. • Legal aspects of planning –police power, eminent domain, development controls, Urban local bodies, specific Acts like Land Ceiling (and Regulation), Land acquisition act. Various policies and programs of State and Central Government.
UNIT 5	Landscape Planning: <ul style="list-style-type: none"> • Brief introduction to landscape architecture • Role of landscape planning • Landscape as a tool in planning • Environmental consideration in landscape planning • Hierarchy of open spaces • Social forestry.

Note:

1. There shall be visits to office of town and country planning to understand the process and problems.
2. Submission of Sessional work shall be done as plan proposal for small town planning scheme, housing, site layout of urban or rural sites drawn to scale.
3. In theory examination there will be a separate question from each unit with choice within the unit/question. All units/questions will be compulsory.

References:

1. Bandyopadhyay A., Text Book of Town Planning, Arunabha Sen, Kolkata, India, 2010.
2. C.L.Doxiadis, Ekistics, 'An Introduction to the Science of Human Settlements', Hutchinson, London, 1968.
3. Andro D.Thomas, 'Housing and Urban Renewal, George Allen and Unwin, Sydney, 1986.
4. Ministry of Urban Affairs and Employment, Government of India, New Delhi, 'Urban Development Plans: Formulation & Implementation' - Guidelines - 1996.
5. Government of India, 'Report of the National Commission on Urbanisation', 1988.
6. Hansen N., 'Regional Policy and Regional Integration' Edward Elgar, UK, 1996.
7. Centre for Human Settlements, Anna University, Chennai 'Development Plan for Uthokottai Taluk, Cheyyur Taluk', 1999.
8. Michael Laurie, An Introduction to Landscape Architecture, Elsevier, 1986.
9. Geoffrey And Susan Jellicoe, The Landscape of Man, Thames And Hudson, 1987.
10. T S S for Landscape Architecture, Mc Graw Hill, Inc, 1995
11. Grant W Reid, From Concept to Form in Landscape Design, Van Nostrand Reinhold Company , 1993.
12. Brian Hacket, Planting Design, Mc Graw Hill, Inc, 1976
13. Handbook of urban landscape, Cliff Tandy, Architectural press, 1973
14. T.K. Bose and Chowdhury, Tropical Garden Plants in Colour, Horticulture And Allied Publishers, Calcutta, 1991.

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		L	T	P	ESE	FE / SE	TA		
1715	Project Introduction	2	1	0	0	100	50	150	3

UNIT 1	<p>Definition:</p> <ul style="list-style-type: none"> • What is research – formation of hypothesis? • Types of research. • Social research vis-à-vis architectural research.
UNIT 2	<p>Formation of research methodology:</p> <ul style="list-style-type: none"> • Formation of goal. • Formation of scope and limitation. • Data collection – process and methods. • Analysis – statistical and other. • Output of research.
UNIT 3	<p>Various types of Architectural researches:</p> <ul style="list-style-type: none"> • Interpretive historical research. • Qualitative research. • Co-relational research. • Experimental and quari-experimental research. • Simulation and modeling research. • Logical argumentation. • Case studies and combined strategies.
UNIT 4	<p>Report writing:</p> <ul style="list-style-type: none"> • Styles. • Salient features. • Bibliography writing • Citation, etc.
UNIT 5	<p>Dissertation on Thesis:</p> <ul style="list-style-type: none"> • The objective of introducing dissertation is to develop the research aptitude and its presentation in the form of seminar. The work shall be done on any topic known theories, established practices etc related to the field of architecture. It is advisable that the selected topic may have relevance with the proposed topic of thesis.

Note:

- The topic shall be selected by the student must consultation with the coordinator and the guide.
- The dissertation work will be evaluated a stages and the final report shall be submitted type written neatly on standard A-1 size paper of one side only in single spacing (max. 15 pages) supplemented with photographs pasted at appropriate places. Sketches etc. The final presentation will be in the form of seminar.

References:

1. Kothari C.R., Research Methodology: Methods and Techniques, 2nd Edition, New Age International Publication, 2004.

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Subject Code	Subject	Periods per week			Scheme of Examination			Total Marks	Credit [L+{(T+P)/2}]
		L	T	P	ESE	FE / SE	TA		
1716	Elective-I: Urban Design	2	1	0	70	30	30	130	3

To appreciate the nature and role of various facets of Urban Design in the making of the built environment.

