

Chhattisgarh Swami Vivekanand Technical University, Bhilai

SCHEME OF TEACHING AND EXAMINATION

IX SEMESTER B Arch (Five Years Degree Course)

NINTH SEMESTER

| 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. | 316911 (16) | Arch. | Advanced Building Construction | 3 | 0 | 0 | 80 | 20 | 75 | 175 | 3 |
| 02. | 316912 (16) | Arch. | Building Economics and Sociology | 3 | 2 | 0 | 80 | 20 | 30 | 130 | 4 |
| 03. | Refer Table - I | | Elective-I | 4 | 2 | 0 | 80 | 20 | 40 | 140 | 5 |
| 04. | Refer Table - II | | Elective-II | 3 | 1 | 0 | 80 | 20 | 30 | 130 | 4 |
| 05. | 316913 (16) | Arch. | Design Project-IX | 2 | 5 | 0 | --- | --- | 200 | 200 | 5 |
| 06. | 316921 (16) | Arch. | Design Project –IX (Studio) | 0 | 0 | 2 | 50 | --- | --- | 50 | 1 |
| 07. | 316922 (16) | Arch. | Advanced Building Construction (Studio) | 0 | 0 | 4 | 25 | --- | --- | 25 | 2 |
| 08. | 316923 (16) | Arch. | Dissertation on Thesis (Studio) | 0 | 0 | 5 | 100 | --- | --- | 100 | 3 |
| 09. | 316924(16) | Arch | Elective-I (Studio) | 0 | 0 | 4 | 50 | --- | --- | 50 | 2 |
| TOTAL | | | | 15 | 10 | 15 | 545 | 80 | 375 | 1000 | 29 |

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.

| Table - I | | | |
|---------------------|----------------|--------------|------------------------|
| Elective - I | | | |
| S.No. | Board of Study | Subject Code | Subject |
| 1 | Architecture | 316931 (16) | Urban Design |
| 2 | Architecture | 316932 (16) | Environmental Planning |
| 3 | Architecture | 316933 (16) | Regional Planning |
| 4 | Architecture | 316934 (16) | Housing |

| Table - II | | | |
|----------------------|----------------|--------------|--------------------------|
| Elective - II | | | |
| S.No. | Board of Study | Subject Code | Subject |
| 1 | Architecture | 316951 (16) | Intelligent Buildings |
| 2 | Architecture | 316952 (16) | Industrialized Buildings |
| 3 | Architecture | 316953 (16) | Low cost Buildings |

Note : 3

These electives are related to post graduate courses and the students are offered the same with following conditions:

The department may run an elective or not depending upon the availability of expertise or for any other reason.

The students are required to opt for ANY ONE of them, but an elective will be run only when it is opted by minimum 10 students or 25% of the number of the students in the batch, whichever is less.

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

Semester : **NINTH**
Subject: **ADVANCED BUILDING CONSTRUCTION**
Total Theory Periods: **40**
Total Marks in End Semester Exam: **80**
Minimum number of Class tests to be conducted: **02**

Branch: **ARCHITECTURE**
Code: **316911 (16)**
Total Tut Periods: **Nil**

Design and drawing of constructional details of:

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

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

2. Minimum 8 sheets shall be prepared out of which two may be in sketch form (scaled).
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 : **NINTH**
Subject: **BUILDING ECONOMICS AND SOCIOLOGY**
Total Theory Periods: **40**
Total Marks in End Semester Exam: **80**
Minimum number of Class tests to be conducted: **02**

Branch: **ARCHITECTURE**
Code: **316912 (16)**
Total Tut Periods: **24**

SECTION I: BUILDING ECONOMICS.

1. Introduction. Broad features of economics, Significance of economics in the development, Macro and Microeconomics, Their concepts and applications, money and Banking functions, Factors of production e.g. Land, labor, Capital, management, money, Marketing etc with reference to building industry.
2. Land economics: Land as limited resource, Land development and conservation, Public policies on land utilization and development, Theories of land values, Acts regarding land use, acquisition and development schemes.
3. Building economics: Increasing building efficiency and cost reduction through proper space organization, use of building components, use of new materials, and innovative construction etc, Rent control and other building acts, Economics of High-Rise buildings.

SECTION B: SOCIOLOGY.

