MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(An Autonomous Institute Under RGPV, Bhopal)

SEMESTER :First Semester

Branch -ARCHITECTURE, Scheme Name - 2013

S. No.	Subject Code	Subject Name	Maximum Minimum Marks Alloted														MOOC						Credit Allot		Total Credit
			Theory								Practical														
			End Sem		Mid sem		Quiz Ass.		Proficiency in Subject/Course		End Sem		Lab Work		Quiz Ass.		End Sem		Lab Work		Quiz /Assignment		Theory	Practical	
			Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min	Max	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min			
1	A111	Design-I	100	40	30	-	20	-			50	20	50	-	50	-	-	-	-	-	-	-	3	7	10
2	A112	Graphics-I	100	40	30	-	20	-			50	20	50	-	50	-	-	-	-	-	-	-	3	7	10
3	A113	Material Science	50	20	20	-	10	-			-	-	20	-	10	-	-	-	-	-	-	-	4	1	5
4	A114	Humanities	50	20	20	-	10	-			-	-	10	-	10	-	-	-	-	-	-	-	3	1	4
5	A115	Structure - I	50	20	20	-	10	-			-	-	20	-	10	-	-	-	-	-	-	-	4	1	5
6	A116	Work Shop-I	-	-	-	-	-	-			50	20	20	-	-	-	-	-	-	-	-	-	0	2	2
			350	**140**	**120**	**-**	**70**	**-**			**150**	**60**	**170**	**-**	**130**	**-**	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**19**	**36**

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(An Autonomous Institute Under RGPV, Bhopal)

SEMESTER :Second Semester

Branch -ARCHITECTURE, Scheme Name - 2013

S. No.	Subject Code	Subject Name	Maximum Minimum Marks Alloted														MOOC						Credit Allot		Total Credit
			Theory								Practical														
			End Sem		Mid sem		Quiz Ass.		Proficiency in Subject/Course		End Sem		Lab Work		Quiz Ass.		End Sem		Lab Work		Quiz /Assignment		Theory	Practical	
			Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min	Max	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min			
1	A121	Design - II	100	40	30	-	20	-			50	20	50	-	50	-	-	-	-	-	-	-	3	7	10
2	A122	Graphics - II	100	40	30	-	20	-			50	20	50	-	50	-	-	-	-	-	-	-	3	7	10
3	A123	Building Construction - I	50	20	20	-	10	-			30	12	30	-	10	-	-	-	-	-	-	-	4	2	6
4	A124	History of Architecture - 1	50	20	20	-	10	-			-	-	10	-	10	-	-	-	-	-	-	-	3	1	4
5	A125	Structure - II	50	20	20	-	10	-			-	-	10	-	10	-	-	-	-	-	-	-	3	1	4
6	A126	Work Shop - II	-	-	-	-	-	-			30	12	20	-	-	-	-	-	-	-	-	-	0	2	2
			350	**140**	**120**	**-**	**70**	**-**			**160**	**64**	**170**	**-**	**130**	**-**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**20**	**36**

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(An Autonomous Institute Under RGPV, Bhopal)

SEMESTER :Third Semester

Branch -ARCHITECTURE, Scheme Name - 2013

S. No.	Subject Code	Subject Name	Maximum Minimum Marks Alloted														MOOC						Credit Allot		Total Credit
			Theory								Practical														
			End Sem		Mid sem		Quiz Ass.		Proficiency in Subject/Course		End Sem		Lab Work		Quiz Ass.		End Sem		Lab Work		Quiz /Assignment		Theory	Practical	
			Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min	Max	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min			
1	A211	Design-III	100	40	30	-	20	-			50	20	50	-	50	-	-	-	-	-	-	-	3	7	10
2	A212	Graphics - III	-	-	-	-	-	-			50	20	50	-	50	-	-	-	-	-	-	-	0	7	7
3	A213	Building Construction-II	50	20	20	-	10	-			50	20	50	-	20	-	-	-	-	-	-	-	3	4	7
4	A214	History of Architecture - II	50	20	20	-	10	-			-	-	20	-	20	-	-	-	-	-	-	-	3	1	4
5	A215	Structure - III	50	20	20	-	10	-			-	-	20	-	20	-	-	-	-	-	-	-	4	1	5
6	A216	Theory of Architecture	50	20	20	-	10	-			-	-	20	-	10	-	-	-	-	-	-	-	2	1	3
			300	**120**	**110**	**-**	**60**	**-**			**150**	**60**	**210**	**-**	**170**	**-**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**21**	**36**

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(An Autonomous Institute Under RGPV, Bhopal)

SEMESTER :Fourth Semester

Branch -ARCHITECTURE, Scheme Name - 2013

S. No.	Subject Code	Subject Name	Maximum Minimum Marks Alloted														MOOC						Credit Allot		Total Credit
			Theory								Practical														
			End Sem		Mid sem		Quiz Ass.		Proficiency in Subject/Course		End Sem		Lab Work		Quiz Ass.		End Sem		Lab Work		Quiz /Assignment		Theory	Practical	
			Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min	Max	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min			
1	A221	Design-IV	100	40	30	-	20	-			50	20	50	-	50	-	-	-	-	-	-	-	3	7	10
2	A222	Building Construction - III	50	20	20	-	10	-			50	20	50	-	20	-	-	-	-	-	-	-	3	4	7
3	A223	Building Science - I (Climatology)	50	20	20	-	10	-			-	-	30	-	20	-	-	-	-	-	-	-	3	2	5
4	A224	History of Architecture - III	50	20	20	-	10	-			-	-	20	-	10	-	-	-	-	-	-	-	3	1	4
5	A225	Structure-IV	50	20	20	-	10	-			-	-	30	-	20	-	-	-	-	-	-	-	4	1	5
6	A226	Survey & Leveling	50	20	20	-	10	-			-	-	30	-	20	-	-	-	-	-	-	-	2	3	5
			350	**140**	**130**	**-**	**70**	**-**			**100**	**40**	**210**	**-**	**140**	**-**	**0**	**0**	**0**	**0**	**0**	**0**	**18**	**18**	**36**

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(An Autonomous Institute Under RGPV, Bhopal)

SEMESTER :Fifth Semester

Branch -ARCHITECTURE, Scheme Name - 2013

S. No.	Subject Code	Subject Name	Maximum Minimum Marks Alloted														MOOC						Credit Allot		Total Credit
			Theory								Practical														
			End Sem		Mid sem		Quiz Ass.		Proficiency in Subject/Course		End Sem		Lab Work		Quiz Ass.		End Sem		Lab Work		Quiz /Assignment		Theory	Practical	
			Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min	Max	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min			
1	A311	Design-V	100	40	30	-	20	-			50	20	50	-	50	-	-	-	-	-	-	-	3	7	10
2	A312	Building Construction-IV	50	20	20	-	10	-			50	20	50	-	20	-	-	-	-	-	-	-	3	4	7
3	A313	Building Services-I (Sanitation & Plumbing)	50	20	20	-	10	-			-	-	30	-	20	-	-	-	-	-	-	-	3	2	5
4	A314	Working Drawing & Measurement Drawings & Building Bye laws	-	-	-	-	-	-			50	20	50	-	10	-	-	-	-	-	-	-	0	5	5
5	A315	Modern Structural Systems	50	20	20	-	10	-			-	-	30	-	10	-	-	-	-	-	-	-	3	1	4
6	A316	Building Science-II (Energy Systems)	50	20	20	-	10	-			-	-	40	-	20	-	-	-	-	-	-	-	3	2	5
			300	**120**	**110**	**-**	**60**	**-**			**150**	**60**	**250**	**-**	**130**	**-**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**21**	**36**

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(An Autonomous Institute Under RGPV, Bhopal)

SEMESTER :Sixth Semester

Branch -ARCHITECTURE, Scheme Name - 2013

S. No.	Subject Code	Subject Name	Maximum Minimum Marks Alloted												MOOC						Credit Allot		Total Credit
			Theory						Practical														
			End Sem		Mid sem		Quiz Ass.		End Sem		Lab Work		Quiz Ass.		End Sem		Lab Work		Quiz /Assignment		Theory	Practical	
			Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min	Max	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min			
1	A321	Design-VI	100	40	30	-	20	-	50	20	50	-	50	-	-	-	-	-	-	-	3	7	10
2	A322	Building Construction-V	50	20	20	-	10	-	50	20	50	-	20	-	-	-	-	-	-	-	3	4	7
3	A323	Building Services-II (Electrical & Mechanical)	50	20	20	-	10	-	-	-	30	-	20	-	-	-	-	-	-	-	3	2	5
4	A324	Specifications, Estimating & Costing	50	20	20	-	10	-	-	-	30	-	10	-	-	-	-	-	-	-	3	2	5
5	A325	Site Planning & Landscape	50	20	20	-	10	-	30	12	20	-	10	-	-	-	-	-	-	-	3	3	6
6	A326	Project Management & Building Economics	50	20	20	-	10	-	-	-	20	-	10	-	-	-	-	-	-	-	2	1	3
			350	**140**	**130**	**-**	**70**	**-**	**130**	**52**	**200**	**-**	**120**	**-**	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**19**	**36**

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(An Autonomous Institute Under RGPV, Bhopal)

SEMESTER :Seventh Semester

Branch -ARCHITECTURE, Scheme Name - 2013

S. No.	Subject Code	Subject Name	Maximum Minimum Marks Alloted												MOOC						Credit Allot		Total Credit
			Theory						Practical														
			End Sem		Mid sem		Quiz Ass.		End Sem		Lab Work		Quiz Ass.		End Sem		Lab Work		Quiz /Assignment		Theory	Practical	
			Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min	Max	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min			
1	A411	Design-VII	100	40	30	-	20	-	50	20	50	-	50	-	-	-	-	-	-	-	3	7	10
2	A412	Advance Building Construction-VI	50	20	20	-	10	-	50	20	50	-	20	-	-	-	-	-	-	-	3	4	7
3	A413	Advance Building Services - II	50	20	20	-	10	-	-	-	30	-	20	-	-	-	-	-	-	-	3	2	5
4	A414	Ecology & Environment	50	20	20	-	10	-	-	-	30	-	10	-	-	-	-	-	-	-	3	2	5
5	A415	Town Planning	50	20	20	-	10	-	-	-	30	-	20	-	-	-	-	-	-	-	3	3	6
6	A416	Dissertation	-	-	-	-	-	-	50	20	50	-	20	-	-	-	-	-	-	-	0	3	3
			300	**120**	**110**	**-**	**60**	**-**	**150**	**60**	**240**	**-**	**140**	**-**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**21**	**36**

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(An Autonomous Institute Under RGPV, Bhopal)

SEMESTER :Eight Semester

Branch -ARCHITECTURE, Scheme Name - 2013

S. No.	Subject Code	Subject Name	Maximum Minimum Marks Alloted												MOOC						Credit Allot		Total Credit
			Theory						Practical														
			End Sem		Mid sem		Quiz Ass.		End Sem		Lab Work		Quiz Ass.		End Sem		Lab Work		Quiz /Assignment		Theory	Practical	
			Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min	Max	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min			
1	A421	THESIS PROJECT	-	-	-	-	-	-	300	120	200	-	120	-	-	-	-	-	-	-	0	23	23
2	A422	Urban Design	50	20	20	-	10	-	25	10	20	-	10	-	-	-	-	-	-	-	3	2	5
3	A423	PROFESSIONAL PRACTICE	50	20	20	-	10	-	-	-	20	-	10	-	-	-	-	-	-	-	2	1	3
4	A424	Elective - I	50	20	20	-	10	-	25	10	20	-	10	-	-	-	-	-	-	-	3	2	5
			150	**60**	**60**	**-**	**30**	**-**	**350**	**140**	**260**	**-**	**150**	**-**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**28**	**36**

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(An Autonomous Institute Under RGPV, Bhopal)

SEMESTER :Ninth Semester

Branch -ARCHITECTURE, Scheme Name - 2013

S. No.	Subject Code	Subject Name	Maximum Minimum Marks Alloted												MOOC						Credit Allot		Total Credit
			Theory						Practical														
			End Sem		Mid sem		Quiz Ass.		End Sem		Lab Work		Quiz Ass.		End Sem		Lab Work		Quiz /Assignment		Theory	Practical	
			Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min	Max	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min			
1	AR511	Practical Training	-	-	-	-	-	-	500	200	200	-	100	-	-	-	-	-	-	-	0	30	30
			0	**-**	**0**	**-**	**0**	**-**	**500**	**200**	**200**	**-**	**100**	**-**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**30**	**30**

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(An Autonomous Institute Under RGPV, Bhopal)

SEMESTER :Tenth Semester

Branch -ARCHITECTURE, Scheme Name - 2013

S. No.	Subject Code	Subject Name	Maximum Minimum Marks Alloted												MOOC						Credit Allot		Total Credit
			Theory						Practical														
			End Sem		Mid sem		Quiz Ass.		End Sem		Lab Work		Quiz Ass.		End Sem		Lab Work		Quiz /Assignment		Theory	Practical	
			Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min	Max	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min			
1	A521	PRACTICAL TRAINING	-	-	-	-	-	-	400	160	250	-	100	-	-	-	-	-	-	-	0	27	27
2	A522	GENERAL PROFICIENCY	-	-	-	-	-	-	250	100	-	-	-	-	-	-	-	-	-	-	0	9	9
			0	**-**	**0**	**-**	**0**	**-**	**650**	**260**	**250**	**-**	**100**	**-**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**36**	**36**

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.)

