

# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

## Scheme of teaching and examination

### B.E. III Semester Bachelor of Architecture (Five Year Degree Course)

S. No	Board of Study	Subject Code	Subject	Periods per week			Scheme of Exam			Total Marks	Credit L+(T+P)/2
				L	T	P	Theory/ Pract.				
							ESE	CT	TA		
1	Architecture	316311 (16)	Building Construction -III	2	-	-	80	20	75	175	2
2	Civil Engg.	316312 (20)	Structure -III	3	2	-	80	20	20	120	4
3	Architecture	316313 (16)	Climatology	2	2	-	80	20	20	120	3
4	Architecture	316314 (16)	Building Materials-III	2	1	-	80	20	30	130	3
5	Architecture	316315 (16)	History of Architecture - II	2	2	-	80	20	30	130	3
6	Architecture	316316 (16)	Design - III	2	6	-	-	-	200	200	5
7	Architecture	316321 (16)	Design -III (Studio)	-	-	2	50	-	-	50	1
8	Architecture	316322 (16)	Building Construction - III (Studio)	-	-	3	25	-	-	25	2
9	Architecture	316323 (16)	Presentation Techniques	-	-	4	25	-	25	50	2
<b>Total</b>				<b>13</b>	<b>13</b>	<b>09</b>	<b>500</b>	<b>100</b>	<b>400</b>	<b>1000</b>	<b>25</b>

L-Lecture, T-Tutorial,  
P-Practical, ESE- End sem. Exam , CT-Class Test ,  
TA- Teacher's Assessment ,

- 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 (CG)**

Semester: **B.E. III**  
Subject: **Building Construction -III**  
Total Theory Periods: **28**  
Total Marks in End Semester Exam. : **80**  
Minimum number of class test to be conducted: **02**

Branch: **B. Arch**  
Code: **316311 (16)**  
Total Tutorial Periods: **Nil**

- Unit-1**      **Timber floor** : Single, double and triple.
- Unit -2**      **Timber roofs**: Flat, Lean to type, couple and close couple.
- Unit -3**      **Timber trussed roofs**: King post, queen post, built truss (timber and concrete as per C.B.R.I)
- Unit -4**      **Assorted timber constructions**: Balconies, stairs and canopies (timber).
- Unit - 5**      **Built in furniture**: wardrobe, cupboard, shelf, showcases, bookshelf, racks, almirahs etc.

- 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 Sessional work shall be done as scaled drawings on drawing sheets and freehand drawings along with occasional visits to construction sites.
  3. In theory examination there will be a separate question from each unit with choice within the unit/ question. All units/questions will be compulsory.

**CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY,  
BHILAI (C.G.)**

Semester: **B.E. III**  
Subject: **Structure – III**  
Total Theory Periods: **40**  
Total Marks in End Semester Exam. : **80**  
Minimum number of class test to be conducted: **02**

Branch: **B. Arch**  
Code: **316312 (16)**  
Total Tutorial Periods: **24**

- Unit - 1**      **Tension Members in steel:** I.S. Structure sections, study of steel tables, single & built-up sections.
- Unit - 2**      **Compression members in steel:** Single and built-up sections, column base; slab & gusseted base.
- Unit -3**      **Steel Beams:** Simple & built-up plate girder.
- Unit -4**      **Steel joints and connections.**
- Unit -5**      **Design of roof truss in steel:**
- a) To determine the forces in members due to various loads.
  - b) Complete design of steel truss (Sessional work only).

- Note:**
1. Sessional work should include design and analysis of simple elements as stated above with drawings.
  2. Steel table & I.S. code 800 is permitted in examination.
  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: **B.E. III**

Subject: **Climatology**

Total Theory Periods: **28**

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

Minimum number of class test to be conducted: **02**

Branch: **B. Arch**

Code: **316313 (16)**

Total Tutorial Periods: **24**

- Unit -1**      **Elements of climate:** Constituents of climate, along with their Measurement and Data . collection with use of meteorological data, solar charts etc, Classification of climate on global level. Study of Microclimate.
- Unit -2**      **Principles of thermal comfort:** Physiological impact of climate, Comfort indices.
- Unit -3**      **Design considerations:** Ventilation and air movement, Illumination and day lighting
- Unit -4**      **Climate conscious design:** Introduction to traditional design measures in various climates at Global level, Use of different design aids.
- Unit -5**      **Tropical Architecture:** Design parameters for various types of climates in Tropical region viz. Settlement Planning. Orientation, design of fenestrations, shading devices, building materials, construction techniques etc.

- Note:**
1. Course would be run through lectures, Audiovisuals and site visits to various laboratories and buildings.
  2. Submission or the Sessional shall be in the form of small reports, seminars, and design solutions on above- mentioned topics. The works of various building science laboratories be referred and discussed.
  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: **B.E. III**

Subject: **Building Materials – III**

Total Theory Periods: **28**

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

Minimum number of class test to be conducted: **02**

Branch: **B. Arch**

Code: **316314 (16)**

Total Tutorial Periods: **12**

The subject aims at developing the understanding and knowledge of PROPRIETOR building materials regarding their availability, composition, properties, classification, use and application

- Unit - 1**      **Synthetic Materials:** Wallpapers, polymers, plastics, laminated boards.
- Unit - 2**      **Materials for specific Uses-I:** Thermal insulation material, acoustical materials, waterproofing materials, fire resistant materials.
- Unit -3**      **Materials for specific uses- II:** Materials used in electrical fittings, sanitation, water supply, termite control etc.
- Unit - 4**      **Materials used in Furniture's:** Timber, Bamboo, Cane, Metals, Foams, Drapery, Upholstery, Floor Coverings, Resins, Fixtures and fittings.
- Unit - 5**      **By Products Materials:** Materials from industrial, agricultural and mineral wastes e.g. fly ash, furnace slag, lime kin rejects, red mud, rice husk, saw dust, wooden chips, fibers and wood wool.