4. Man and his social environment, Social groups, structure, and social changes with respect to ethnic, cultural and organizational aspects.
5. Trends and characteristics of Urbanization, Dynamics of Urban growth, expansion and development along with social changes, urban attitude, values and behavior, Study of above topics based on observations, surveys and published reports.

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 : **NINTH**

Subject: **DESIGN PROJECT-IX**

Total Theory Periods: **02/week**

Total Marks in End Semester Exam: --

Minimum number of Class tests to be conducted: --

Branch: **ARCHITECTURE**

Code: **316913 (16)**

Total Tut Periods: **05/week**

Design studio program in this semester should focus on urban and metropolitan problems. The design problem may be of large scale, handling of a group of buildings or a cluster of buildings, preferably urban in nature to develop and understanding for problem associated with site planning, layout of roads and services, traffic pollution, land-use etc; a visual and functional study of urban space in use, urban activities, services and evolution of various spaces. A time problem of 24 hours duration shall be done.

Note: The Sessional should be in the form of drawings, models & audio-visuels. The evolution should be done in intermediate reviews consisting of internal external experts. The evaluation shall be done in intermediate reviews consisting of internal and external experts.

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

Semester : **NINTH**

Subject: **URBAN DESIGN**

Total Theory Periods: **50**

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

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

Branch: **ARCHITECTURE**

Code: **316931 (16)**

Total Tut Periods: **24**

1. Definition of urban design, Scope of urban design on international level and in Indian context, Relation with the process of urban planning, growth and development.
2. Historical development in the field of urban design, spatial design, Space orders (Classical, functional, ornamental etc.)
3. Urban forms and its component elements, Visual order of the form, sequence, Scale, Visual space dynamics, various surveys required to document visual aspects of environment.
4. Urban Design concepts and theories of various urban designers having reputation at international and national level.
5. Rational interrelationship among urban structure, economic activities, public organization, communication systems etc., urban conservation and land use structure.

NOTE: Sessional assignment will be based on case studies of old and new townships, city centers, complexes etc. along with proposal for urban design scheme for the same other situations.

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

Semester : **NINTH**

Subject: **ENVIRONMENTAL PLANNING**

Total Theory Periods: **50**

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

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

Branch: **ARCHITECTURE**

Code: **316932 (16)**

Total Tut Periods: **24**

1. Factors and parameters of Environmental planning, Ecological considerations in planning including standards, Causes and effects of global environmental facets.
2. Evaluation of factors viz. pollution of Air, water, land and other natural situations.
3. Environmental consideration at planning stage, Environmental policies and legislation to safeguard the environment.
4. Advanced techniques and tools for predicting environmental constraints.
5. Importance and methods of Environmental impact assessment.

NOTE: Sessional assignments will be based on case studies with data collection, surveys and other observations and will be presented in form of seminars.

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

Semester : **NINTH**

Subject: **REGIONAL PLANNING**

Total Theory Periods: **50**

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

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

Branch: **ARCHITECTURE**

Code: **316933 (16)**

Total Tut Periods: **24**

1. Role of regional planning at national level, Basic concepts of regional planning including incorporation of planning concepts for settlement ranging from metropolitan cities to villages.
2. Socio cultural and land use planning, general principles, Survey techniques, Utopian thoughts and models for planning and relevance in Indian context.
3. Planning norms and development norms for regional approaches (along with consideration to urban planning), Development of existing areas and renewal schemes, conservation and development.
4. Surveys and techniques for planning modes of transportation and its development.
5. Review of existing and proposed regional plans.

NOTE: Sessional assignment will be based on surveys, observations, making regional planning proposals and would be presented report.

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

Semester : **NINTH**

Subject: **HOUSING**

Total Theory Periods: **50**

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

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

Branch: **ARCHITECTURE**

Code: **316934 (16)**

Total Tut Periods: **24**

1. Study of housing scenario in Indian context, National and state wise Housing policies.
2. Primary consideration for planning housing strategies, Surveys, analysis and inferences based on survey and data.
3. Study and analysis of infra-structural requirements, including re-evaluation of standards based on actual observation study of land use density, legislation and byelaws, framing housing policy for a proposed scheme with consideration to nature of development.
4. Environmental consideration for urban, sub-urban and rural housing including physical and psycho-sociological aspects, classification of users based on economic, occupational and socio- cultural aspects.
5. To study and analyze an example and proposed for the housing scheme for a given situation considering all the aspects studied above.