UNIT 1	<p>Introduction to the role and scope of Urban Design:</p> <ul style="list-style-type: none"> • Introduction: Relationship with architecture and Town Planning. • Determinants and factors of urban forms such as landform, climate, symbolism, activity patterns, socio-cultural factors, materials, techniques and other contextual factors. Case examples from various periods in history and different parts of the world.
UNIT 2	<p>Vocabulary of Urban Design</p> <ul style="list-style-type: none"> • Vocabulary of Urban Design, Urban Patterns, Grain, fabric, texture, Density etc, • Concepts of Imageability. Elements of the city's image, paths, nodes, landmarks, edges, districts, focal point, vista etc. — their characteristics, role and interrelationship. Visual survey. • Concept of sense of place and space, division of space, sequence of spaces. • Barrier free design
UNIT 3	<p>Visual Composition</p> <ul style="list-style-type: none"> • Principles of visual composition; proportion, scale, rhythm, symmetry, harmony, datum, balance, form, colour, texture etc. • Designing parts of the city: Systems of communication and utility, visual expression, accent and contrast, urban character, landscape features etc. • Figure-background relationship
UNIT 4	<p>Urban spaces</p> <ul style="list-style-type: none"> • Types of urban spaces, streets, square, precinct, piazza, mall etc. • Various elements of urban spaces through history. Role of public places in the contemporary city. • Design principles, scale and enclosure • Case studies of well known urban spaces from various periods of history to illustrate their design and performance aspects. • Concept of spaces and structures as examples of Public Arts.
UNIT 5	<p>Urban design legislation and Urban Renewal</p> <ul style="list-style-type: none"> • Role of legislation and controls in the built environment. • Analysis of Urban Legislations of Delhi, Mumbai etc. Role of Urban Arts Commission. • Aesthetical Legislations, Case examples of aesthetic controls in various cities, etc. their basis, characteristics and problems of implementation and enforcement. • Introduction to Urban Heritage, Urban conservation, Urban renewal practices.

Note:

1. Sessional assignment will be based on case studies of old and new townships, city centres; complexes etc. along with proposal for urban design scheme for the same other situations.
2. In theory examination there will be a separate question from each unit with choice within the unit/question. All units/questions will be compulsory.

References:

1. A.E.J. Morris, History of Urban Form before the Industrial Revolution, Prentice Hall 1996
2. Edmund Bacon, Design of Cities, Penguin, 1976
3. Gordon Cullen, The Concise Townscape, The Architectural Press, 1978
4. Michelle Provoost et al., Dutchtown, NAI Publishers, Rotterdam, 1999
5. Time Saver Standards for Urban Design
6. Kevin Lynch, Image of the City
7. Jonathan Barnett, An Introduction to Urban Design
8. Lawrence Halprin, Cities, Reinhold Publishing Corporation, New York, 1964
9. Gosling and Maitland, Urban Design, St. Martin's Press, 1984
10. Urban Design Futures
11. Geoffrey Broadbent, Emerging Concepts in Urban Space Design

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		L	T	P	ESE	FE / SE	TA		
1716	Elective-I: Architectural Conservation	2	1	0	70	30	30	130	3

The subject has been introduced to inculcate in students importance and need of maintenance of continuation in development with due respect to the development in the past.

UNIT 1	History and modes of architectural conservation <ul style="list-style-type: none"> • Definition • Importance & need of conservation. • Various aspects of conservation of natural and manmade environment. • Classification of conservation — cultural, historical, urban areas.
UNIT 2	Process of Conservation <ul style="list-style-type: none"> • Listing and documentation, its importance and methods. • Measures of conservation i.e. protection, maintenance, restoration, reconstruction, adoption and adaptation. • Various methods applied for conservation of architectural buildings with examples.
UNIT 3	Cultural Heritage <ul style="list-style-type: none"> • Concept of heritage structures • Various methods adopted for conservation of heritage structures in India and Abroad. • Theories of identification and conservation of heritage structures.
UNIT 4	Conservation management <ul style="list-style-type: none"> • Methodologies to be adopted for conservation management. • Case studies in conservation related to adoptive reuse, building in context, preservation, urban conservation.
UNIT 5	Conservation Legislations: <ul style="list-style-type: none"> • Study of various charters, Acts relation to conservation of heritage structures. • Role of INTACH, UNESCO, ICOMOS, ASI, and other organizations. • Various methods/legislations adopted for encouraging conservation.