- Note:** 1. Submission of the Sessional shall be in the form of small reports, seminars and notes on above mentioned topics. The works, of CBRI, NBO, HUDCO and other institutions be referred and discussed.
2. In theory examination there will be a separate question from each unit with choice within the unit/question. All units/questions will be compulsory.

**CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY,  
BHILAI (C.G.)**

Semester: **B.E. III**

Subject: **History of Architecture - II**

Total Theory Periods: **28**

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

Minimum number of class test to be conducted: **02**

Branch: **B. Arch**

Code: **316315 (16)**

Total Tutorial Periods: **24**

The subject aims at developing an understanding regarding worldwide development of historical (400 B.C. to 1000 A.D.) Architecture in terms of design concepts, philosophy, space organization, use of materials, construction techniques, structural systems, aesthetical aspects etc. with considerations to prevailing geo-geographical climatic, political, social, cultural and religious situations and influences.

**Unit - 1** North Indian Brahmanical/ Buddhist/ Jain architecture.

**Unit - 2** South Indian Brahmanical/ Buddhist/ Jain architecture.

**Unit - 3** Greek Architecture.

**Unit - 4** Roman and Early Christian Architecture.

**Unit - 5** Chinese, Japanese (After arrival of Buddhism), and South East Asian architecture.

- Notes:
1. Sessional assignments will be inform of sketches and notes to be submitted in sketch book/files and presented through seminars and class tests.
  2. In theory examination there will be a separate question from each unit with choice within the unit/question. All units/ questions will be compulsory.

**CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY,  
BHILAI (C.G.)**

Semester: **B.E. III**

Subject: **Design-III**

Total Theory Periods: **28**

Minimum number of class test to be conducted: **02**

Branch: **B. Arch**

Code: **316316 (16)**

Total Tutorial Periods: 72

The aim of the course is to emphasis and evolve the methodology for architectural design with reference to the previous knowledge of function and aesthetics. Teh design should highlight clear approach to the design with concept, Analysis, Synthesis and clarity of details along with architectural expression with use of appropriate graphic presentation techniques.

1. The design should be done with sensitivity towards surroundings i.e. traditional and vernacular architecture, construction techniques and environment.
2. The assignments shall be design of small buildings like nursery schools, restaurants, small nursing homes, small offices, exhibition pavilions, canteens, kiosks etc.

One time- problem is to be attempted in class other than regular design problems.

Note: submission of the Sessional will be in the from 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 building, dealt in studio problems, so as to document them with the help of photograph, slides, videocassettes etc.

**CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY,  
BHILAI (C.G.)**

Semester: **B.E. III**

Subject: **Design-III (Studio)**

Total Lab Periods: **28**

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

Branch: **B. Arch**

Code: **316321 (16)**

The aim of the course is to emphasis and evolve the methodology for architectural design with reference to the previous knowledge of function and aesthetics. Teh design should highlight clear approach to the design with concept, Analysis, Synthesis and clarity of details along with architectural expression with use of appropriate graphic presentation techniques.

1. The design should be done with sensitivity towards surroundings i.e. traditional and vernacular architecture, construction techniques and environment.
2. The assignments shall be design of small buildings like nursery schools, restaurants, small nursing homes, small offices, exhibition pavilions, canteens, kiosks etc.

One time- problem is to be attempted in class other than regular design problems.

Note: submission of the Sessional will be in the from 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 building, dealt in studio problems, so as to document them with the help of photograph, slides, videocassettes etc.

**CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY,  
BHILAI (CG)**

Semester: **B.E. III**  
Subject: **Building Construction -III (Studio)**  
Total Lab Periods: **40**  
Total Marks in End Semester Exam. : **25**

Branch: **B. Arch**  
Code: **316322 (16)**

- Unit-1**      **Timber floor** : Single, double and triple.
- Unit -2**      **Timber roofs**: Flat, Lean to type, couple and close couple.
- Unit -3**      **Timber trussed roofs**: King post, queen post, built truss (timber and concrete as per C.B.R.I)
- Unit -4**      **Assorted timber constructions**: Balconies, stairs and canopies (timber).
- Unit - 5**      **Built in furniture**: wardrobe, cupboard, shelf, showcases, bookshelf, racks, almirahs etc.

- 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 Sessional work shall be done as scaled drawings on drawing sheets and freehand drawings along with occasional visits to construction sites.
  4. 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: **B.E. III**

Subject: **Presentation Techniques**

Total Marks in end semester exam: **25**

Minimum number of class test to be conducted: **02**

Branch: **B. Arch**

Code: **316323 (16)**

Total Practical Periods: **50**

The subject aims at developing skill for using various presentation techniques in different mediums of graphic presentation.

1. Hints for selection of observers' location for better perspective view. Method and technique to draw bird's eye view. Normal perspective and interior views and use of photographic and CAD techniques in perspective.
2. Improving techniques of perspective by showing shades, shadows and human figures, trees. Related background and foreground to create suitable scenario manually.
3. Use of computer to make technical and presentation drawings.

**Note: 1** There shall be regular site visits to buildings and offices of the practicing Architects to understand the fieldwork.

- 2 Sessional assignments will be inform of sketches and notes to be submitted in sketch book/files and presented through seminars and class tests.