

# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

## SCHEME OF TEACHING AND EXAMINATION

### VI SEMESTER B. Arch (Five Years Degree Course)

S. N.	Subject Code	Board of Studies	Subject	Periods per Week			Scheme of Examination			Total Marks	Credit [L+(T+P)/2]
				L	T	P	ESE	CT	TA		
01.	316611 (16)	Arch.	Building Construction-VI	3	0	0	80	20	75	175	3
02.	316612 (20)	Civil Engg.	Structure- VI	3	2	0	80	20	20	120	4
03.	316613 (24) +316613 (37)	Electrical Engg + Mech. Engg.	Building Services-II (Electrical and Mechanical)	4	0	0	80	20	40	140	4
04.	316614 (16)	Arch.	Landscape Architecture	1	1	0	80	20	20	120	2
05.	316615 (16)	Arch.	Interior Design	2	1	0	80	20	20	120	3
06.	316616 (16)	Arch.	Design –VI	2	6	0	---	---	150	150	5
07.	316621 (16)	Arch.	Design –VI (Studio)	0	0	2	50	---	---	50	1
08.	316622 (16)	Arch.	Building Construction-VI (Studio)	0	0	6	25	---	---	25	3
09.	316623 (16)	Arch.	Working Drawing-II (Studio)	0	0	7	25	---	75	100	4
<b>TOTAL</b>				<b>15</b>	<b>10</b>	<b>14</b>	<b>500</b>	<b>100</b>	<b>500</b>	<b>1000</b>	<b>29</b>

**L**-Lecture, **T**- Tutorials, **P**-Practical (i.e. Studio work),

**ESE**- End Semester Examination, (Minimum Passing Marks: Theory-35%, Practical-50%)

**CT**- Class Test

**TA**- Teachers' Assessment of the Sessional Assignments, (Minimum Pass Marks: Theory-60%, Practical- 50%)

**Note:** 1. ESE and TA (Both Theory and Practical) are required to be passed separately.

2. For a the subjects having Practical (i.e. Studio work) will be divided in sections at the rate of maximum 15 students per teacher, though studio of all the sections will be held simultaneously in the same studio hall.

# Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.).

Semester: **VI**

Subject: **BUILDING CONSTRUCTION -VI**

Total Theory Periods: **40**

Total Marks in End Semester Exam: **80**

Minimum number of Class tests to be conducted: **02**

Branch: **ARCHITECTURE**

Code: **316611 (16)**

Total Tut Periods: **Nil**

Study & construction details of R.C.C. building components.

**Unit 1: Beams** : Simply supported, continuous, cantilever L & T beams  
lintels & chajjas (sun shades), details at odd junctions.

**Unit 2: Slab** : One way, and continuous, two way slab, flat slab,  
Waffle slab, Reinforced brick slab.

**Unit 3: Foundation** : RCC column footings, foundations for workshops and  
machines.

**Unit 4: Staircases & Ramps** : Types of staircases, detail of RCC dog-legged staircase,  
RCC ramps.

**Unit 5: Timber & steel formwork:** For various RCC building components.

Note: 1. There shall be regular site visits to buildings, under construction or  
Constructed, to explain the above topics. Use of audio-visuals should be  
stressed.

2. Submission of sessionals work shall be done as scaled drawings on drawing  
sheets and freehand drawings along with occasional visits to construction sites.

3. In theory examination there will be a separate question from each unit with  
choice within the unit/question. All units/questions will be compulsory.

# Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.).

Semester : **VI**

Subject: **STRUCTURE-VI**

Total Theory Periods: **40**

Total Marks in End Semester Exam: **80**

Minimum number of Class tests to be conducted: **02**

Branch: **ARCHITECTURE**

Code: **316612 (20)**

Total Tut Periods: **28**

(R.C.C.: LIMIT STATE METHOD)

**Unit 1:** Design of combined footing (Rectangular and trapezoidal)

**Unit 2:** Design of flat slab.

**Unit 3:** Design of two way slab (simply supported and continuous)

**Unit 4:** Design of column (Biaxial bending) (By using S.P. 16).

**Unit 5:** Pre- stress & Pre stressing methods.

Note: 1. I.S. code 456 is permitted in examination.