Note:

1. Sessional assignment will be based on selection of a conservation project & presentation of proposal in seminars.
2. In theory examination there will be a separate question from each unit with choice within the unit/question. All units/questions will be compulsory.

References:

1. Donald Appleyard, The Conservation of European Cities, M.I.T. Press, Massachusetts
2. James M. Fitch, Historic Preservation: Curatorial Management of the Built World by University Press of Virginia; Reprint edition (April 1, 1990)
3. A Richer Heritage: Historic Preservation in the Twenty-First Century by Robert E. Stipe
4. Conservation Manual, Bernard Fielden; INTACH Publication
5. B.K. Singh, State and Culture, Oxford, New Delhi
6. A.G. K. Memon ed. Conservation of Immovable Sites, INTACH Publication, N.Delhi.
7. Seminar Issue on Urban Conservation.

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Subject Code	Subject	Periods per week			Scheme of Examination			Total Marks	Credit [L+{(T+P)/2}]
		L	T	P	ESE	FE / SE	TA		
1716	Elective-I: Housing	2	1	0	70	30	30	130	3

UNIT 1	<p>Introduction:</p> <ul style="list-style-type: none"> • Introduction to housing, Housing terminology, standards, scope, Housing typology (construction and economic considerations) • Housing Infrastructure. • Housing at micro to macro level.
UNIT 2	<p>Housing scenario:</p> <ul style="list-style-type: none"> • Need of housing in Indian and Global context, • Housing scenario in Indian context, Housing shortage in urban and rural areas. • Slums and squatters, Informal housing. • Affordable housing, Core housing, Community housing, Industrial housing. • Low-rise high density, High-rise low density, High-rise high density housing
UNIT 3	<p>Housing Strategies</p> <ul style="list-style-type: none"> • Government housing strategies • Housing survey, methodologies and inferences. • Study of housing density, legislation and byelaws.
UNIT 4	<p>Housing Policies</p> <ul style="list-style-type: none"> • Framing housing policy for a proposed scheme with consideration to nature of development. • National and State Housing policies. • Systems approach to housing. • Environmental consideration, housing for disaster prone areas.
UNIT 5	<p>Housing finance:</p> <ul style="list-style-type: none"> • Role of financial institutions • Co-operative housing schemes • Gramin Bank Model • Government measures for slum upgradation and rehabilitation.

Note:

1. Sessional assignment will be based on unit 5 and will be presented in form of seminars.
2. In theory examination there will be a separate question from each unit with choice within the unit/question. All units/questions will be compulsory.

References:

1. Richard Kintermann and Robert small site planning for cluster Housing van nastrand reinhold company, Jondon/New York 1977.
2. Joseph de Chiara and others – Time saver standards for Housing and Residential development, Mcgraw Hill Co, New York 1995.
3. Forbes Davidson and Geoff Payne, Urban projects Manual. Liverpool University press, Liverpool 1983.
4. Christopher Alexander, A pattern Language, Oxford University press, New York 1977
5. HUDCO publications – Housing for low income, sector model.

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Subject Code	Subject	Periods per week			Scheme of Examination			Total Marks	Credit [L+{(T+P)/2}]
		L	T	P	ESE	FE / SE	TA		
1716	Elective-I: Acoustics and Illumination	2	1	0	70	30	30	130	3

UNIT 1	<p>Introduction about Sound and Noise:</p> <ul style="list-style-type: none"> • Fundamental Properties and characteristics of sound. (Frequency, wavelength, velocity, pressure, pressure level, intensity, pitch, tone, loudness, timbre etc.) • Noise: Physiological and Psychological impact of noise on human beings. • Noise criteria for various spaces viz: Living areas, Educational areas, Offices, Shopping etc. • Measures to control noise nuisance (Air borne and Structure borne) in residential, educational, commercial, and Industrial areas along with calculations.
UNIT 2	<p>Behaviour of Sound:</p> <ul style="list-style-type: none"> • Behavior of sound in open and enclosed spaces with reference to the form of enclosures, and various surface finishes. (Reflection, Absorption, Diffraction, Insulation, Transmission, Echo, Resonance, Reverberation etc.) • Acoustical materials along with their properties, behavior, selection criteria, use, and construction details.
UNIT 3	<p>Acoustical Design:</p> <ul style="list-style-type: none"> • Reverberation time, Sabine's formula along with the limitations and prerequisites. • Acoustical design measures for live acoustical environment in enclosures used for various purposes viz. Classrooms, Lecture halls, Auditoriums, Seminar Halls, Conference rooms, Meeting rooms, Theatres, Music concert halls, Opera houses, Dance halls, Open air theatres, Movie Theatres, Meditation centers, Group prayer halls etc.
UNIT 4	<p>Illumination:</p> <ul style="list-style-type: none"> • Light and its propagation, reflection, radiation, transmission and absorption. • Definitions and units of flux, solid angles, luminous intensity, brightness etc. • Laws of illumination, types of illumination schemes – direct, semi direct, indirect and diffused lighting and their design considerations.
UNIT 5	<p>Illumination Method:</p> <ul style="list-style-type: none"> • Standards of Illumination required for various activities. • Light flux method for calculation of number of lamps for illumination. • Types of Luminaries for interior and exterior lighting. Residential, commercial, industry, flood and street lighting. • Tests before commissioning of electrical services.

