Scheme of Teaching and Examination
VI Semester DIPLOMA in ARCHITECTURAL ASSISTANTSHIP

THEORY

Sr. No.	SUBJECTS	SUBJECT CODE	TEACHING SCHEME		EXAMINATION - SCHEME					
			Periods per Week	Periods in one Session (Year)	Hours of Exam.	Terminal Exam. (A) Marks	Final Exam. (B) Marks	Total Marks (A+B)	Pass Marks Final Exam.	Pass Marks in the Subject
1.	Building Construction-II	37601	06	50	3	20	80	100	26	36
2.	RCC & Steel Structure Design	37602	06	50	3	20	80	100	26	36
3.	Professional Practice & Byelaws	37603	06	50	3	20	80	100	26	36
4.	Acoustics & Illumination	37604	06	50	3	20	80	100	26	36
5.	Elective*		06	50	3	20	80	100	26	36
	Land Scape Design	37605 **A**								
	Arch. Conservation	37605 **B**								
	Building Maintenance	37605 **C**								
		Total:-	**30**					**500**		

PRACTICAL

Sr. No.	SUBJECTS	SUBJECT CODE	TEACHING SCHEME		EXAMINATION – SCHEME					
			Periods per Week	Periods in one Session (Year)	Hours of Exam.	Marks Internal Exam. (A)	Marks External Exam. (B)	Total Marks (A+B)	Pass Marks Final Exam.	Pass Marks in the Subject
6.	Construction Practice – II	37606	6	50	4	10	40	50	16	21
7.	Model Making Lab.-III	37607	6	50	4	10	40	50	16	21
		Total:-	**12**					**100**		

SESSIONAL

Sr. No.	SUBJECTS	SUBJECT CODE	TEACHING SCHEME		EXAMINATION - SCHEME			
			Periods per Week	Periods in One Session (Year)	Marks of Internal Examiner (X)	Marks of External Examiner (Y)	Total Marks (X+Y)	Pass Marks in the Subject
8.	Professional Studies & Entrepreneurship Project Work & Presentation in Seminar	37608	-	50	40	60	100	50
9.	Elective*		-	50	20	30	50	25
	Land Scape Design	37609 **A**						
	Arch. Conservation	37609 **B**						
	Building Maintenance	37609 **C**						
		Total:-					**150**	

Total Periods per Week	**42**	**Total Marks = 750**

BUILDING CONSTRUCTION-II

Subject Code	Theory			No of Period in one session : 60		
	No. of Periods Per Week			Full Marks	:	100
	L	T	P/S	Annual Exam.	:	80
	06	-	-	Internal Exam.	:	20

Rational: To develop understanding of the behaviors and function of various components of buildings.

Objective: able to draw and understand the drawings of building construction.

TOPIC:

01.01	Type of foundation: - Stepped brick foundation, Piles, Raft, and Grillage.	[10]
01.02	Type of Stair Cases: - Dog Legged, spiral.	[10]
01.03	Lift and Escalator.	[10]
01.04	Load Bearing and Frame Structure.	[10]
01.05	Roofing: - Flat and pitched.	[10]
01.06	Trusses: - Wooden and Steel.	[10]

01.01 Type of foundation: - Brick stepped footing, Grillage foundation, RCC foundation, Raft foundation. Pile foundation, group of piles, and Foundation consideration on types of soil. Black cotton soil, Rocky soil, Sandy soil, bearing capacity of soil

01.02 Type of Stair Cases: - Dog legged staircase, tread and riser, relation between tread and riser. Fine escape staircase. Ramp- width and slope of ramp. Balustrade, handrail

01.03 Lift and Escalator: - Lift shaft and position of lift in a building. Machine room of lift. Escalator & travelator.

01.04 Load Bearing and Framed Structure: - Load bearing structure, Minimum width of load bearing wall. Framed RCC Structure. Partition wall in framed structure.

01.05 Roofing: - Flat and pitched root. Flat roof in RCC. Slope of roof. Water proofing of RCC root- types of pitched roof. A/C Sheet, PVC Sheet and clay tiles. Gutter of pitched roof.

01.06 Trusses: - Wooden and Steel truss system.

- Wooden roof truss system- Kingpost truss and Queen post truss.
- Steel post truss- different type of truss for various span length, Advantage of truss roof system.

R.C.C. AND STEEL STRUCTURE DESIGN

Subject Code	Theory			No of Period in one session : 60		
	No. of Periods Per Week			Full Marks	:	100
	L	T	P/S	Annual Exam.	:	80
	06	-	-	Internal Exam.	:	20

Rational: Knowledge of RCC and Steel structure in Building.