(An Autonomous Institution affiliated to Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal)

BACHELOR OF ARCHITECTURE 4+1 YEAR DEGREE COURSE

COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

FIRST YEAR - FIRST SEMESTER

SEMESTER – I

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A111	Design-I	3	7	10	100	30	20	**150**	06	50	50	50	**150**	**300**	10

AIM: The aim of the subject is to introduce to the students the design fundamentals, design vocabulary and order of form and space.

Course Content:

- Primary elements: Point, line, plane, volumetric elements.
- Form: Properties of form (two dimensional) primary solids, variations in forms.
- Surface articulation including importance of colour theories, textures and relationship.
- Form and space: Space defining elements, organisation of form and space.
- Circulation elements, proportion and scale, ordering principles.
- Application of these above to two and three dimensional compositions.
- Indoor and outdoor sketching exercises to develop the skill and understanding of shades, shadows etc. in the nature and man-made objects with the use of different models.
- Study through models of different materials viz paper, clay wax, soap, wires etc.
- The idea is to learn mass and space handling with importance of form, colour and texture.
- Minimum one time problem of 6 hours duration is to be conducted in class other than regular design problems.

Note: The sessionals shall be in the form of drawings, and models along with report. The evaluation will be through review system presented before the Jury.

LIST OF TEXT AND REFERENCE BOOKS:

A111 - DESIGN-I

1. FRANCIS D.K. CHING, "Form, Space and Order", Van Nosttrand Reinhold Co. Canada.
2. V.S. PARMAR, "Design Fundamentals in Architecture", Somayya Publications Pvt. New Delhi 1973.
3. EDWARD D. MILLS, "Planning, The Architects Handbook", Butterworth, London 1905.
4. MAITLAND, GRAVES, "The Art of Colour in Design", McGraw Hill Book Co. 1951.
5. SCOTT. "Design Fundamentals".
6. G. BROND BENT, "Design in Architecture".
7. FRANCIS D.K. CHING, " Architectural Graphics".

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BACHELOR OF ARCHITECTURE 4+1 YEAR DEGREE COURSE

COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

FIRST YEAR - FIRST SEMESTER

SEMESTER – I

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A112	Graphics- I	3	7	10	100	30	20	**150**	06	50	50	50	**150**	**300**	10

AIM: The aim of the subject is to introduce the students about the fundamentals of visualization and preparation of architectural drawings.

Course Contents:

1. Understanding tools and techniques of drawing simple geometric objects.
2. Graphics basics: Hatching, Lettering, Dimensioning and Scale.
3. Free hand drawing: Techniques and principles of free hand drawing through sketching various elements of nature and manmade objects through various mediums like pencil , pen and ink and colour etc.
4. Graphic codes and symbols for various building elements, Architectural lettering.
5. Scales: Construction of architectural scales and their application to real objects and drawings.
6. Orthographic Projections: From simple point line to simple regular solids to complex solids or hollow objects /geometric objects.
7. Complex Projections: Interpenetration of solids, development of surfaces with or without sections and intersection of solids.
8. Angular Projections: Isometric, axonometric and oblique projections.

Note: The sessional is to be done in the form of drawing sheets and sketches on above topics.

LIST OF TEXT AND REFERENCE BOOKS:

A112-GRAPHICS-I

1. N.D. BHATT, “Engineering Drawing”, Charotar Publishing house.
2. NARAYANAN, “Engineering Drawing”.
3. I.H. MORRIS, “Geometrical Drawing”. Orient Longman.

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BACHELOR OF ARCHITECTURE 4+1 YEAR DEGREE COURSE

COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

FIRST YEAR - FIRST SEMESTER

SEMESTER – I

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A113	Material Science	3	0	03	50	20	10	**80**	03	-	20	10	**30**	**110**	03

AIM: The subject has been designed to impart the knowledge about the traditional natural materials and the proprietary manufactured materials along with their characteristics, manufacturing process and appropriate use as building components and related specifications so that the students can use these materials appropriately.

Course Content:

1. Clay and clay products (bricks, tiles), stones.
2. Cement, lime, sand, aggregate mortar and concrete blocks.
3. Timber types, qualities and defects in timber seasoning etc. complete.
4. Metals- ferrous and non ferrous, glass.
5. Especial functional need and category of building materials abrasives, adhesives, asbestos, asphalt, bitumen, cork, electrical insulators, fuels, gypsum, heat insulation materials, lubricants, rubber sheets, roof coverings, solders, sound absorb materials, tar, turpentine etc.
6. Proprietary building materials:- Paints, Varnishes, distempers wall paper, floor coverings, tiles, vinyl's, polyesters, fittings, furnishing materials for interiors & exteriors polymers, plastics resins and advanced surface finishes for interior and exterior etc.
7. Processed materials- plywood, laminates, fiberboards, light weight boards, panels etc. & clay products.
8. Prefabricated and pre-stressed building component: roof slabs, wall units, beams, columns, lintels, shelve etc. of different types, their specification & technique of construction and use in architecture.

9. Low-cost construction techniques and materials, combinations in mud, terra - cotta, bamboo construction etc. Termite protection, sewage protection, fire protection materials etc. of special need.
10. Industrial, agricultural and mineral wastes and their utilization as building materials: Fly ash, blast furnace slag, calcium carbonate, lime kiln rejects, by-product, gypsum, red mud, throw-away packages, rice husk, saw dust, wooden chips, choir waste, wood wool, tailings etc.
    Their application in components of different types of buildings.
11. Analytical, evaluative comparative and selective techniques for finalising specific building materials for different types of buildings and its influence on prevailing architectural styles.

Note: Sessional should be in the form of small reports, market surveys, seminars and notes on above mentioned topics. The works of CBRI, NBO, HUDCO and other related institutions be referred and discussed.

LIST OF TEXT AND REFERENCE BOOKS:

A113- Material Science

1. "Advances in Building Materials and Construction", CBRI.
2. "Specification Year Book".
3. S.C. RANGWALA, " Engineering Materials", Charotar Publishing House.
4. S.P. ARORA & BINDRA, "Building Construction" Dhanpat Rai & Sons.

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BACHELOR OF ARCHITECTURE 4+1 YEAR DEGREE COURSE

COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

FIRST YEAR - FIRST SEMESTER

SEMESTER – I

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A114	Humanities	3	1	04	50	20	10	**80**	03	-	10	10	**20**	**100**	04

AIM: The aim of the subject is to introduce the students about the various type of infrastructure terminology, writing and expression techniques.

Course Contents:

HUMANITIES

1. Grammar- Tenses, Types of sentences, clause analysis, reported speech, models, punctuation with emphasis on spoken expression with proper language command.
2. Precise, essay and paragraph writing.
3. Technical report and letter writing.
4. Aesthetic and critical writing.
5. Communication skills in architecture through write up and graphics, graphs, sketches audio presentation supplemented by drawings, transparencies, photographs, epidiascope, slides, video presentation, script writing dubbing, queue sheet, ending vision mixing.

SOCIOLOGY

1. Introduction: Man, his social and physical environment, social groups and social structure and problems, cultural heritage, rituals and community gatherings etc.
2. Urbanisation: Trends and characteristics, dynamics of urban growth and social changes, urban attitudes, values and behavior, review of commission's report etc.

Note: Sessional work shall include assignments/tests on the above related topics.

LIST OF TEXT AND REFERENCE BOOKS:

A114 - HUMANITIES

1. WREN & MARTIN, “English Grammar”.
2. KRISHNA MOHAN, “Developing Communication Skills” Macmillan India Ltd.

SOCIOLOGY

1. MACIVER & PAGE, “Society”.
2. K.DAVIS, “Human Society”.
3. A. R. DESIA, “Introduction to rural sociology in India”.
4. E.E. BERGAL, “Urban Sociology”.

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.)

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BACHELOR OF ARCHITECTURE 4+1 YEAR DEGREE COURSE

COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

FIRST YEAR - FIRST SEMESTER

SEMESTER – I

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A115	Structure-I	4	1	05	50	20	10	**80**	03	-	20	10	**30**	**110**	05

AIM: The aim of the subject is to introduce the students about the fundamentals of stability of any built structure and various factors of structure designing.

Course Content:

1.Statics of a particle, composition and resolution of forces, moment of a force, parallel forces, couples, general conditions of equilibrium.

2. Center of gravity and moment of inertia of composition and cut out sections, parallel and perpendicular axes theorem, stability of equilibrium.

3. Simple stresses and strains, direct stresses, compound stresses.

4. Shear force and bending moments for strained beams subjected to concentrated load and distributed loadings (Simply supported and cantilever only) support reactions.

5. Stress in beams: Direct, bending and shearing stress in beams.

Note: Sessional work should include design and analysis of simple elements as stated above with drawings.

LIST OF TEXT AND REFERENCE BOOKS:

A115 -STRUCTURE-I

1. S.B. JUNNARKAR, “Applied Mechanics”, Charotar Publications Ananad.
2. RAMAMURTHAM, “Applied Mechanics”, Dhanpat Rai & Sons.
3. S.B. JUNNARKAR/H.J. SHAH, “Mechanics of Structure Vol.1”, Charotar Pub.
4. DR. B.C. PUNAMIA, “Strength of Materials”, Laxmi Pub.

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COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

FIRST YEAR - FIRST SEMESTER

SEMESTER – I

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A116	Visual Art &Work Shop-I	0	3	03	-	-	-	-	-	50	20	10	**80**	**80**	03

AIM: The aim of the subject is to introduce to the students to the various tools used in carpentry, metal work, masonry painting etc. and get a reasonable skill in handling the materials and tools thereof.

Course Content:

Visual Art – General characteristics of visual art/Fundamentals of visual art: Space, Form, size, Shape, Line, Color, Tone values, Perspective, Design and aesthetic organization of Visual elements in art object (Composition). The use of two and three dimensions in art in visual art. Tactile quality in art. Environment and art. Perceptual and conceptual aspects in art.

Carpentry - Introduction to the carpentry tools, processes, joints and wood working machines. Preparation of various carpentry joints, fixing of plywood, Blackboards, commercial boards and their application in furniture.

- **Foundry** –Introduction, type of patterns, pattern making, preparation of moulds and moulding equipment details
- **Fabrication** –Introduction to welding equipments, processes and its applications.
- **Painting and polishing**- Classification of paints, varnishes ingredients of paints, painting methods-brush, spray, hot spray etc.

Note: The sessionals will be in the form of different job works and sheet works in each trade and models prepared by using the above methods. Prepration of art work in various model and methods.

LIST OF TEXT AND REFERENCE BOOKS:

A116 - WORKSHOP- A.K. HAJARA & CHOUDHARY. “Workshop Technology”, Media Promoters & Pub.Ltd.

FIRST YEAR - SECOND SEMESTER

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COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Quiz Assignment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A121	Design-II	3	7	10	100	30	20	**150**	06	50	50	50	**150**	**300**	10

AIM: The aim of the subject is to introduce to the students the design fundamentals, design vocabulary and impact of order of form, space and color scheme on the human psychology.

Course Content:

1. Introduction of Architectural design with an approach of functional understanding and analysis of problems with studies of space requirements for different furniture (objects), activities and circulation. Relationship between occupied and unoccupied spaces.
2. Anthropometric study and analysis. Study of single units Viz / living area, sleeping area, cooking area, study area, toilet etc.
3. Design of small shelters and study of multi units involving max. 3 to 4 functional spaces natural and man made objects of functional and aesthetic value. Aspects of area determination in conjunction with relevant building Bye Laws and area relationship.
4. Colour theories and colour schemes and its effect on the users.
5. Case studies for measured drawing of small buildings and furniture. Introduction to draw presentation drawings. Small views (isometric and perspective) of the studied buildings.
6. Study and design of small structures like ceremonial gates, temporary exhibition stalls, drinking water fountains, milk booths etc.
7. Minimum one time problem of 6 hrs duration is to be attempted in class other than regular design problems.

Note: The sessional will be in the form of drawings and models along with technical report for the design dealt with. The evaluation should be done in intermediate reviews consisting of internal / external experts. There should be regular site visits to the building type dealt in the studio problem for which audio visuals should be prepared.

LIST OF TEXT AND REFERENCE BOOKS:

A121 - DESIGN-II

1. "Planning by E. & O.E". Lliffe book Ltd., London.
2. D.E. CHIRAIRA & CALLENDAR, "Times Saver Standard for Building Types".
3. RUDOLF HERGE, "Nuferts Architects Data", Cross By Lockwood & Sons Ltd.
4. EDWARD D. MILLS, "Planning the Architects Hand Book".
5. National Building Code.

SEMESTER – II

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Quiz Assignment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A122	Graphics- II	3	7	10	50	20	10	**80**	06	50	50	20	**120**	**200**	10

AIM: The aim of the subject is to introduce the students about the fundamentals of three dimensional visualization, realistic expression of ideas and presentation of architectural drawings. And introduce the students the computers as an analytical tool. They shall be introduced about the fundamentals understanding of various architectural software's and their use in designing, drafting of architectural drawings in two dimension forms and three dimensional forms for proper visualization and understanding and also for working and presentation drawings of architectural designs along with project documentation and management etc.

Course content:

PROJECTION & PERSPECTIVE:

1. Projection of Complex geometrical objects to understand Building Elements.
2. Introduction to basic terms, principles, types and techniques of perspective drawing: realistic expression of ideas.
3. Two point perspective of simple objects (drafted & free hand)
4. Presentation of interior and exterior views in one point perspective (drafted and free hand)

SCIOGRAPHY:

1. Introduction to basic principles of sciography and it's application to the field of architecture.
2. Sciography of two dimensional objects in plan and elevation.
3. Sciography of three dimensional objects in plan, elevation and views, (Isometric, Axonometric and Perspective)
4. Sciography of simple building elements.