Note:

1. Sessional assignment will be based on above units in the form of seminars, study and reports.
2. In theory examination there will be a separate question from each unit with choice within the unit/question. All units/questions will be compulsory.

References:

1. Dr.V.Narasimhan - An Introduction to Building Physics - Kabeer Printing Works, Chennai-5 - 1974.
2. D.J.Groomet - Noise, Building and People - Pergumon Press - 1977.
3. Thomas D.Northwood - Architectural Acoustics - Dowden, Hutchinson and Ross Inc. – 1977.
4. B.J.Smith, R.J.Peters, Stephanie Owen - Acoustics and Noise Control - Longman Group Ltd., - New York, USA - 1982.
5. David Eagan concepts in Architectural Acoustics.
6. Harold Burriss – Meyer and Lewis Good friend, Acoustics for Architects – Reinhold

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		L	T	P	ESE	FE / SE	TA		
1721	Architectural Design-VII Studio	0	0	6	50	0	0	50	3

The subject is a lab (studio) oriented subject and hence, the syllabus as specified in Architectural Design-VII (1711) will be the same. The works done as sessionals will be evaluated by internal and external examiners at the end semester examination. For conduction of the practical (viva-voce) examination one external and one internal examiner may be appointed for a group of 15-20 students.

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		L	T	P	ESE	FE / SE	TA		
1722	Building Construction and Technology-VII Studio	0	0	3	25	0	0	25	2

The subject is a lab (studio) oriented subject and hence, the syllabus as specified in Building Construction and Technology-VII (1712) will be the same. The works done as sessionals will be evaluated by internal and external examiners at the end semester examination. For conduction of the practical (viva-voce) examination one external and one internal examiner may be appointed for a group of 15-20 students.

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		L	T	P	ESE	FE / SE	TA		
1727	Elective-II: Interior Design	0	0	5	50	0	30	80	3

This subject aims at developing a holistic approach towards design by considering internal space utilization, along with the impact of visual experience on the total space character.

UNIT I	Introduction <ul style="list-style-type: none"> • Understanding the role of interior design in total design process. • Procedure of Interior design. • Impact of the interior space on human psychology and behavior. • Historical background of interior design on global level.
UNIT II	Elements and components of interior design <ul style="list-style-type: none"> • Study of considerations for interior design such as Space, planes, Form, Color, texture. • Abstract and formal configuration, geometrical disciplines, visual controls, illusions with their separate and combined impact. • Generating character in interiors through use of materials, colors, styles etc. • Principles of space planning through Orientation, Privacy, Grouping, Flexibility, Circulation, Furniture arrangements, etc.
UNIT III	Materials in interior: <ul style="list-style-type: none"> • Surfaces, viz. walls, floor , ceilings etc. • Furniture, lose and built-in. • Upholstery, drapery. • Rugs ,carpets and other floor coverings. • Water bodies, planters and plantation. • Decorative features like paintings, sculptures.
UNIT IV	Services in interior design: <ul style="list-style-type: none"> • Impact of elements used for thermal comfort, • Electrical wiring system and fixtures • Acoustical treatment in interiors and their role in design, • Illumination, light sources and fixtures, • Building services etc and design measures to handle them.
UNIT V	Design scheme: <ul style="list-style-type: none"> • Complete design scheme of interiors for spaces having different uses and requirements such as Reception halls, Waiting lounges, Restaurants, foyers, Drawing halls, Offices, Residential spaces, Exhibition halls, Hotels, Theatres, Assembly Halls etc.