Objective: able to understand RCC & Steel structure

TOPIC:

INTRODUCTION TO BUILDING MOMENT AND SHEER STORE:

01.01	Design R.C.C. Column, Beam, and Slabs, Shear fore, building moment	[08]
01.02	One Way and Two Way slab. (IS Code method)	[08]
01.03	Basic Idea of Pre cost Concrete. Advantage of Pre cost concrete.	[08]
01.04	Design of R.C.C. stairs. Design of dog leg stairs, Reinforcement detail,	[08]
01.05	Brief idea of earthquake resistant buildings. Shear wall concept. (Design Based on IS 456 code book)	[08]
01.06	Basic idea of Steel structure Design – Material property of steel. Ductility, Behavior of steel in cyclic loading. Different types of steel structural system. Steel sections, Hollow tubular steel section. Rivet and wielding. Types of connection. Ref. of code- IS 800 (1984)	[20]

PROFESSIONAL PRACTICE AND BYE-LAWS

Subject Code	Theory			No of Period in one session : 60		
	No. of Periods Per Week			Full Marks	:	100
	L	T	P/S	Annual Exam.	:	80
	06	-	-	Internal Exam.	:	20

Rational: Knowledge of Bye Laws set by development Authority.

Objective: To be acquaintance with office norms.

TOPIC:

01 – TENDER AND QUOTATION: [20]

01.01 Definition, invitation of tender classification of tender. Tender document. Earnest money, Security money. Retention amount, Mobilization fund. Opening of tender. Rejection of lowest tender, rejection of all tender. Identical tender. Quotation – definition.

02 – CONTRACT: [20]

02.01 Definition of tem contract. Contract document. Types of contract.

02.02 Condition of Contract: Concept. Condition of contract retention money. Time limit and its importance. Compensation for delay. Extension of time limit. Defect liability period, liquidated damages, extra items. Escalation of cost, sub-letting and arbitration. Termination of contract.

Certificate and payments- interim certificate, certificate of virtual completion, penultimate certificate and final certificate.

02.03 Duties and liabilities of Professionals: Duties and liabilities of Architectural Assistant. Relationship of employee with employer. Office environment and work ethics. Office and its management, structure of an architects office.

03 – NEED OF BUILDING BYE-LAWS FACTOR INVOLVING PLANNING OF BYE-LAWS: [20]

03.01 Light and Ventilation – requirement of a building. Healthy open space requirement. Setbacks. Floor area, carpet area, built up area, super built up area.

03.02 Mass – Height restrictions of a building. Light plane.

03.03 Open Space - Plot coverage, need for open space.

03.04 Skyline – Skyline of a city.

03.05 Aesthetics – Aesthetics of street, Landscaping of site, Urban design construction.

03.06 Set-Backs – Front set back, Rear set back, Side set back. Bye laws of Regional Development Authority.

- Height Restriction Far and Study of National Building Code.

ACOUSTICS AND ILLUMINATION

Subject Code	Theory			No of Period in one session : 60		
	No. of Periods Per Week			Full Marks	:	100
	L	T	P/S	Annual Exam.	:	80
	06	-	-	Internal Exam.	:	20

Rational: To understand the acoustical nature of building and lighting aspect.

Objective: able to design the building where acoustic treatment is required and lighting aspect of building

TOPIC:

01.01	Acoustics in building, acoustical defects such as echo, reverberation, Sound foci method of correction, special requirements like auditorium, Conference halls, studies etc. decibels.	[10]
01.02	Acoustical materials and their use in various building. Acoustical treatment of auditorium, cinema hall. Conference Room.	[10]
01.03	Simple exercises on sound insulation. Material for sound insulation.	[10]
01.04	Different types of lighting, qualities of light of mercury Lamps, incandescent lamps, flour scent tubes and lamps, thumb rules for Calculation of illuminating level, various systems of wiring and their sustainability.	[10]
01.05	Knowledge of various electrical fitting their uses and maintenance, symbolic representation of Electrical fitting for different work areas in residential building (e.g. Bedroom, living room, kitchen, study and toilet).	[10]
01.06	Preparation of electrical layout of simple residential building.	[05]
01.07	Precaution to avoid electrical accidents.	[05]

LAND SCAPE DESIGNS/ELEMENT OF LAND SCAPE (ELECTIVE)

Subject Code	Theory			No of Period in one session : 60		
	No. of Periods Per Week			Full Marks	:	100
	L	T	P/S	Annual Exam.	:	80
	06	-	-	Internal Exam.	:	20

Rational: To get additional knowledge to gain skill

Objective: additional skill of landscape conservation and Building Maintenance.