Computer Aided Graphics

- Introduction to basic understanding of application software, such as Auto cad, Revit, Archicad, Rhino and other project management softwares.
- Advance Computer Aided Architecture Drafting (in various projections).
- Architecture or allied project presentation technique.
- Graphical analysis of development project through computer.
- 3-D modeling, animation and advance rendering techniques with the help of computers.

Note: The sessional will be in the form of drawings, sketches and computer aided graphics.

LIST OF TEXT AND REFERENCE BOOKS:

A122 - GRAPHICS-II

1. S. MULLIK, " Perspective & Sciography", Allied Publishers Ltd.
2. ROBER W. GILL, "Basic Perspective, "Thames & Hudson, London 1974.
3. Interior Perspective in Architectural Design Graphics.
4. BERNARD ALKINS, "Architectural Rendering", Walter, Foster, Art books.
5. ROBERT W. GILL, "Advance Perspective", Thames & Hudson, London.
6. SUBRAMANIUM, "Introduction to Computer Vol. 1 & 2, Tata McGraw Hill.
7. MANOHAR CHANDWANI & ABHAY JAIN & N.S. CHANDWANI, "Elements of Computer Science", Jain Brothers, Karol Bag, New Delhi.
8. CHARLES SIEGAL, " Teach Yourself " 'c' "BPB" New Delhi.
9. CHARLES SIEGAL, "Mastering Foxpro", "BPB" New Delhi.
10. V. RAJARAM, " Computer Programming-FORTRAN 77", Pretice Hall.
11. SCHAUMS SERIES, " Computer Programming".
12. Auto CAD reference Manual.

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COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

FIRST YEAR - SECOND SEMESTER

SEMESTER – II

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Quiz Assignment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A123	Building Construction-I	4	2	06	50	20	10	**80**	03	50	50	20	**120**	**200**	06

Aim: The aim of the subject is to introduce the students about execution of building components with their constructional details presentation of working drawing. Introduction to the subject and its impertinence to the field of architecture and description of various components of a small building envelop from foundation to roof.

Course Content:

Foundation:

- Definition, functions and design factor
- Detail of simple stepped brick and stone foundation.

Excavation:

- Timbering to trenches,
- Tool, plants and equipments for excavation

Masonry:

- Types of bricks and stone and their uses
- Definitions and types of masonry
- Various types of Bonds and detailed study of English, Flemish, double Flemish and rat trap bond and use of these bonds in brick and stone walls of various thicknesses
- Details of right angle, tee and angular Junction,
- Piers and quoins

Rubble Work:

- Random rubble, courses rubble & ashlars masonry, Composite Masonry

Opening:

- Different types of arches, lintels and sills in Bricks and stones

Miscellaneous:

- Plastering pointing, corbels,
- Damp Proof Courses & copings
- Introduction to different type of stairs case with their design factors
- Construction details of stone stairs

Note: There should be **regular site visits to buildings under construction or constructed to explain the above topics.** Use of audio-visuals should be stressed. The Sessional shall be in the form of handmade drawings and the continuous evaluation will be through review system presented before the Faculty and Studio In charge.

LIST OF TEXT AND REFERENCE BOOKS:

A123 - BUILDING CONSTRUCTION-I

1. W.B. MCKAY: "Building Construction Vol.1, Orient Longman.
2. R. CHUDLEY : Building Construction Handbook Vol. 1 to 4 "British Library Cataloguing in Publication Data 1990.
3. DR. B.C. PUNAMIA: "Building Construction", A. Sauraby & Co. Pvt. Ltd.
4. R. BERRY: "Construction of Buildings". The English Language Book Society London 1976.
5. MITCHEL: " Advance Building Construction", Allied Publishers Pvt. Ltd.

SEMESTER – II

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Quiz Assignment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A124	History of Arch.-I	3	0	03	50	20	10	**80**	03	-	20	10	**30**	**110**	03

AIM: The course aims at understanding the influence of Geographical & climatic, cultural and political situation on Architecture in expressing philosophical and aesthetic concepts in built form. This course is studied in order to see how builders in the past solved their structural & functional problems.
This study of history gives the student a chance to study the structural basis of great styles, methods of admitting daylight, for planning and so on, as related to structure.
Importance is also attached to the sociological background i.e. political, economic, religious, technical and philosophic ideas and ideals which lie behind all buildings.

COURSE CONTENT:

This will be studied with the help of selected samples of buildings under the various historical civilizations of Indian and Asia in general, in chronological order.

1. Pre historic civilization,
2. Vedic, Indus Valley civilization
3. Buddhist period
4. Jain period
5. Chinese
6. Japanese
7. Pre Colombian
8. Mayan Civilization

Note: Sessionals will be submitted in the form of sketches notes, audio-visuals and reports of site visit to some historical buildings etc. as per programme scheduled by the school per session, Visual & video aided in teaching techniques.

LIST OF TEXT AND REFERENCE BOOKS:

A124 - HISTORY OF ARCHITECTURE-I

1. PERCY BROWN, “Indian Architecture (Buddhist & Hindu), Taraporewala & Sons, Bombay.
2. CHRISTOPHER TADGILL, “History of Architecture in India”, Phaidon Press.
3. Batleys Portfolio.
4. SATISH GROVER, “The Architecture of Indian (Buddhist & Hindu)”, Vikas Publishing Housing Pvt. Ltd. New Delhi.
5. A VOL WANSEN, “Living Architecture (Indian)”, Oxford & IBH London.
6. “Elements of Indian Architecture”.

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COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

FIRST YEAR - SECOND SEMESTER

SEMESTER – II

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Quiz Assignment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A125	Structure-II	3	0	03	50	20	10	**80**	03	-	20	10	**30**	**110**	03

AIM: The aim of the subject is to introduce the students about the fundamentals of stability of any built structure and various factors of structure designing. The objective of the course is to develop is the students a feel for structural principles and they relates to building design.

Course Content:

1.Fixed and continuous beams: Relation between free B.M. diagram fixed B.M. diagram, slope deflection, fixed beam subjected to couple, continuous beam, Clapeyron's theorem of three moments.

2. Moment distribution methods: fixed and continuous beams only.

3. Study of types of structures: load bearing framed, rigid jointed, pin jointed, determinate, indeterminate.

4. Loads of stresses: Dead load, live load, wind load, earth quake forces, soil and hydrostatic pressure, load combinations, factor of safety, permissible stresses, standard specification and codes of practice.

5. Analysis and stability of retaining walls: rectangular and trapezoidal only.

Note: Sessional work shall include assignments/tests on the above topics along with the drawings.

LIST OF TEXT AND REFERENCE BOOKS:

A125 - STRUCTURE-II

- C.S. REDDY, "Basic Structural Analysis", Tata McGraw Hill.
- S.B. JUNNARKAR, "Applied Mechanics", Charotar Publications Ananad.
- RAMAMURTHAM, "Applied Mechanics", Dhanpat Rai & Sons.
- S.B. JUNNARKAR/H.J. SHAH, "Mechanics of Structure Vol.1", Charotar Pub.
- DR. B.C. PUNAMIA, "Strength of Materials", Laxmi Pub.

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Quiz Assignment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A126	Visual Art &Work Shop-II	-	3	03	-	-	-	-	-	50	20	10	**80**	**80**	03

AIM: The aim of the subject is to explore the artistic qualities and capabilities of each student with the help of practical. Enhancement of creativity and visualization power by model making and other artistic works.

Course Content:

Visual art:

- Interrelationship of various arts: Rhythm, Structure, use of Space. Visual properties, Materials, Techniques (Traditional & Modern). Ideas, Themes (Narrative & Non Narrative) Conceptual, Abstract elements between Performing, Cinematic, Literary and Plastic art.
- Traditional & Modern mediums and materials in making Visual Arts: Painting , Sculpture, Print- making, Mural, Graphic Design and Multimedia art.

Workshop:

- Use of clay, Plaster of Paris, metal scrap, metal sheets, jute fiber etc. for study of forms through models.
- Development of surfaces of simple and composite forms using paper, thermocole, wire, Wax, acrylic, sheets and similar materials.
- Introduction to metallic sections, joinery tools, joinery processes and working with them.
- Models in appropriate materials for understanding of joinery in wooden construction.
- Bonds in masonry based on the programme of building construction to make the various forms of masonry structures.
- Introduction to photography, use of camera, basic dark room technique in architectural techniques.

Note: Sessionals shall include exercises in block and detail model making of students own design or copy design, made of paper, thermocole, wires, plaster of Paris, cardboards, Acrylic sheets and other soft materials.

LIST OF TEXT AND REFERENCE BOOKS:

A126 - WORKSHOP-II : A.K. HAJARA & CHOUDHARY. “Workshop Technology”, Media Promoters & Pub.Ltd.

SECOND YEAR - THIRD SEMESTER

SEMESTER – III

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A211	Design-III	3	7	10	100	30	20	**150**	12	50	50	50	**150**	**300**	*10*

AIM: The aim of the course is to emphasis and evolves the methodology for architectural design with reference to the previous knowledge of function and aesthetics. The design should highlight the clear approach to the design with idea (concept), analysis, synthesis and clarity of details and architectural expression with use of appropriate graphic presentation techniques.

Course Content:

1. The design should be done with sensitivity towards surroundings i.e. Traditional and vernacular architecture, construction techniques and environment.
2. The range of design problems shall include projects of progressively increasing complexity.
3. The problems should include the small design exercises of nursery school, restaurants, small nursing homes, small offices, exhibition pavilions, canteens, kiosks etc.

One time problem is to be attempted of 12 hrs. Duration in class other than regular design problems.

Note: The sessionals will be in the form of drawings and models along with technical report for the design dealt with. The evaluation should be done in intermediate review consisting of internal / external experts. There should be regular site visits to the building types dealt in the studio problems of which audio-visual should be prepared.

LIST OF TEXT AND REFERENCE BOOKS:

A211 - DESIGN-III

1. "Planning by E. & O.E". Lliffe book Ltd., London.
2. D.E. CHIRAIRA & CALLENDAR, "Times Saver Standard for Building Types".
3. RUDOLF HERGE, "Nuferts Architects Data", Cross By Lockwood & Sons Ltd.
4. EDWARD D. MILLS, "Planning the Architects Hand Book".
5. National Building Code.

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SECOND YEAR - THIRD SEMESTER

SEMESTER – III

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A212	Building Construction-II	3	4	07	50	20	10	**80**	03	50	50	20	**120**	**200**	*07*

Aim: The aim of the subject is to introduce the students about Execution of building component of bricks, stone and timber with their constructional details and presentation of working drawing.

Course Content:

Pile Foundation:

1. Different types of foundation as per structural needs, soil condition and materials needs.
2. Definition, function and design factors of pile foundation.
3. Tools equipment and plants for piling
4. Pre-cast piles- timber, concrete and steel (box, tubes, h, & screw).
5. Friction pile and bearing pile, bore pile,
6. Cast in situ pile – steel and concrete.
7. Pile cap.

Masonry:

- cavity walls, retaining walls, insulation walls, and diaphragm walls in Brick and stone
- Expansion Joints.

Timber Doors:

- Study of various types of wooden joints.
- Different types of doors as per their utility, function

- Details of single and double leaf ledged and battened door, legged braced and battened door, framed, ledged braced and battened door
- Paneled door, flush door, composite door etc.

Timber Windows & Ventilators:

- Different types of windows as per their utility and functions.
- Casement windows side hung, top hung, fixed light of different size and shape.
- Windows with provision of AC, cooler, fly mesh, Iron Grills etc.
- Sliding, pivoted (horizontal and vertical), folding and bay windows.
- Combined door and windows and ventilation.
- Fixing details of ironmongery and hardware.
- Wooden and steel side hung, top hung, bottom hung & louvered ventilators.

Miscellaneous:

- Details of timber stairs.

Note: There should be regular site visits to buildings under construction or constructed to explain the above topics. Use of audio-visuals should be stressed. The Sessional shall be in the form of handmade drawings, and the evaluation will be through review system presented before the Faculty and Studio In charge.

LIST OF TEXT AND REFERENCE BOOKS:

A212 - BUILDING CONSTRUCTION - II

1. W.B. MCKAY, “Building Construction Vol.1 to IV Orient Longman.
2. R. CHUDLEY, :Building Construction Handbook Vol. 1 to 4 “British Library Catalouging in Publication Data 1990.
3. DR. B.C. PUNAMIA, “Building Construction”, A. Sauraby & Co. Pvt. Ltd.
4. R. BERRY, “Construction of Buildings”. The English Language Book Society London 1976.
5. MITCHEL, “ Advance Building Construction”, Allied Publishers Pvt. Ltd.

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SEMESTER – III

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A213	Building Physics (Climatology & Energy System)	4	3	07	50	30	20	**100**	03	-	30	20	**50**	**150**	*07*

AIM: The objective of the course is to provide a wide exposure to environmental support systems as they apply to human habitat. The subject covered shall be under the basic aspects of climate and environmental control. This course is meant to introduce the students about the various aspects of studied in areas of energy consumption in built form, with special emphasis on alternative and appropriate methods of energy use and its conservation through innovative operational management and to understand the implication of energy in building design:

Course Content:

Climatology

1. Introduction to the elements of climate and its types with reference to tropical climate and site climate.
2. Vernacular techniques of shelter design as per climatic regions (Rural and Urban).
3. Principles of thermal design and control, ventilation and air movement illumination and day lighting, response to climate by man and building.
4. Elements of architecture design with climate by using different prediction tools and design aids.
5. Introduction to Climatic friendly Architecture, critical appraisal of any design (Previously done design by student) .
6. Sun Path and Mahoneys design principles and application.
7. Study of building materials and construction techniques of sustainable building design for tropical climate.