Note:

Sessional shall be prepared in the form of notes and sketches, schematic and scale drawings etc. on above topics.

References:

1. Francis D.K.Ching, Interior Design Illustrated, V.N.R. Pub. NY 1987
2. Joseph DeChiara, Julius Panero, Martin Zelnik, Time Saver's Standards for Interior Design, McGraw-Hill Professional 2001
3. John F.Pile, Interior Design, John Wiley and Sons 2004
4. Dr.Saranya Doshi, The Impulse to adorn - Studies in traditional Indian Architecture, Marg Publications 1982
5. Steport - De - Van Kness, Logan and Szebely, Introduction to Interior Design, Macmillan Publishing Co NY 1980.
6. Helen Marie Evans, An Invitation to design, Macmillan Pub Co 1982

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Subject Code	Subject	Periods per week			Scheme of Examination			Total Marks	Credit [L+{(T+P)/2}]
		L	T	P	ESE	FE / SE	TA		
1727	Elective-II: Art in Architecture	0	0	5	50	0	30	80	3

This course is a lecture/seminar oriented course, whose purpose is to combine historical research with creative approaches to art and its meanings. The course will allow students to develop familiarity with the critical issues surrounding architecture and public art in urban space from historical eras, while also applying that knowledge to a particular example of public art in India.

The course will cover the following broad areas:

- Geometry in art and architecture (golden ratio etc.)
- Spheres in architecture
- Geometric patterns in Architecture
- Solids —concepts of Archimedes, Plato; musical expression in architecture
- Vitruvius' & Michael Angelo' proportions etc.
- Number symbolism in context of Vedic to Middle ages (Europe).
- Symbolism in architecture —myths and celestial themes —art frames.
- Origin of Views —European perspective and Indian views.
- Façade measurement Arts by trigonometry.
- Representation of modern art in architecture, Art and computer.

Note:

Submission of the sessionals shall be prepared in the form of notes and sketches, schematic and scale drawings etc. on above topics.

References:

1. Fred, S. Kleiner, Gardener's Art through Ages, Harcourt College Publishers, 2001
2. Bernard S. Myers, Understanding the Arts, Holt, Rinehart and Winston Inc, 1964
3. Edith Thomory- a History of Fine Arts in India and the West, Orient Longman Publisher's Pvt. Ltd, New Delhi
4. H.H. Arnason, History of Modern Art, Thames and Hudson, 1977
5. The Penguin Dictionary of Art and Artists - Peter and Linda Murray - Penguin books 1989.
6. E.H. Gombrich, The Story of Art, Phaidon 2002
7. E.H. Gombrich, Art and Illusion, Phaidon, 2002
8. Indian Art since the early 1940s- A Search for Identity- Artists Handicrafts Association of Cholamandal Artists Village, Madras, 1974
9. A.K. Coomaraswamy, Fundamentals of Indian Art, Historical Research Documentation Programme, Jaipur, 1985

NATIONAL INSTITUTE OF TECHNOLOGY, RAIPUR.

**SYLLABUS FOR FIVE YEARS B.ARCH. DEGREE COURSE
(A Ten semester integrated course)**

SEVENTH SEMESTER B. ARCH.

Subject Code	Subject	Periods per week			Scheme of Examination			Total Marks	Credit [L+{(T+P)/2}]
		L	T	P	ESE	FE / SE	TA		
1727	Elective-II: Advanced Computing	0	0	5	50	0	30	80	3

1. Basic knowledge and use of software's like ArchiCAD, Revit, Sketchup, etc.
2. Use of rendering software's like 3DStudioMax, Adobe Photoshop, Maya, etc.
3. Advanced use of AutoCAD, Auto LISP, etc.
4. Basic knowledge of other calculating software's like SPSS, etc.
5. Programming (simple) in software's like C, C++, VB, Mat lab, etc.
6. Animation preparation of Walkthrough of building projects.

Note:

Submission of the sessionals shall be in the form of small exercises and written assignments.

References:

1. Photoshop 7 Bible Professional Edition, Wiley John & Son INC, New York, DekeMcClelland, 2000.
2. Flash Web Design, The Art of Motion Graph, Curtis Hillman, New Riders Publishing, Indianapolis, IN. U.S.A, 2000
3. M.E. Morris, and R.J. Hinrichs, Web Page Design, Prentice Hall, 1996.
4. Mark Von Wodtke, Mind over Media : Creative Thinking Skills for Electronic Media, McGraw- Hill, New York, 1993