2. Submission of the sessionals work shall include the analysis and design of simple elements along with the drawings.

# Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.).

Semester : VI  
Subject: **BUILDING SERVICES -II**  
**(ELECTRICAL & MECHANICAL)**

Branch: **ARCHITECTURE**  
Code: **316613 (24, 37)**

Total Theory Periods: **50**  
Total Marks in End Semester Exam: **80**  
Minimum number of Class tests to be conducted: **02**

Total Tut Periods: **Nil**

## **SECTION A: ELECTRICAL [316613 (24)]--**

**Marks : 40**

1. Fundamentals of electricity, Principles of wiring.
2. Study of various fixtures, fittings, accessories and equipments used in installation of electrical services in small, large and multistoried buildings of various types viz. Residential, commercial, public, industrial etc.
3. Planning and design of electrical services in various types of buildings including:
  - Calculation of electric load and its phasing.
  - Schematic diagram of electric installations with use of symbols.
  - Study of special fixtures like lightning conductors, earthing, waterproof and spark proof installations, stabilizers, circuit breakers etc.and installation thereof.
  - Location and space norms for Electric Sub-station, Study and application of relevant rules and regulations of Electricity boards.
  - Rules and layout of telephone connections, EPBX, T.V. Cable connections etc.
4. ILLUMINATION: Principles of illumination including calculations for desired illumination on different working planes for various activities like reading, writing, drawing, domestic works, industrial jobs etc. Designing illumination for various types of buildings like residential, educational, offices etc.
5. Illumination for special purposes viz. Exhibitions, Theaters, Stadiums, Swimming pools, Cinemas, Assembly halls, Restaurants, Religious buildings etc along with study of Direct, Indirect, Flood, Concealed, Focus light etc.

## **SECTION B: MECHANICAL [316613 (37)]--**

**Marks : 40**

1. The fundamental principles of Psychometrics and heat transfer.
2. Methods of Air conditioning, Fittings, fixtures, accessories and equipment used in various types of air-conditioning along with their construction details.
3. A.C. duct design and layout with constructional details. (No calculations.)
4. Lifts and mobile walkways, escalators including study of their operation, function, layouts and design details.
5. Appliances, equipments and systems for fire safety of buildings,( particularly high rise) including study of their function, operation and construction details.

**Note:** The submission of sessionals shall be in form of notes, home assignments, Schematic Layout /drawing for layout of installation of various electrical and mechanical services in given building.

# Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.).

Semester : VI

Subject: **LANDSCAPE ARCHITECTURE**

Total Theory Periods: **12**

Total Marks in End Semester Exam: **80**

Minimum number of Class tests to be conducted: **02**

Branch: **ARCHITECTURE**

Code: **316614 (16)**

Total Tut Periods: **12**

The objective of this subject is to introduce students about landscape architecture thereby enhancing the outdoor environmental quality in architectural design.

**Unit 1:** Definition of landscape its scope and importance in architecture and planning  
Levels of landscape planning.

**Unit 2:** Landscape design process, information needed for landscape survey. Land, water & plants as landscape elements, their functional & aesthetical considerations in landscape design. Man made elements in landscape design-lamp posts. Sign boards, garbage bins, fences etc.

**Unit 3:** Plantation -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. Gardening notes including study of soil, Fertilizers etc.

**Unit 4:** Brief outline of development of gardens in history. The principles and design philosophy of Mughal & Japanese gardens with examples.

**Unit 5:** Complete landscape design schemes for situations ranging from residential landscape to Settlements Considering all the above aspects along with land grading, 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.

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

# Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.).