Energy System

1. Types, sources, availability and reserves of conventional and non-conventional energy, Role and importance of Green Architecture
2. Assessment of energy consumption in a building and methods of energy conservation:-
   (a) Through minimizing wastages. (b) Through appropriate use of climatology. (c) Through appropriate design and planning of buildings.
3. Introduce to Bio-Climatic architecture, Study of solar radiation on earth's surface, Measurement , angles, estimation and analysis, Orientation of building, with reference to solar radiation. Special design and planning detailing. Active solar architecture. Passive solar architecture.
4. Introduction to wind oriented architecture, study and analysis of micro level wind. Design and planning of building considering winds.
5. Study of energy efficient building material and construction techniques. Case study of national and international examples. Studio problem.
6. Study of works of various Architects in this area through history. Implication of above in design of energy conscious buildings.

Note: There should be regular site visits to various scientific labs, buildings sites. There should be use of audio visuals explaining. The sessional work should include reports, drawings, experiments etc. In assignment / seminar form.

LIST OF TEXT AND REFERENCE BOOKS:

- O.H. KOENIGSBERGER, "Manual of Tropical Housing & Building-I", Orient Longman.
- MARTIN EVANS, "Housing Climate & Comfort", Architectural Press, London.
- B. GIVONI, "Man, Climate & Architecture", Applied Science Banking Essex.
- A. KONYA, "Design Primer for Hot Climates", Architectural Press London.
- "Climatic Data", CBRI.
- R. VICTOR WOLGAY, "Design with Climate".
- Sun, Wind & Light (Architectural design strategies), G.Z. Brown and Mark Dekay
- Wagner, Walter, "Energy Efficient Buildings"
- THEO.C. STEEMERS, "Solar Architecture in Europe", Prism press.
- A.S. MIFFAT, "Landscape Design that saves energy", William Morrow & Co., INC, NY.
- CLAUDE L. ROBBINGS, "Day lighting Design & Analysis", Van Nostrand Reinhold.
- B. GIVONI, "Passive cooling for buildings".

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.)

(An Autonomous Institution affiliated to Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal)

BACHELOR OF ARCHITECTURE 4+1 YEAR DEGREE COURSE

COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

SECOND YEAR - THIRD SEMESTER

SEMESTER – III

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A214	History of Arch.-II	3	0	03	50	20	10	**80**	03	-	20	20	**40**	**120**	*03*

AIM: This course aim to develop understanding of the influence of geographical, geological & climatic, religious, cultural and political situation on the architecture in expressing philosophical and aesthetic concepts in built form.

This course is also studied in order to see how builders in the past solved their structural, functional and aesthetic problems. This survey of history gives the student a chance to study the structural basis of great styles, methods of admitting daylight, for decoration, for planning and so on, as related to structure.

Course content:

Importance is also attached to the sociological background i.e. political, economic, religious, technical and philosophical ideas and ideals which lie behind all buildings. This will be studied with the help of selected samples of buildings under the various historical civilizations, in chronological order.

1. West Asiatic
2. Egyptian
3. Greek
4. Roman
5. Early Christian
6. Byzantine
7. Medieval Romanesque
8. Gothic

9. Renaissance
10. Impact of Industrial revolution (up to 1942)

Note: Sessionals will be submitted in the form of sketches (minimum say 20) notes, audiovisuals and reports of site visit to some historical buildings etc. as per program scheduled by the school per session. Visual & video aided in teaching techniques.

LIST OF TEXT AND REFERENCE BOOKS:

A214 - HISTORY OF ARCHITECTURE-II

1. SIR BANISTER FLETCHER, “History of Architecture”, University of London.
2. S. LLOYD & H.W. MULLER, “History of World Architecture”, Fibre & Fibre Ltd. London.
3. JAMES FERGUSON - “History of India & Eastern Architecture”.
4. BASHAM - “WONDER THAT WAS INDIA” - A.L. BASHAM.

SECOND YEAR - THIRD SEMESTER

SEMESTER – III

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A215	Structure-III	4	1	05	50	20	10	**80**	03	-	20	20	**40**	**120**	*05*

AIM: The aim of the subject is to introduce the students about the fundamentals of stability of built structures in steel sections and various factors of steel structure designing.

Course Content:

1. Steel work connections: Bolted, pinned and Welded connections.
2. Design of Tension members: Types of tension members, permissible stresses, Design of members subjected to axial tensions and bending. Tension splices, lug angles.
3. Design of compression members: Types of compression members, failures, end conditions, effective length, design by I.S. Code800-2007 method. Strength of compression members, splices, encased columns.
4. Design of flexural members: Beams simple and built up, plate girder, criteria of design, design of laterally supported and laterally unsupported Beams, web crippling and web buckling.
5. Design of roof trusses: To determine the forces in members due to various loads, types of roof trusses, components of roof trusses, purling, lateral bracing of end trusses, roof covering.

Note: i) Sessional work should include design and analysis of simple elements as stated above with drawings.
ii) Steel table & I.S. code 800-2007 is permitted in examination.

LIST OF TEXT AND REFERENCE BOOKS:

A215 - STRUCTURE-III

1. L.S. NEGI, “Design of Steel Structures”, Tata McGraw Hill.
2. ARYA & AJAMANI, “Design of Steel Structures”, Nemi Chand & Bros. Roorkee.
3. M. RAGHUPATHI, “Design of Steel Structures”, Tata McGraw Hill.
4. P. DAYARATNAN, “Design of Steel Structures”, Wheeler & Company Ltd.
5. I.S 800-1984, BIS.

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BACHELOR OF ARCHITECTURE 4+1 YEAR DEGREE COURSE

COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

SECOND YEAR - THIRD SEMESTER

SEMESTER – III

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A216	Theory of Architecture	2	1	03	50	20	10	**80**	03	-	20	10	**30**	**110**	*03*

AIM: The courses in Theory of Architecture aim to evolve a conceptual frame work for intelligent appreciation of architecture and to develop a vocabulary for discussing design ideas. This course aims to inculcate among the students the understanding of various aspects of traditions, culture and socio economic developments which influence the thinking process and designing of physical forms.

Course Contents:

1. Studies of folk art and crafts, indigenous architectural studies, influence of tradition, culture and socio-economic developments on art and architecture. Introduction to inquiries initiated by various Western and Indian philosophers.
2. Understanding of determinants of physical form such as concepts of space, structure, organization, symbolism, mass, surface scale, order, proportion, rhythm, datum, axis, etc. in relation to place, time and society with due consideration for perceptual qualities as affected by colors, light conditions, vision angle etc.
3. Communication and interpretations in architecture. The eloquence, aptness and style in architecture, their judgment and design.
4. Development in world architecture, environmental design and technology with reference to trend setting works of architects, designers, ecologists, engineers etc.

5. Design parameters, principles, process, methods and program formulation. Design, matrices and system integration. Process of design synthesis.

Note: The structure of the courses consists of set of lectures and prescribed reading followed by group discussions and seminars.The sessional should be in the form of drawings technical report writing and presented in the seminar along with the audio visuals which will be based on buildings identified during regular site visits.

LIST OF TEXT AND REFERENCE BOOKS:

A216 - Theory of Architecture

1. JOHN RUSKIN, “Seven Lamps of Architecture”.
2. MAITLAND GRAVES, “The Art of color and Design”, McGraw Hill book Co. INC.
3. BAHGA, “Modern Architecture in India”, Galgotia Pub.
4. FRANCIS D.K. CHING, “Form, space and order”, Van Nottrand Reinhold Co. Canada.
5. CHRISTOPHER ALEXANDER, “Pattern Language”, Oxford University Press.
6. Leland M. Roth, “Understanding Architecture”, Craftsman House.
7. CHRISTOPHER ALEXANDER, “Pattern Language”, Oxford University Press.
8. FRANCIS D.K. CHING, “Form, space & order”, Van Nottrand Reinhold Co. Canada.
9. “Architecture in porcess”.
10. “Introduction to Architecture”.

SECOND YEAR - FOURTH SEMESTER

SEMESTER – IV

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A221	Design-IV	3	7	10	100	30	20	**150**	12	50	50	50	**150**	**300**	*10*

AIM: Study of natural environmental factors, their impact and consideration by human settlements of a town on a part of a city. Especially on housing forms, open spaces, their activities and construction methods including energy efficient structures. The study of Architectural Design is seen as a cumulative process where the experience of the previous year is used as a base for increasing the depth and breadth of knowledge and development skills in the following year.

Course Content:

Emphasis on the following attitudes is important :- Detailed study of one or more of the following aspects - climatic considerations and relationship with life style. Emphasis on Consideration of constructional details, basic details of services like kitchen, toilets etc. and site planning of the scheme. Design problems with natural and man made parameters dealing with independent bungalows, farm houses, combined units, duplex type their cluster or grouping etc. along with relevant Building codes. The range of design problems shall include projects of progressively increasing complexity. The various aspects of the design problem shall be dealt with lectures, group discussions and library research so as to provide the necessary philosophical and attitudinal background to a rational design approach.

There should be minimum one time problem of 12 hrs. duration apart from regular design problems in the studio.

Note: The sessionals will be in the form of drawings and models along with technical report for the design dealt with. The evaluation should be done in intermediate review consisting of internal / external experts. There should be regular site visits to the building types dealt in the studio problems of which audio-visual should be prepared.

LIST OF TEXT AND REFERENCE BOOKS:

A221- DESIGN-IV

1. "Planning by E. & O.E". Lliffe book Ltd., London.
2. D.E. CHIRAIRA & CALLENDAR, "Times Saver Standard for Building Types".
3. RUDOLF HERGE, "Nuferts Architects Data", Cross By Lockwood & Sons Ltd.
4. EDWARD D. MILLS, "Planning the Architects Hand Book".
5. National Building Code.

SECOND YEAR - FOURTH SEMESTER

SEMESTER – IV

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A222	Building Construction-III	3	4	07	50	20	10	**80**	03	50	50	20	**120**	**200**	*07*

Aim: The aim of the subject is to introduce the students about Execution of building component of steel and timber with their constructional details and presentation of working drawing.

Course content:

Steel Foundation:

- Details of steel grillage foundation, steel column & beams.

Timber and Steel Roof & Floors:

- Lean to; double lean to, collar, couple & closed couple roofs. King & queen post truss, Fixing of tiles, AC & GI gutters & ridges,
- Steel North light truss, Portal frames, space frames.
- Details of steel floors, fire resistant floors
- Jack Arch roofing, Stone roofing system
- Single, double & framed wooden floors, composite floor and fire resistant floors

Steel doors & windows:

- Angle section & pressed steel hollow section door frames with timber, steel, iron door leaf.
- Angle section, 'z' section & pressed steel hollow section windows of different size, shape & combinations.
- Steel side hung, top hung, bottom hung & louvered ventilators.
- Fixing details of glass, ironmongery & hardware

Miscellaneous:

- Different types of steel stairs, railings, main gates and Grills etc.

Note: There should be regular site visits to buildings under construction or constructed to explain the above topics. Use of audio-visuals should be stressed. The Sessional shall be in the form of handmade drawings, and the evaluation will be through review system presented before the Faculty and Studio In charge.

LIST OF TEXT AND REFERENCE BOOKS:

A222- BUILDING CONSTRUCTION-III

1. W.B. MCKAY, "Building Construction Vol.1 to IV, Orient Longman.
2. R. CHUDLEY, :Building Construction Handbook Vol. 1 to 4 "British Library Cataloguing in Publication Data 1990.
3. DR. B.C. PUNAMIA, "Building Construction", A. Sauraby & Co. Pvt. Ltd.
4. R. BERRY, "Construction of Buildings". The English Language Book Society London 1976.
5. MITCHEL, " Advance Building Construction", Allied Publishers Pvt. Ltd.

SECOND YEAR - FOURTH SEMESTER

SEMESTER – IV

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
3	A223	Ecology & Environment	2	2	04	50	20	10	**80**	03	-	30	20	**50**	**130**	*04*

AIM: After successful completion of this course, student should be able to reflect a general awareness for the preservation and protection of the environment, in the planning and construction of their building / development projects.

COURSE CONTENTS:

Introduction, Structure and Function: Introduction to ecology, its meaning and growing importance in daily life. Basic terms used in ecology and their meanings. Fundamental concepts of ecology. Ecology – Environment relationship. Concept of spaceship as earth. Structure and function of eco- system. Major biomes of the world. Bio-geo-chemical cycles: Energy flows in eco-system. Species diversity, dominance, natural selection, habitat, niche, evolution etc. Eco-system equilibrium.

Importance of micro organisms. Succession and community development limiting factors and other concepts. Ecological cybernetics

Relationship with Nature: Man's relationship with nature in the past: Food-collecting, hunting, fishing, farming and other developmental stages in human civilization. Man's relationship with nature in the present: Industrial activities, urbanization, de-forestation, mining and similar incursions on nature for technological progress. Environmental impacts of these activities. The ecological crisis. Relevant case studies from abroad and India

Importance of Ecology: Relevance and growing importance of ecology in a highly urbanized and technological world with reference to dwindling resources, increasing demands and advancing technology. Adaptation of life-styles, and adoption of alternate technologies to harmonize with the natural environment. Discussion on alternatives available. Guiding environmental principles

Ecological applications to Architecture and Planning: Ecological applications to Architecture and Planning. Preserving and improving the human settlement in harmony with nature. Conservation of natural resource for improving the quality of life on earth and attempting to ensure its continuity for the

future of humanity. Eco cities, eco-communities and eco buildings: Archeology. Designing settlements and other man-made eco-systems. Ecological and environmental cities for sustainable future.