TOPIC:

01.01	Plants (Trees, Shrubs ground covers flowering species.	[20]
01.02	Water – Use of water in landscape design – Mughal garden. Use of water as cooing element, fountain, water cascade, water channel. Musical fountain, light, water and music.	
01.03	Forms and Stones- Stone Sculpture, Stone paving, benches.	
01.04	Artificial Stones – Stone cladding	
01.05	Principle of Landscape design with respect to architecture functions. (Use of trees as sunshade device) Greenery for aesthetics.	[10]
01.06	Relationship of Landscape and climate. Micro climate	[10]
01.07	**Practical exercises:**	
(i)	Landscape design of an out door area with use an existing or group of buildings- 2 sheets.	[10]
(ii)	Landscapes of architecture design project students are working currently- 25 heads.	[10]

ARCHITECTURAL CONSERVATION (ELECTIVE)

Subject Code	Theory			No of Period in one session : 60		
	No. of Periods Per Week			Full Marks	:	100
	L	T	P/S	Annual Exam.	:	80
	06	-	-	Internal Exam.	:	20

Rational: To get additional knowledge to gain skill

Objective: additional skill of architectural conservation and Building Maintenance.

(i) Heritage and Culture – (Criteria for a building to become a heritage building) [15]

ASI – Archaeological Survey of India

(ii) World heritage sites- UNESCO, Natural and Cultural Heritage, World heritage sites in India. [10]

(iii) Basic Conservation Techniques – Preservation of heritage building, conservative surgery. [20]

(iv) Adaptively Re-Use of heritage buildings – Havelis converted to heritage hotel. Rajashtan case study. [15]

BUILDING MAINTENANCE (ELECTIVE)

Subject Code	Theory			No of Period in one session : 60		
	No. of Periods Per Week			Full Marks	:	100
	L	T	P/S	Annual Exam.	:	80
	06	-	-	Internal Exam.	:	20

Rational: To get additional knowledge to gain skill

Objective: additional skill of Building Maintenance.

(i) Principles of Building Maintenance of its economic Constructors. [10]

(ii) Identifying the Sources of problems in interiors and exteriors of building. [10]

(iii) Causes of dampness and remedies for removing dampness. [10]

(iv) Defects and repair in roofs./ Water proofing, leakage, dampness [10]

(v) Common defects and their repair in buildings. [05]

(vi) Surfaced finishes defects and repairs. [05]

(vii) Maintenance of water supply and drainage systems. [10]

CONSTRUCTION PRACTISE II

Subject Code	Practical			No of Period in one session : 50		
	No. of Periods Per Week			Full Marks	:	50
	L	T	P/S	Annual Exam.	:	40
	-	-	6	Internal Exam.	:	10

Rational: Drawing skill in Building Construction

Objective: able to draw structural drawing.

(a) Foundation- Piles, Grillage & brick footing (3 sheets).

(b) Staircase- Dog legged (1 sheet)

(c) RCC Root and True System. (2 sheet)

MODEL MAKING

Subject Code	Practical			No of Period in one session : 50		
	No. of Periods Per Week			Full Marks	:	50
	L	T	P/S	Annual Exam.	:	40
	-	-	6	Internal Exam.	:	10

Rational: to make 3-D Model

Objective: gain skill in model making

- Model of a simple building using Mount Board.
- Model of a building using Mount board, thermocol etc. Development of Site on a model.

PROJECT WORK & PRESENTATION IN SEMINAR

Subject Code	Practical			No of Period in one session : 50		
	No. of Periods Per Week			Full Marks	:	50
	L	T	P/S	Annual Exam.	:	40
	-	-	2	Internal Exam.	:	10

Rational: to gain speaking skill and presentation drawing.

Objective: to get idea of presentation drawing.

- Complete project of a Building, Showing plan, Elevation, Section.
- Site plan and key plan. Use of bye-laws of Regional Development authority. Presentation drawing.

LAND SCAPE DESIGN (ELECTIVE)

Subject Code	Sessional			No of Period in one session : 50		
	No. of Periods Per Week			Full Marks	:	100
	L	T	P/S	Annual Exam.	:	80
	-	-	-	Internal Exam.	:	20

Rational: to get additional skill of other subject.

Objective: Supplement the knowledge of landscape, conservation & Building Maintenace.

Land Scape Design of an outdoor area of a Residential Building. Plantation, Water body, Cascade etc to be shown in one shut- (1 Sheet)

ARCHITECTURAL CONSERVATION (ELECTIVE)

Subject Code	Sessional			No of Period in one session : 50		
	No. of Periods Per Week			Full Marks	:	100
	L	T	P/S	Annual Exam.	:	80
	-	-	-	Internal Exam.	:	20

Rational: to get additional skill of other subject.

Objective: Supplement the knowledge of landscape, conservation & Building Maintenace.

One project and case study report of heritage building. Measured drawing and building showing plan, Elevation, Section and View

BUILDING MAINTENANCE (ELECTIVE)

Subject Code	Sessional			No of Period in one session : 50		
	No. of Periods Per Week			Full Marks	:	100
	L	T	P/S	Annual Exam.	:	80
	-	-	-	Internal Exam.	:	20

Rational: to get additional skill of other subject.

Objective: Supplement the knowledge of landscape, conservation & Building Maintenance.

Identification of problem of existing building and their remedy, making a report of defects of building, Structural defect, service defect, defect in plaster etc