Semester : VI

Subject: **INTERIOR DESIGN**

Total Theory Periods: **28**

Total Marks in End Semester Exam: **80**

Minimum number of Class tests to be conducted: **02**

Branch: **ARCHITECTURE**

Code: **316615 (16)**

Total Tut Periods: **12**

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

- Unit 1:** Understanding the role of interior design in total design process. Impact of interior space on human psychology and behavior. Historical background of interior design on global level.
- Unit 2:** Classification of internal spaces based on character. Study of considerations for interior design such as Space, planes, Form, Color, Abstract and formal configuration, geometrical disciplines, visual controls, illusions with their separate and combined impact.
- Unit 3:** Elements and components of interior design such as surfaces, furniture, coverings, drapery, water bodies, plantation, decorative features like paintings, sculptures, level differences, occupancies etc.
- Unit 4:** Impact of elements used for thermal comfort, acoustical treatment, illumination, building services etc on interior design and design measures to handle them.
- Unit 5:** Complete design scheme of interiors for spaces having different uses and requirements such as Reception halls, Waiting lounges, Restaurants, foyers, Drawing halls, Offices, Residential spaces, Exhibition halls, Hotels, Theatres, Assembly Halls etc.

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

# Chhattisgarh Swami Vivekanand Technical University, Bilai (C.G.).

Semester: **VI**

Subject: **DESIGN -VI**

Total Theory Periods: **28**

Total Marks in End Semester Exam: ---

Minimum number of Class tests to be conducted: ---

Branch: **ARCHITECTURE**

Code: **316616 (16)**

Total Tut Periods: **72**

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, services and acoustical treatments.

Exercises related to public buildings i.e. commercial center, hospital, auditorium, cinema, sports complex & educational buildings on sloping/flat sites. Study and incorporation of building byelaws should be complete in this Semester.

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 byelaws in building design. Minimum one time problem is to be attempted in class, in addition to the major design problems.

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

# Chhattisgarh Swami Vivekanand Technical University, Bilai (C.G.).

Semester : **VI**

Subject: **DESIGN -VI (STUDIO)**

Total Practical Periods: **28**

Total Marks in End Semester Exam: **50**

Minimum number of Class tests to be conducted: --

Branch: **ARCHITECTURE**

Code: **316621 (16)**

Total Tut Periods: **Nil**

The subject is a lab (studio) oriented subject and hence, the syllabus as specified in Design - VI [316616-(16)] will be the same. The works done as sessionals will be evaluated by internal and external examiners at the end semester examination. For conduction of the Practical (viva-voce) examination one external and one internal examiner may be appointed for a group of 15-20 students.

**Chhattisgarh Swami Vivekanand Technical University, Bilai  
(C.G.).**

Semester : **VI**

Subject: **BUILDING CONSTRUCTION -VI (STUDIO)**

Total Practical Periods: **72**

Total Marks in End Semester Exam: **25**

Minimum number of Class tests to be conducted: --

Branch: **ARCHITECTURE**

Code: **316622 (16)**

Total Tut Periods: **Nil**

The subject is a lab (studio) oriented subject and hence, the syllabus as specified in Building Construction VI [316611-(16)] will be the same. The works done as sessionals will be evaluated by internal and external examiners at the end semester examination. For conduction of the Practical (viva-voce) examination one external and one internal examiners may be appointed for a group of 15-20 students.

# Chhattisgarh Swami Vivekanand Technical University, Bilai (C.G.).

Semester : **VI**

Subject: **WORKING DRAWING -II (STUDIO)**

Total Practical Periods: **85**

Total Marks in End Semester Exam: **25**

Minimum number of Class tests to be conducted: --

Branch: **ARCHITECTURE**

Code: **316623 (16)**

Total Tut Periods: **Nil**

The subject is a continuation of the subject [316523 (16)]. The preliminaries, methodologies etc have been already taught.

1. One set of complete working drawing of students own previous / current design necessarily a frame structure.
2. Use of computer-aided drawings shall be encouraged and prepared.

Note: Submission of the sessionals shall be in the form of full set of working drawing and design details of given building. The sessionals marks will be based upon the portfolio submitted and internal viva. The works done as sessionals will be evaluated by internal and external examiners at the end semester examination. For conduction of the Practical (viva-voce) examination one external and one internal examiner may be appointed for a group of 15-20 students.