LIST OF TEXT AND REFERENCE BOOKS:

A 223-Ecology & Environment

1. Fundamentals of Ecology by E.P. Odum
2. The Ecology of Man: An Ecosystem Approach by Robert Leo Smith
3. Introduction to Ecology by Kurmundi
4. Review Our Dying Planet by Sarala Devi
5. Ecological Crisis: Reading for Survival by G. A. Love & R.M. Love
6. Environmental Science : The Way the World Works by B.J. Mebol
7. Modern Concepts of Ecology by H.D. Kumar

SECOND YEAR - FOURTH SEMESTER

SEMESTER – IV

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A224	History of Arch.-III	3	1	04	50	20	10	**80**	03	-	20	10	**30**	**110**	*04*

AIM: This course is studied in order to see how builders in the past solved their structural, functional and aesthetic problems. This survey of history gives the student a chance to study the structural basis of great styles, methods of admitting daylight, for decoration, for planning and so on, as related to structure. Importance is also attached to the sociological background i.e. political, economic, religious, technical and philosophic ideas and ideals which lie behind all buildings. This will be studied with the help of selected samples of buildings under the various historical civilizations of Indian and the oriental in general, in chronological order. This subject intends to develop an understanding in Contemporary Architecture in India and abroad.

Course Content:

- The impact of the Industrial Revolution on Architecture. Transformation from Iron to Steel and the demand for a new Architecture.
- The great Exhibition and their contribution to architecture custom entitle and his tower.
- Le Art Nouveau Movements, Horte, Barlage, Wagner. Solar architecture. Passive solar architecture.
- Ferro Concrete in American Architecture, Plain surfaces in American Architecture Informal Plan.
- The Chicago School, Apartment, Office Building & Departmental Stores of Louis Sullivan & Others.
- F.L. Wright and the American Development, his urge towards organic architecture & his means of architectural expression.

- Le Corbusier & his Philosophy, Bauhaus.
- Meis Van Der Rohe & the Integrity of Form.
- Alvar Alto, Irrationality & Eminent Standardization.
- Typical works & philosophy of eminent Architects like – Richard Neutra Jorn Utzon, Oscar Neimyer, Lucio Costa, Marcel Frever Eero Serinen, Skidomore Owings & Merril etc.

- Influence of Modern Structural System on Architectural E.G. work of Marti, Canada etc.
- Erie's Survey & Evaluation of early Architectural work in India.
- Colonial Architecture in India, emerging trends, works of Le Corbusier and Louis Kahn in India and their influence of Indian architecture.
- Meaning and element of vernacular architecture and related terms
- Chronological development of vernacular architecture in India
- Contemporary Indian architects: A. P. Kanvinde, Charles Correa, B. V. Doshi, etc. their philosophies and examples.
- Postmodern architecture in India, examples.

Note: Sessional will be submitted in the form of sketches (min. say 20) notes, audio-visuals and reports of site visit to some historical / Modern buildings etc. as per program scheduled by the Dept. / Institution, Visual & video aided in teaching techniques.

LIST OF TEXT AND REFERENCE BOOKS:

A224 - HISTORY OF ARCHITECTURE-III

1. SIR BANISTER FLETCHER, "History of Architecture", University of London.
2. S. LLOYD & H.W. MULLER, "History of World Architecture", Fibre & Fibre Ltd. London.
3. JAMES FERGUSON - "History of India & Eastern Architecture".
4. BASHAM - "WONDER THAT WAS INDIA" - A.L. BASHAM.

SECOND YEAR - FOURTH SEMESTER

SEMESTER – IV

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BACHELOR OF ARCHITECTURE 4+1 YEAR DEGREE COURSE

COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A225	Structure-IV	4	1	05	50	20	10	**80**	03	-	30	20	**50**	**130**	*05*

AIM: The aim of the subject is to introduce the students about the fundamentals of stability of built structures in R. C. C. and various factors of R.C. C. structure designing.

Course Content:

(1) Introduction to R.C.C., Working Stress method (introduction only), Limit State method
(2) Design of Beams: - analysis of beams, design of singly, doubly reinforced beam, T-beam, L-beam, (cantilever and simply supported) lintel, chhajjas
(3) Design of Slabs: - analysis of slabs, design of One way, Two way, Continuous, Cantilever Slabs (simply supported and continuous)
(4) Design of Columns: - axially loaded, columns with Uni-axial and Bi-axial bending
(5) Design of Staircases: - dog-legged, and open well only

Note: i) Sessional work should include the analysis of simple elements along with the drawings using limit state method.
ii) I.S. code 456-2000, SP -16 is permitted in examination.

LIST OF TEXT AND REFERENCE BOOKS:

A225 - STRUCTURE-IV

1. B.C. PUNAMIA, "R.C.C. Vol. 1, Vol. 2," Standard Pub.
2. H. J. SHAH, "R.C.C. Vol.1, Vol. 2", Charotar Pub.
3. S. R. KARVE & V.L. SHAH, "ILLUSTRATED R.C.C. (L.S.M)", Structures Pub. Pune.
4. SOLOMON, "R.C.C. Vol. 2", C.B.S. Pub.
5. S. N. SINHA, "R.C.C" Tata McGraw Hill.

SECOND YEAR - FOURTH SEMESTER

SEMESTER – IV

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A226	Survey & Leveling	2	3	05	50	20	10	**80**	03	-	30	20	**50**	**130**	*05*

AIM: The aim of the subject is to introduce the students about the various aspects of surveying and its relative use in the field of architecture.

Course Content:

1. Aspects of surveying for the Architect. Surveying instruments classification by function. Useful data and formulae.
2. Scales-Plain scale, diagonal scale, comparative scale, shrunk scale, vernier scale.
3. Study, test, degree of accuracy, use and care of surveying instruments and accessories.
4. Site survey techniques: Chain surveying, compass surveying, plain table, theodolite.
5. Leveling and contouring.

Note: Class work and field work of the above subject should be oriented towards the layout of buildings and preparation of measured drawings. Students should also be taken to site visits for explaining the practical aspects of surveying.

LIST OF TEXT AND REFERENCE BOOKS:

A226 - SURVEY & LEVELLING

1. T. P. KANETKAR & S.V. KULKARNI, “Surveying & Leveling”, Pune Vidyarthi Griha Pub.
2. DR. B.C. PUNAMIA, “Surveying Vol.1”, Laxmi Pub.
3. SHAHANE AND IYENGAR, “A Text book of Surveying & Leveling”, Engineering Book Co.
4. BERNARD H. KNIGHT, “Surveying and leveling for students”.

SEMESTER – V

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work / Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A311	Design-V	3	7	10	100	30	20	**150**	18	50	50	50	**150**	**300**	10

AIM: Design of imaginative forms to develop the creativity in terms of built form. Design with application of principles and theory of architectural design and philosophies of contemporary architects. The attempt is towards developing ones own language and philosophy of architecture to guide towards exploring alternative building forms for different activities which help in understanding the relationship of structure and possibilities in building forms.

Course Content:

Design problems should include problems of simple and complex nature i.e. temple, gathering places, exhibition pavilion, clubs, cafe, community hall, museums, art gallery, pavilion, sport complexes, nursing homes.

Emphasis shall be given more on three dimensional studies to develop an understanding for man and space relationship and also relevant building bye-laws.

There should be variety of problems in the studio work with changing focus for each problem from theory to construction techniques (local) and site lay outs, covering organization and detailing of open spaces with the aim to learn to work with practical limitations.

One group exercise of making measurement drawings of a building for documentation.

Minimum one time problem is to be attempted in class, of 18 hrs duration.

Note: The sessionals will be in the form of drawings and models along with technical report for the design dealt with. The evaluation should be done in intermediate review consisting of internal / external experts. There should be regular site visits to the building types dealt in the studio problems of which audio-visual should be prepared. The range of design problems shall include projects of progressively increasing complexity. The various aspects of

the design problem shall be dealt with lectures, group discussions and library research so as to provide the necessary philosophical and attitudinal background to a rational design approach.

LIST OF TEXT AND REFERENCE BOOKS:

A311 - DESIGN-V

1. "Planning by E. & O.E". Lliffe book Ltd., London.
2. D.E. CHIRAIRA & CALLENDAR, "Times Saver Standard for Building Types".
3. RUDOLF HERGE, "Nuferts Architects Data", Cross By Lockwood & Sons Ltd.
4. EDWARD D. MILLS, "Planning the Architects Hand Book".
5. National Building Code.

SEMESTER – V

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work / Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
2	A312	Building Construction-IV	3	4	07	50	20	10	**80**	03	50	50	20	**120**	**200**	07

Aim: The aim of the subject is to introduce the students about Execution of building component with their constructional details and presentation of working drawing.

Course Content:

R.C.C. Foundation

- Definition, functions, and design factors.
- Details of different types of RCC foundations, strip, isolated, continuous and raft foundation

Joinery works

- Shoring, scaffolding, underpinning.
- Formwork for R. C. C. construction.

R.C.C. works

- Definitions, functions and design factors.
- R.C.C. column, beams, slabs, lintel, chajja, staircase, canopy, coffer slab & pergola.

- R.C.C. retaining wall & construction of basement. Expansion joints.
- Pre stressed R.C. C construction.
- Study of low cost construction systems.

Masonry:

Study of various types of Pre-cast concrete blocks their extensive uses in building construction.

Flooring

- P.C.C., terrazzo, stone (marble, Kota, granite, etc) Ceramic tiles & P.V.C. Flooring.
- Pre-cast paving.

R.M.C. (Ready- Mix Concrete)

- Introduction of R.M.C.
- R.M.C. Properties, techniques

Note: There should be regular site visits to buildings under construction or constructed to explain the above topics. Use of audio-visuals should be stressed.

The Sessional shall be in the form of handmade drawings, and the evaluation will be through review system presented before the Faculty and Studio In charge.

LIST OF TEXT AND REFERENCE BOOKS:

A312 - BUILDING CONSTRUCTION- IV

1. W.B. MCKAY, “Building Construction Vol.1 to V, Orient Longman.
2. R. CHUDLEY, :Building Construction Handbook Vol. 1 to 4 “British Library Catalouging in Publication Data 1990.
3. DR. B.C. PUNAMIA, “Building Construction”, A. Sauraby & Co. Pvt. Ltd.
4. R. BERRY, “Construction of Buildings”. The English Language Book Society London 1976.
5. MITCHEL, “ Advance Building Construction”, Allied Publishers Pvt. Ltd.

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.)

(An Autonomous Institution affiliated to Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal)

BACHELOR OF ARCHITECTURE 4+1 YEAR DEGREE COURSE

COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

THIRD YEAR - FIFTH SEMESTER

SEMESTER – V

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work / Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A313	Building Services-I (Sanitation & Plumbing)	3	2	05	50	20	10	**80**	03	-	30	10	**40**	**120**	05

AIM: The objective of the course is to provide a wide exposure to environmental support systems as they apply to human habitat. The course shall cover the basic aspects of (1) Environmental control (ii) Water and waste management and planning.

Course Content:

A) SANITATION

1. Basic principles of sanitation, introduction to modern plumbing system. Study of Indian standards and plumbing bye laws. General introduction to various sanitary fitting & fixtures their placement and functions. Study of internal & external drainage system including study of duct for large verity of buildings including small residences, apartments, block of houses, public buildings etc.
2. Study of various types of sanitary pipes, construction of joints and laying of pipes. Study of traps, inspection chamber, man hole, septic tanks, soak pit and public sewage line. Study of various stages of disposal of domestic effluent from fitting to sewer line. Study of "Sulabha" complex & other "CBRI" toilet details. Study of storm water disposal in various buildings and road side.
3. Importance of sanitary services in the economics of buildings, planning & design disposal of city effluent, various treatment methods of city effluent and recycle of waste water. Study of refuse chutes in multistoried buildings and collection of refuse and recycle of city solid wastes.

B) WATER SUPPLY:

4. Study of sources of water and water treatment for city domestic purpose. Study of quality of potable water.
5. Study of Indian standards and water supply network. Architectural approach to plan the domestic water storage facilities and water distribution system in buildings.

Note: Sessional will be prepared in the form of sanitation schemes, water supply schemes and design of toilets of the given buildings or buildings.

LIST OF TEXT AND REFERENCE BOOKS:

A313 - BUILDING SERVICES - I (SANITATION & PLUMBING)

1. RANGWALA, “Water Supply and Sanitary Engineering”, Charotar Pub.
2. BIRDIE, “Water Supply and Sanitary Engineering”, Dhanpat Rai & Sons.
3. W.B. MCKAY, “Building Construction”, Orient Longman.
4. “Handbook on water supply and drainage”, Bureau of Indian Standards.
5. R. BERRY, “Construction of Buildings. Vol-5”, Elbs. Pub.
6. National Building Cod

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COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

THIRD YEAR - FIFTH SEMESTER

SEMESTER – V

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work / Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A314	Working Drawing & Measurement Drawings	-	4	04	-	-	-	-	-	50	30	20	**100**	**100**	04

AIM: The aim of this subject is to understand the importance of working drawings, the methodologies, etc. for executing the drawing. This also requires standard mode of presentation of drawings with respect to Building Bye laws.

Course Content:

1. Introduction to various building components and precise purpose of set of working drawings. Study of each drawing with reference to specification & schedules of structure, services i.e. electrical, water supply, sanitation, air conditioning and communication.
2. Preparations of check list as guide for list of working drawings. Study of building bye-laws for various construction details & fire protection. Method of representing various contents & specific information in working drawings.
3. Preparation of municipal drawings and importance of working drawing as a legal document and tender document.
4. Preparation of municipal drawings and working drawing as a legal and tender document and submission drawing.
5. One set of working drawing of students own previous / current design.

Note: Sessional shall be in the form of full set of working drawing and design details of given building plan. The sessional marks will be based upon the portfolio submitted and internal viva. Studio programme integrated with A-221. Production of a set of detailed working drawings.

LIST OF TEXT AND REFERENCE BOOKS:

A314 - Working Drawing & Measurement Drawings

1. "Graphic standards".
2. "Time saver standards".
3. FRED A STITT, "Architects detail library", Van Nostrand Reinhold.
4. Working Details – by Boney

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BACHELOR OF ARCHITECTURE 4+1 YEAR DEGREE COURSE

COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

SEMESTER – V

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work / Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A315	Modern Structural Systems	3	1	04	50	20	10	**80**	03	-	30	10	**40**	**120**	04

AIM: The aim 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.

Course Content:

(1) Design of Flat Slab

(2) Design of continuous and isolated footings

(3) Design of combined footing :- types of combined footing, design of combined footing (rectangular and trapezoidal only)

(4) Appropriate methods for an analysis for frames by portal method, cantilever method (horizontal forces only)

(5) Pre stressed concrete:- pre stress and pre stressing methods, type and classification of pre stressing, losses of pre stressed

(6) Specific constructional considerations for earthquake resistance structures, coastal areas.

(7) Conceptual structural systems for high rise buildings such as verendeal trusses, shear wall etc.

(8) Domes, shells, vaults, arches (all types) in masonry, R.C.C., timber.

(9) Space frames, geodesic domes, Large span roofing, special areas, Gymnasium, Airports and Stadiums.

(10) Modern construction systems such as lift slab, folded plates, tensile structures etc.

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.

LIST OF TEXT AND REFERENCE BOOKS:

A315 - MODERN STRUCTURAL SYSTEMS

1. SALVADORI, “Structures in Architecture”.
2. SALVADORI, “Structural Design in Architecture”.
3. ROBERT, E. FISCHER, “New Structure”, McGraw Hill Co.
4. WOLFGANG SCHUELLER, “The design of building Structures”.

THIRD YEAR - FIFTH SEMESTER

SEMESTER – V

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work / Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A316	Site Planning & Landscape	2	3	05	50	20	10	**80**	03	50	20	10	**80**	**160**	05

AIM: The objective of this subject is to introduce students about site planning and landscape architecture i.e. about the natural and manmade environment, thereby enhancing the outdoor environmental quality in architectural design. This course intends to develop an understanding of Site Planning and landscape architecture to compliment architectural design. The objective is to develop an understanding of landscapes through their evolution in history and it being an integral part of the design process. It is seen as a course that addresses issues of environment and sustainability. The studio will also look at the further development of the first term architectural design project in urban peripheries context to understand the environmental impact of architecture in a context.

Course Contents:

SITE PLANNING

1. Site planning, its interpretations, scope its importance Natural & Man made environment. Ecosystem, Ecological balance, interaction between built environment & ecosystem Ecological approach to design.
2. Natural Resources, Land, Water & Plants their environmental & ecological considerations.
   Macro & Micro climate, Microclimatic analysis, climatic Elements & their modification.
3. Site selection criteria, site survey, inventory & analysis, site planning process. Site development, guidelines for excavation & grading, circulation, site drainage, water supply, vegetation cover & Landscape furnishings.
4. Circulation systems: Types, hierarchy & layout patterns, planning & design criteria for pedestrian movement, vehicular movement & parking areas.
5. Buildings & outdoor spaces, their relationship & composition, Elements of visual design -point, line, form, colour & texture. Site Volumes, enclosures, site structure, expression.

LANDSCAPE DESIGN;

Course content:

1. Definition of landscape, its scope and importance in architecture and planning Levels of landscape planning.
2. Brief outline of development of gardens in history. The principles and design philosophy of Mughal & Japanese gardens Renaissance, 18th century – Brownian 19th century – Botanical gardens with examples. 20th century urban landscape. Roof gardens, Atriums, Roadside plantation, avenues Indoor landscape (general)
3. Landscape design process, information needed for landscape survey. Land, water & plants as landscape elements, their functional & aesthetical considerations in landscape design.
4. Grading its importance, grading process & methods of estimating earth volumes. Slopes for various outdoor functional activities. Surface runoff calculations & design of surface drainage system. Treatment of ground surfaces, kinds of paving materials.
5. Planting Design-Understanding plant material as a design tool. Design characteristics of plants. Selection of plant materials for road side plantation, court yards, parking areas, near water bodies indoor areas etc. Details of establishing & grass lawn. Fertilizers their types & uses. Designing and execution of proposal:
    a) Analysis of site.
    b) Identification of functional requirements.
    c) Site development by applying mutual forms.
    d) Hard surface - materials
    e) Elements in landscape design – lawns, hedges and shrubs, trees annuals, and seasonal rockeries.
    f) Use of street furniture.
6. Children's play area
    a) Dwelling level
    b) Neighborhood level
7. Concept and use of national park.

    Note: Sessional will be in the form of report on the above topics and drawings based on the landscape design of a neighborhood space. Identification of minimum 20 common Indian trees and 25 common Indian Shrubs

LIST OF TEXT AND REFERENCE BOOKS:

A316 - SITE PLANNING & LANDSCAPE

1. J.O.SIMMONDS, "Architecture, A manual of site planning and design", McGraw Hill.
2. "Time Saver Standard for Site Planning"
3. R. JENE BROOKS, "Site Planning", Princeton Hall.
4. J.O. SIMMONDS, "Introduction to Landscape Design".
5. J.O. SIMMONDS, "Earth Scape"
6. "Water Scape"
7. BOSE & CHOUDHARY, "Tropical Garden plants in color", Horticulture & Allied Pub.

THIRD YEAR - SIXTH SEMESTER

SEMESTER – VI

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A321	Design-VI	3	7	10	100	30	20	**150**	06	50	50	50	**150**	**300**	10

AIM: This program gives special emphasis on role of technology in architecture. The design projects to be dealt in the studio should respond to the importance of structure and services including acoustical treatments.

Course Content:

- The range of design problems shall include projects of progressively increasing complexity.
- Exercises related to public buildings i.e. Commercial centre, hospital, auditorium, cinema, sports complex & educational buildings on sloping/ flat sites.
- Study and incorporation of building bye-laws should be complete in this Sem.
- Simultaneously, stress should be given on the interior treatment of small and large spaces.
- Freedom in design is to be given with preliminary introduction of importance and role of bye laws in building design.

Minimum one time problem of 18 hrs. duration is to be attempted in class, in addition to the major design problems.

Note: The sessionals will be in the form of drawings and models along with technical report for the design dealt with. The evaluation should be done in intermediate review consisting of internal / external experts. There should be regular site visits to the building types dealt in the studio problems of which audio-visual should be prepared. The various aspects of the design problem shall be dealt with lectures, group discussions and library research so as to provide the necessary philosophical and attitudinal background to a rational design approach.

LIST OF TEXT AND REFERENCE BOOKS:

A321 - DESIGN-VI

1. "Planning by E. & O.E". Lliffe book Ltd., London.
2. D.E. CHIRAIRA & CALLENDAR, "Times Saver Standard for Building Types".
3. RUDOLF HERGE, "Nuferts Architects Data", Cross By Lockwood & Sons Ltd.
4. EDWARD D. MILLS, "Planning the Architects Hand Book".
5. National Building Code.

THIRD YEAR - SIXTH SEMESTER

SEMESTER – VI

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
2	A322	Adv Building Construction	3	4	07	50	20	10	**80**	03	50	50	20	**120**	**200**	*07*

Aim: The aim of the subject is to introduce the students about Execution of building component with their constructional details and presentation of working drawing.

Course content:

Special Doors & Windows

- Sliding, folding, sliding and folding doors, revolving doors.
- Rolling shutters, collapsible doors, iron main gate.
- Bay windows, skylights.

Finishes:

- Partitions and paneling (timber, glass, PVC)
- Cladding - interior & exterior
- Jamb casing, skirting, moldings, architraves & pelmet

Services

- Waterproofing of basement, construction of pools.
- Fire places and flues.
- Heat and sound insulation.
- Fire safety Construction techniques.

Note: There should be regular site visits to buildings under construction or constructed to explain the above topics. Use of audio-visuals should be stressed.

The Sessional shall be in the form of handmade drawings and the evaluation will be through review system presented before the Faculty and Studio In charge.

LIST OF TEXT AND REFERENCE BOOKS:

A322 - BUILDING CONSTRUCTION-V

1. W.B. MCKAY, "Building Construction Vol.1 to V, Orient Longman.
2. R. CHUDLEY: Building Construction Handbook Vol. 1 to 4 "British Library Cataloguing in Publication Data 1990.
3. DR. B.C. PUNAMIA, "Building Construction", A. Sauraby & Co. Pvt. Ltd.
4. R. BERRY, "Construction of Buildings". The English Language Book Society London 1976.
5. MITCHEL, "Advance Building Construction", Allied Publishers Pvt. Ltd.

THIRD YEAR - SIXTH SEMESTER

SEMESTER – VI

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
3	A323	Building Services-II (Electrical & Mechanical)	3	2	05	50	20	10	**80**	03	-	30	20	**50**	**130**	*05*

Aim: The aim of the subject is to introduce the students about the aspects of electrical wiring and air conditioning in a building, learning about various equipment and fittings available in the market and preparing basic design lay out for various services and typical details.

Course Content:

SECTION-A: ELECTRICAL

1. Fundamentals of electricity, Principles of wiring.
2. Fitting and accessories used in electrical installation of buildings including water proof and spark proof installation. Schematic diagrams of installation for different building types, lighting conductors, earthing, distribution & calculation of loads.
3. Brief study of electrical appliances, Sub-station, location and space requirement, relevant electricity board rules for various types of buildings.
4. Illumination: Laws of illumination. Direct, indirect and semi direct lighting, reflectors, decorative lighting. Flood lighting and use artificial lighting as an element in architectural schemes particularly in exhibition, cinemas, theaters, concert, concerts halls and stadiums.
5. Rules and layout for telephone wiring & connection with EPBX.

SECTION - B: MECHANICAL

1. The fundamentals of psychometric and heat transfer. Physiological effects of air conditioning.
2. Air conditioning methods, systems, types and equipment to maintain the atmosphere at required temperature, humidity and cleanliness.
3. A.C. duct designing, detailing and layout. (No calculations required)
4. Lifts, moving walkways and escalators, layout of lifts and or escalators in buildings(Multi storey to high rise).
5. Apparatus and system of alarms, firefighting equipments, fire fighting bye-laws governing various types of public buildings. Fire escape staircases.

Notes: Sessionals will be in the form of notes, home assignments, drawings/layout exercises showing the electrical and mechanical services details and case studies if required.

LIST OF TEXT AND REFERENCE BOOKS:

A323 - BUILDING SERVICES-II (ELECTRICAL & MECHANICAL)

ELECTRICAL SERVICES

1. "Specification year Book"
2. B. L. THAREJA "Text book of Electrical Technology", S. Chand and Co.
3. UPPAL, "Text Book of Electrical Technology", Khanna Publishers.
4. "National Building Code".
5. FRANK R. DAGOSTINO, "Mechanical and Electrical systems in construction and Arch" Reston Pub. Virginia U.S.A.

MECHANICAL SERVICES

1. "Specification year Book".
2. S.C. ARORA AND A. DOMKUNDWAR, "Refrigeration and Air conditioning", Dhanpat Rai & Sons.
3. HERBERT. W. STANFORD, "Heating Ventilation and A.C. systems", Prentice Hall.
4. "National Building Code".

THIRD YEAR - SIXTH SEMESTER

SEMESTER – VI

S.	Course	Subjects	Period Per	Total	Distribution of Marks	Grand	Total

No.	Code		Week		Teaching Hours	Theory Block				Theory Exam Duration (Hrs.)	Practical Block				Total	Credits
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A324	Specifications, Estimating & Costing	3	2	05	50	20	10	**80**	03	-	20	20	**40**	**120**	*05*

AIM: Art of writing specifications of materials along with emphasis on the quality of materials & proper sequence of construction work should be brought out. The students shall be exposed to the various methods of calculating the quantities of various materials / items used in the buildings. This subject will give them an understanding and insight the role of material, construction and cost together for budgeting the project cost.

Course Contents:

SPECIFICATIONS OF MATERIALS:

1. Importance of specifications in the building activities, method of writing correct order and sequence of use of materials, use of Indian Standard Specifications and P.W.D. specifications.
2. Primary consideration for selection of materials for various applications. Specifications of basic materials required in residential buildings, such as bricks, stones, concrete, RCC, plastering and various finishes, roofing material timber work, flooring materials, glazing, metals such as steel, brass, aluminum etc.

SPECIFICATIONS OF WORKS:

1. Specifications of works for a residential building of load bearing type and or RCC/framed type.
2. Specifications of works of construction of steel and RCC structures, ceiling and partitions, paneling, insulation and water proofing.
3. Specifications for services such as drainage, water supply, electrical installations.

B) Estimating & Costing :

1. Introduction to quantity surveying, methods of preparing estimates, data required for framing an estimate, types of estimates.

2. Mensuration, standard mode of measurements, schedule of rates commercial abbreviations. Methods and procedure of taking off abstractions, working up and billing. Examples and exercises in taking in all items from excavation to painting including R.C.C. and steel work.
3. Rate analysis, cost of materials and labour for various works, detailed rate analysis of important items of construction work. Measurement of work for interim and final certificates of payments to contractors.
4. General terms: Administrative approval technical sanction, competent authority, deposit works, issue rates, payment on accounts, suspense accounts, imprest, indent of stores, muster roll, measurement book, materials site account, stock account, establishment charge etc.
5. Method and contents of technical report for obtaining technical/financial sanction.

Note: Sessionals are to be prepared in the form of exercises and small reports on above mentioned topics.
The sessional work will include notes, tests, and home assignments particularly about proprietary materials along with manufacturer's specification.

LIST OF TEXT AND REFERENCE BOOKS:

A324 - SPECIFICATIONS & ESTIMATING & COSTING

1. "Bombay P.W.D. Specification 1962.
2. Specification year book.
3. P.W.D. Hand book.
4. B. N. DUTTA, "Estimating and costing in civil Engineering", U.B.S. Pub.
5. M. Chakraborti, "Estimating and costing in Civil Engineering", "Bhaktivedanta Book Trust, Sreemayapor.
6. RANGWALA, "Estimating & Costing", Charotar Pub. house.
7. NAMAVATI, "Professional Practice", Lakhani Book Depot.
8. C.P.W.D. Hand book.

SEMESTER – VI

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A325	Professional Practice	2	2	06	50	20	10	**80**	03		30	20	**50**	**130**	*04*

AIM: The objective of this subject is to equip the students with sufficient knowledge of professional practice, code of conduct and ethics. Along with the students shall be well equipped with the knowledge of valuation and arbitration

Course Contents:

1. Introduction to Architectural Profession, Role of Professional Bodies, the Architects Registration Act, 1972.
2. The duties, liabilities and relationships of client, contractor and other technicians. The code of professional conducts and conditions of engagement of Architects. Scale of remuneration for Architectural services and mode of payments.
3. Types of tenders, tendering process, Execution of contract, Problems in operation of contract.
4. Architectural competitions, office organisation, administration & management, documentation & maintenance of accounts, Arbitration, Easement and laws relating works, Dilapidation and waste.
5. Office organization and administration, nature of partnership, registration and dissolution of firms. Statutory obligations, office managements, filing of documents and drawings, accounts and audits, staff personals, their salaries, incentives etc.
6. Valuation: Importance of valuation for rental, income/wealth tax, selling/ purchasing. Values, sinking fund, capitalized cost year purchase, methods of depreciation and valuation tables Mortgage/ lease, fixation of rent of private/ Govt., residential, commercial buildings etc. Different methods of valuation. Valuation reports, duties and responsibilities as registered government valuer
7. Arbitration: Role and qualities of an arbitrator. Arbitration act-1940 with amendment till date Arbitration with reference to competitions, valuation, contract, land disputes and legal implications.

Note: The students shall prepare the presentation on these topics and present on ppt.

LIST OF TEXT AND REFERENCE BOOKS:

A425 - PROFESSIONAL PRACTICE

1. R. H. NAMAVATI, "Professional Practice", Lakhani Book Depot.
2. H. H. TURNER, "Architectural practice and Procedure", B.T. Batsford Ltd.
3. I.I.A Publications (Articles of Agreement, scale of professional charges, competitions).
4. Council of Architecture- Handbook

SEMESTER – VI

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
6	A326	Project Management & Building Economics	2	2	03	50	20	10	**80**	03	-	20	20	**40**	**120**	04

AIM: This course deals with the entire gamut of activities concerned, with the implementation process of building works subsequent to the preparation of the construction schedule. The sequence shall begin with the framing of work priorities and progressively lead to concepts of scheduling, construction management and project planning and building economics.

Course Contents:

SECTION-A: PROJECT MANAGEMENT:

- Introduction: Introduction to project management concepts, objectives, goals and different aspects of management, traditional management systems, Gantt's approach, bar charts, project programming, time estimate etc.
- Project programming, resource balancing, phasing of activities, programme scheduling, project control, reviewing, updating and monitoring, modern management concepts.
- Project assessment and project cost, job size, divisions of responsibilities, liaison with owners and their representatives, feasibility study, project report, construction financing facilities etc.
- Construction Management: Conditions of contract, their applications, quality and quantity controls, time and cash contract recording, checking and certifying with coordination of all building activities.
- Project Monitoring: C.P.M. , P.E.R.T. & other uni-dimensional techniques for project planning, scheduling and control.

SECTION-A: BUILDING ECONOMICS

1. Introduction: Broad features of Indian economy, economic significance, features in development plans, Macroeconomic concepts & their application, Money & Banking functions, factors of production such as land, labour, building industries and money and management etc.
2. Land Economics: Land as a limited resource, demand for land development and need for its conversation, public policies for land utilization and land development, theories of land values, land acts & problems in land acquisition & land development programme etc.
3. Building Economics: Building efficiency and cost reduction through planning, design of building components, use of new materials and Innovative construction etc. rent & other building acts, economics of high rise buildings etc.

Optimization of cost or affordable cost through various measures has become an important issue since prices escalate fast. The course aims to make aware about the issues/methods involved.

LIST OF TEXT AND REFERENCE BOOKS:

A326 - PROJECT MANAGEMENT & BUILDING ECONOMICS

1. VASANT DESAI, "Project Management", Himalaya Pub. House.
2. S. CHOUDHARY, "Project Management", Tata McGraw Hill.
3. P.K. JOY, "Handbook of Construction Management", Macmillan.
4. PRASANNA CHANDRA, "Projects, Planning, Analysis, Selection, Implementation & Review", McGraw Hill.
5. DENNIS LOCK, "Project Management", Coles Pub. Co.

BUILDING ECONOMICS

1. P. A. STONE, "Building Economy", Pergamon 1976.
2. I. H. SEELEY, "Building Economics", Mcmillan 1977.
3. P.T. GHAN, "Engineering Economics", Pune Vidyarthi Griha Prakashan.
4. MISHRA, "Indian Economy", Himalaya Pub. House.

FOURTH YEAR – SEVENTH SEMESTER

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.)

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BACHELOR OF ARCHITECTURE 4+1 YEAR DEGREE COURSE

COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

SEMESTER – VII

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A411	Design-VII	3	7	10	100	30	20	**150**	06	50	50	50	**150**	**300**	*10*

Aim: The aims of the course is to emphasize and evolve the methodology for architectural design with reference to the previous knowledge of functional aesthetics as well as present and future scenario of urban and rural development, their problems and prospects.

Course content:

- Design with application of principles and theory of urban design, urban and regional planning aspects and philosophies of contemporary architects.
- The attempt is towards developing ones own language and philosophy of architect on guide towards exploring alternative building forms for different activities which help in understanding the relationship of structure and possibilities in building forms.
- Design of cost effective, sustainable structures for various economic and social groups to solve problem of efficient housing in urban India, post disaster rehabilitation & earth quake resistant structures, etc
- Emphasis on consideration of advanced construction materials and techniques with RCC framed structure, Steel structure for large span buildings, and use of lightweight prefabricated panels and other etc
- Details of services like sanitary, water supply, electrical and mechanical, acoustics, fire fighting, parking etc
- Detailed Site planning of the scheme with the details of landscaping and site agglomeration
- Design under the framework of existing local zoning regulations and other relevant Building codes.

Design problems:

- Design of large housing schemes and neighborhood planning etc with emphasis on above parameters
- Design of multistoried commercial complex, specialized market, five star hotels, motels, shopping malls, multiplexes, etc
- Design of universities, institutional campus, multistoried office buildings, town planning schemes, public buildings, Computer centers, IT Parks, and other infrastructure
- Design of conference halls, science museums, sports complex etc
- Design of specialized hospitals/ college campus and other medical facilities

Design approach:

The literature survey & data collection is necessary. There should be regular site visits to buildings dealt in studio problems. Documentation should be done with the help of photographs, slides, video etc.

There should be minimum one time problem of 24 hrs. Duration apart from min. two regular design problems in the studio

Note: The sessionals will be in the form of drawings and models along with technical report for the design dealt with. The evaluation should be done in intermediate review consisting of internal and external experts. There should be regular site visits to the building types dealt in the studio problems of which audio-visual should be prepared.

LIST OF TEXT AND REFERENCE BOOKS:

A411 - DESIGN-VII

1. "Planning by E. & O.E". Lliffe book Ltd., London.
2. D.E. CHIRAIRA & CALLENDAR, "Times Saver Standard for Building Types".
3. RUDOLF HERGE, "Nuferts Architects Data", Cross By Lockwod & Sons Ltd.
4. EDWARD D. MILLS, "Planning the Architects Hand Book".
5. National Building Code.

FOURTH YEAR – SEVENTH SEMESTER

SEMESTER – VII

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
2	A412	Urban Design	3	4	07	50	20	10	**80**	03	50	50	20	**120**	**200**	*07*

Aim: The objective is to develop an understanding of Urban Design through their evolution in history and it being an integral part of the architecture at bigger level. It is seen as a course that addresses issues of urban environment and sustainability. The studio will also look at the further development of the first term architectural design project in urban peripheries context to understand the overall impact of architecture..

Course content:

- Definition of Urban Design, scope of urban design in Indian context and its integration with urban planning.
- Historical development and approaches to Urban Design, spatial design, classical, functional, ornamental etc. space orders.
- Urban form and its elements, visual order of forms, sequence, scale, visual space dynamics. Various surveys needed to document visual aspects of environments.
- Urban design concepts of Doxiadis, Sarinen, Kelvin Linch, Le Corbusier and others.
- Urban structure and design rational inter- relationship economic activities, public organization, communication systems. Urban conservation and land use structure.
- Urban renewal and Gentrification.
- Review and designing of urban renewal and redevelopment projects for old and new towns.

Note: Sessional will be in the form of drawings and reports on the study on any area, identification of the problem areas and proposals in the form of drawings for the same.

LIST OF TEXT AND REFERENCE BOOKS:

A422 - URBAN DESIGN

1. GALLION "Urban Pattern:, CBS Publishers & Distributors.
2. S. PAUL D., "Urban Design and Architecture".
3. PETER KATZ, "The new Urbanism", McGraw Hill.
4. ZURICH GOLDERTAL, "Space Time and Architecture", Printed in U.S.A.
5. GORDEN CULLEN, "Town Scape".
6. BACON, EDMUND N., "Design of Cities", Thames.

FOURTH YEAR – SEVENTH SEMESTER

SEMESTER – VII

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks											Grand Total	Total Credits
						Theory Block					Theory Exam Duration (Hrs.)	Practical Block						
						End Sem exam	MST	Quiz Assignment	Total theory block	Credits		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block	Credits		
			L	STUDIO / T	Total Contact Hour	I						II					I+II	
3	A413	Adv. Building Services-III	3	2	05	50	20	10	80	*03*	03	-	30	20	*50*	*02*	130	*05*

Aim: The aim of the course is to introduce the students about the aspects of acoustics and security systems in a building.

Course content:

SECTION - A

Acoustics:

- Definition of sound. Fundamental characteristics of sound.
- Behavior of sound in enclosed spaces in general and few enclosed functional spaces in particular without involving much of mathematical complexity. Need to study acoustics.
- Development of this science through different periods. Pioneers and their works.
- Properties of sound, its origin propagation and sensation. Behavior of sound with respect to various surfaces, openings and in an enclosed space.
- Study of various sound absorbing materials, single and in combination of various frequencies of sound, panel absorbers, porous materials and cavity resonators.
- Reverberation time, Sabine's formula. Criteria for acoustics environment for reverberation in spaces.
- Sound application systems. Constructional and planning measures for good acoustical design.
- Acoustical defects and remedies. Sound application systems. Case studies for the above aspects.
- Noise and its on man. Physiological and psychological principles of noise control including acoustic lent insulation for various domestic services and industrial fitting and constructions. Structure borne and air borne noise, their effects and control.

SECTION – B

Security Systems:

- Types of security systems and their working.
- Apparatus and system of alarms.
- Firefighting equipments, fire fighting bye-laws governing various types of public buildings, fire escape, fire safety in high rise buildings.

Note: Sessional shall be prepared in the form of notes and calculations, drawings etc. as per above topics.

LIST OF TEXT AND REFERENCE BOOKS:

A 413 - Advanced Building Services III:

1. R.G.EDKIE, "Architectural Acoustics & illumination", EKWEERA PRAKASHAN, NAGPUR - 12
2. SIRASKAR, "Acoustics in Building Design"
3. S.OMEN & B. J. SMITH, "Acoustics & Noise Control"
4. T.S.S - Design data.
5. Otto Koeingnsberger, "Manual of Tropical Climate", Orient longman.
6. E. J. RICHARDSON, "Acoustics for Architecture".
7. J.E. MOORE, "Design for good acoustics".
8. VERN O KNUDSEN, CYRIL M.HARRIS ", Architectural Acoustics ", John Wiley & Sons.

FOURTH YEAR – SEVENTH SEMESTER

SEMESTER – VII

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
4	A414	Elective	3	2	05	50	20	10	**80**	03	-	30	20	**50**	**130**	*05*

A424 - Elective I–(Any Two): 1. Interior Design 2. Sustainable Architecture 3. Disaster Management & Earthquake Resistant Structures 4.Intelligent Building Systems 5. Architectural journalism 6. GIS & Remote sensing

[*Note: Student will have an option to select any two electives at a time, Credits will be divided accordingly in two parts.]

Course Content:

1. INTERIOR DESIGN

1. Understanding the need for design of interiors. Effect of build spaces/interior spaces on human psyche. Historical background of interior design and international perspective.
2. Interior space character, classification categories and quality. Elements of interior space. The built environment, the living interiors in today's context.
3. Space, form, colour, abstract, spatial expression. The base lane, the overhead plane, the verticals, the intermediates. Visual aspects, visual control, illusions. Visual art appreciation: A brief look of Major Art Movements that have affected design.
4. Interior climate, orientation of interior space with respect to outdoor climatic forces. Outdoor climate study, study of micro climate. Spatial layout for best comfort in doors with respect to natural climate. Air movement, natural illumination, natural heating/cooling, artificial interior environment-artificial illumination, artificial climate, air conditioning etc.
5. Elements of interior design: A study of the latest available, materials, furniture/fittings, past, present and future and international perspective. Water and plants in interior design. Drainage, plant species, plant care etc. Sound modulation in interior spaces. Practical examples and exercise for all the above.

Note: Design problems in interior design to bring out the originality, innovativeness, and the best of imagination from the students, preparation of scrap books.

LIST OF TEXT AND REFERENCE BOOKS: AR-424 ELECTIVE – I (INTERIOR DESIGN)

- T.S.S. for Interior design.
- AHMED A. KASUR, "Interior Design", Iqura Pub.
- JOHN CULLEN, "The lighting handbook" Pelham Books.

2. SUSTAINABLE ARCHITECTURE:

1) Introduction to the ideas, issues and concepts of sustainable Architecture, global environment and the built environment, principles of environmentally and ecologically supportive architecture
2) Study of sustainable architecture, use of energy, materials, health and global environment as related to the construction and operation of buildings
3) Sustainable and conservation practices -water conservation, sewerage treatment, solid waste treatment, economics and management
4) Low energy design, hybrid systems, modelling and simulation of energy systems, integration of PV and wind systems in the building,
5) wind solar and other non conventional energy systems, solar thermal applications for heating and cooling, electricity generation in buildings
6) Case studies on specific contemporary sustainable architecture.
7) Green Specification parameters, carbon credits.
8) Introduction to ECBC, GRIHA, LEEDS, etc., simulation techniques and their applications.

NOTE : The Sessional will be oriented towards live case studies and modelling

3. DISASTER MANAGEMENT & EARTHQUAKE RESISTANT STRUCTURES

Aim: The objective is to develop an understanding of disaster and its management at pre and post disaster conditions, knowledge gained through the study of history of various types of disaster and their management. It is seen as a course that addresses issues of disaster and their management.

Course content:

1) Types of disaster, meanings and related definitions.
2) Causes and effects of natural hazards.
3) Disaster profile of India.
4) Disaster preparedness and response and rehabilitation.
5) Roles and responsibilities of different agencies.

Note: Sessional will be in the form of report on the above topics and prepare a report for disaster management for a given hypothetical / real site/ building.

4. INTELLIGENT BUILDINGS:

1) Introduction & Origins of the Intelligent Building Concept:
   a. Definition and characteristics of Intelligent Buildings, A brief history of the Development of I.B. Concept through recent times highlighting.
   b. Automated buildings (1981-1985)
   c. Responsive buildings (1986-1991)
   d. Effective Buildings (1992-1997)
2) Study of Concepts of Building Management (facility management), Effective Space Management, Business management and the various models of Building Intelligence.
3) Technology Evolution and the IT market place: Present technological context, Exploration of user IT systems, IT demands on building and services, Building Control systems, study of development of Computer Integrated Building from single function systems to integrated solutions.
4) Key Issues for Intelligent Buildings: Multiple activity settings, Generic analysis of space utilization, Models for shared space use. The development of briefing process including design activity and building element life- cycles, the match between organizational requirements and building technologies, A brief study related to Site issues, Shell issues, Skin issues, Building services and technology issues.
5) Managing the Building: Study and importance of facility management planning & operation techniques.
6) Intelligent Design & Construction: Client expectations, use of IT for effective communication of architectural ideas to clients, locating people and information, introduction to building efficiency studies with respect to life cycle costs.

NOTE:There will be study assignments given to students on various Units.

LIST OF TEXT AND REFERENCE BOOKS: A424 – ELECTIVE – I (INTELLEGENT BUILDINGS)

1. Payne, F. William, “Strategies for energy efficient Plants and intelligent buildings” Fairmont Press, USA, Distributor Prentice Hall India, New Delhi.

5. ARCHITECTURAL JOURNALISM

1) Journalism in general
2) Theories of journalism
3) Techniques and processes
4) Contemporary Architectural journalism
5) Digital Journalism
6) Architecture, Arts and Journalism / Media
7) Cinematography
8) Profile writing (Corporate to Individual)
9) Critical appraisal of Technical, Literature, Visual and Media.
10) Photo Journalism.

Note: There will be study assignments given to students on the above mentioned course.

11) GIS & REMOTE SENSING

- Basic remote sensing, platform, sensors, and introduction to sensors, basic principal & methods of photo interpretation and techniques of data collection through satellite data. Classification techniques using satellite data
- Digital image processing, enhancement techniques in urban information extraction
- Aerial photography as a tool for collection of data and preparation of maps, its application in planning and preparation for a project, orientation concept and methodology transformation and adjustment techniques.
- Experiments in lab, Instruction for making overlays
- Computation of photo scale
- Orientation of a stereo pair under a mirror stereoscope
- Recognition on aerial photograph of objects indicated on ground photographs
- Detection of defined objects, Description and identification of objects
- Use of auxiliary features for object identification
- Systematic scanning of a photograph, and object identification
- Identification of land use with a given classification
- Monitoring urban changes, Mosaic preparation
- Base map preparation & elementary data analysis using satellite data

- Experiments in lab, Instruction for making overlays
- Classification preparation
- Interpretation & delineation of various land use on satellite data products
- GIS techniques and their application in planning field

NOTE: Sessional work shall consist of term paper, small project formulation using satellite data and analytical report preparation through GIS, seminars

SEMESTER – VII

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
5	A415	Town Planning	3	3	06	50	20	10	**80**	03	-	30	20	**50**	**130**	*06*

Aim: The objective of the course is to investigate urban networks and processes. This course requires taking up an area level study and proceed to formulate design guidelines on the issues.

Course content:

- Basic components of urban areas and regions.
- Role of urban & regional planning at national level, metro level concepts. Basic planning, settlements, theories, models etc.
- Socio – cultural and land use planning, general principles, survey techniques, utopian thoughts, models for planning and their relevance in Indian context.
- Planning norms and development norms for urban and regional approaches, techniques of development for existing areas and renewal schemes, conservation and development.
- Transportation modes, planning and development survey techniques etc.
- Review of regional plans.

Note: Sessional will include the report on case studies based on data collection, surveys and other empirical evidences and its presentation in the form of seminars.

LIST OF TEXT AND REFERENCE BOOKS:

A415 – TOWN PLANNING

1. V.K. BHEDASGAONKAR, " Handbook of Town Planning", Amar Mudranalaya.

2. G.K.HIRASKAR, "Fundamentals of Town Planning", Dhanpt Rai & Sons.
3. PATRICK ABERCROMBIE, "Town and Country Planning", Oxford univ. Press.
4. KEEBLE, "Principles and Practice of Town and Country Planning".
5. S.C. RANGWALA, "Town Planning", Charotar Publishing House.
6. BANDYOPADHYAY, ABIR ,"A Text Book of Town Planning " , New Central Book Agency, Calcutta.

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BACHELOR OF ARCHITECTURE 4+1 YEAR DEGREE COURSE

COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

FOURTH YEAR – SEVENTH SEMESTER

SEMESTER – VII

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
6	A416	Dissertation	-	3	03	-	-	-	-	-	50	50	30	**130**	**130**	*03*

AIM: Objective of subject Dissertation is to enlighten students on the fundamentals of Research methods before attempting Eighth Semester Thesis Project. Basics of research to be understood by the students are:

- Basic research principles and research methods.
- Report writing skills

Dissertation will be part of Thesis Project (A 421) to be further carried and completed in VIII semester.

Course Content:

- First phase of dissertation allows students to identify the broad area / field of Architecture of their interest in which they may intend to do the research. This is to be done by studying and reproducing the brief of technical papers in the form of report review.
- Second phase allows the students to do the study of sample example of research already done by choosing the specific aspect / area relevant to broader field they have selected in first phase. This exercise involves the writing of report / review of book / journal dedicated to that specific aspect or area. This review writing is aimed to understand the method of collecting data (survey methods), analysis of data (statistics and mathematical formulas), drawing inferences and conclusion as attempted by the author of the book.
- Third phase is the writing of detailed dissertation report. Students are expected to choose their own topic of research by referring the area / field already identified in other two phases.

NOTE: Sessionals will be submitted in the form of review reports and Dissertation report.

LIST OF TEXT AND REFERENCE BOOKS:

A 416 - Dissertation

- Instruction Manuals on report writing.
- Dissertation will be treated as part of **A 421 (Thesis Project to be carried in VIII semester).** Student have to finalize the Thesis Design Topics/ Guides and complete the stage I work (i.e. up to Data Synthesis) at this level. Case Studies are to be carried during vacations only

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COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

FOURTH YEAR – EIGHTH SEMESTER

SEMESTER – VIII

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact Hour	I					II				I+II	
1	A421	Thesis Project	-	18	18	-	-	-	-	-	250	300	200	**750**	**750**	18

AIM: All the four years of learning architectural design and allied subjects culminate in design thesis project to motivate a student in investigative attitude individual methodology, thus to train in handling projects independently. The Architectural Thesis is the culmination of the development of the student's knowledge, attitudes and skills over the course of studies in architecture. It is an occasion for exercising conscious choices in the field, based on the student's personal abilities and inclinations, and for testing out his commitment.

Course Content:

Thesis Project:

Each student will select a subject of an architectural interest in consultation with the committee appointed by the Head / Principal of the Dept. /Institution. The subject will have to be approved at the beginning of the eighth semester. The evolution of the thesis project will be continuous and the student will have to give at least three seminars / submissions before the final submission. The thesis project shall be submitted in the form of bound report, drawings, models etc. in a manner as stipulated in THESIS MANUAL on the date prescribed by the Department.

The student, in consultation with the faculty, is expected to demonstrate through an imaginative approach, his expertise in effecting positive changes in our built environment.

Note: Architecture work programme and Architecture thesis manual shall be supplied by the department.

LIST OF TEXT AND REFERENCE BOOKS:

A421 - Thesis Project

1. "Planning by E. & O.E". Lliffe book Ltd., London.
2. D.E. CHIRAIRA & CALLENDAR, "Times Saver Standard for Building Types".
3. RUDOLF HERGE, "Nuferts Architects Data", Cross By Lockwod & Sons Ltd.
4. EDWARD D. MILLS, "Planning the Architects Hand Book".
5. National Building Code.
6. Thesis manual: SOA Publications (for private circulation only)
7. Instruction Manuals on report writing.
8. Relevant Books as per topic

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BACHELOR OF ARCHITECTURE 4+1 YEAR DEGREE COURSE

COURSES OF STUDY & SCHEME OF EXAMINATION AND DETAIL SYLLABUS **WEF. JUNE 2014**

FIFTH YEAR – NINTH SEMESTER

SEMESTER – IX

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact	I					II				I+II	
1	A511	Practical training	-	-	-	-	-	-	-	-	150	100	-	**250**	**250**	18

A511 - Practical training:

- The students' work will be evaluated through monthly progress report / diary in the end of each month under continuous Assessment. .
- Monthly progress report/diary, duly signed by the Architect, shall be submitted to the department, by the student up to 7th date of each month positively, online or in hard copy by post.
- The students' performance during the training shall be evaluated by a Jury at the end of the semester.
- The constitution of jury shall be - two external examiners, one Academician & one professional and two internal examiners, at least one shall be Professor or Head and training co-coordinator.
- Minimum duration of training for One Semester will be of 14 week.

FIFTH YEAR – TENTH SEMESTER

SEMESTER – X

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact	I					II				I+II	
1	A521	Practical training	-	-	-	-	-	-	-	-	150	100	-	**250**	**250**	18

A511 - Practical training:

- The students' work will be evaluated through monthly progress report / diary in the end of each month under continuous Assessment. .
- Monthly progress report/diary, duly signed by the Architect, shall be submitted to the department, by the student up to 7th date of each month positively, online or in hard copy by post.
- The students' performance during the training shall be evaluated by a Jury at the end of the semester.
- The constitution of jury shall be - two external examiners, one Academician & one professional and two internal examiners, at least one shall be Professor or Head and training co-coordinator.
- Minimum duration of training for One Semester will be of 14 week.

FIFTH YEAR – TENTH SEMESTER

SEMESTER – X

S. No.	Course Code	Subjects	Period Per Week		Total Teaching Hours	Distribution of Marks									Grand Total	Total Credits
						Theory Block				Theory Exam Duration (Hrs.)	Practical Block					
						End Sem exam	MST	Quiz Assignment	Total theory block		End Sem	Term work/ Sessional	Continuous Assessment	Total Practical block		
			L	STUDIO / T	Total Contact	I					II				I+II	
1	A522	General Proficiency	-	-	-	-	-	-	-	-	250	-	-	**250**	**250**	06

A522- General Proficiency:

The student shall prepare a report showing their performance in curricular and extracurricular activities during the course of studies from I Semester to X semester in chronological order and present the same before Examiners for evaluation.