Note: Sessional assignment will be based on unit 5 and will be presented in form of seminars.

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: **NINTH**

Subject: **INTELLIGENT BUILDINGS**

Total Theory Periods: **40**

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

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

Branch: **ARCHITECTURE**

Code: **316951 (16)**

Total Tut Periods: **12**

1. Introduction & Origins of the Intelligent Buildings Concept. Definition and characteristics of Intelligent Buildings with brief history and contemporary concept highlighting Automated buildings (1981-1985), Responsive buildings (1986-1991), Effective buildings (1992-1997).
2. Study of Concepts of Management of facilities, Effective Space, Business along with various models of Building Intelligence.
1. Technology Evolution and the IT marks place: present technological content. Exploration of user IT systems. Demands on building and services, Control systems, study of development of Computer Integrated Building, from single function systems to integrated solutions.
2. 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 elements, life cycles, Coordination between life cycle, organizational requirements and building technologies. Study of issues related to site, shell, skin, services and technology.
3. Importance and study of planning and operational techniques for facility management. Intelligent design and construction, Expectations of user, use of IT for effective communication of architectural concepts to user, Locating people and information, Introduction to building efficiency with respect to life cycle costs.

NOTE: The Sessional assignment will include collection of information from various sources including treatises in vernacular languages, case studies of important buildings and proposals in light of above study. The same will be presented in reports and seminars.

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

Semester: **NINTH**

Subject: **INDUSTRIALIZED BUILDINGS**

Total Theory Periods: **40**

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

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

Branch: **ARCHITECTURE**

Code: **316952 (16)**

Total Tut Periods: **12**

1. Introduction & origins of the Industrialised Concept: Definition of Industrialization. Study of historical background of industrialized building in other countries. The Indian experience. Study of CBRI & SERC works.
2. Use of Modular Coordination & Standardization. Introduction, standardization of building components in present technological context, design parameters.
3. Use of latest construction techniques: Tunnel form system, L&T form System, Triple S System, etc.
4. Case Studies of Industrialized Buildings: from site/literature.
5. Scope & limitations on applicability Socio-economic situations, spatial requirements & Lifestyle. Group Housing.

NOTE: The Sessional assignment will include collection of information from various sources including treatises in vernacular languages, case studies of important buildings and proposals in light of above study. The same will be presented in reports and seminars.

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

Semester: **NINTH**

Subject: **LOW COST BUILDINGS**

Total Theory Periods: **40**

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

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

Branch: **ARCHITECTURE**

Code: **316953 (16)**

Total Tut Periods: **12**

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.

1. Introduction to the term low cost- its definition, concept, scope, importance, the need etc.
2. Cost factor and reduction measures through design appropriate technology management R & D applications.
3. Consideration in rural-urban housing schemes group plotted. Flatted and estate development spare standards. Spare utilization.
4. Prefabrication modular co-ordination, pre-stressed components and use of such other systems.
5. Study of the effort done by other agencies in cost reduction measures.

NOTE: Sessional shall include assignments with report on case studies and design project work in housing/residential/public buildings incorporating the various measures.

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

Semester : **NINTH**

Branch: **ARCHITECTURE**

Subject: **DESIGN PROJECT-IX (STUDIO)**

Code: **316921 (16)**

Total Practical Periods: **28**

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

Minimum number of Class tests to be conducted: --

The subject is a lab (studio) oriented subject and hence, the syllabus as specified in Design Project-IX [316915(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 : **NINTH**

Branch: **ARCHITECTURE**

Subject: **ADVANCED BUILDING CONSTRUCTION (STUDIO)**

Code: **316922 (16)**

Total Practical Periods: **50**

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

Minimum number of Class tests to be conducted: --

The subject is a lab (studio) oriented subject and hence, the syllabus as specified in Advanced Building Construction [316911(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, Bhilai (C.G.).

Semester: **NINTH**

Subject: **DISSERTATION ON THESIS (STUDIO)**

Total Practical Periods: **60**

Total Marks in End Semester Exam: **100**

Minimum number of Class tests to be conducted: --

Branch: **ARCHITECTURE**

Code: **316923 (16)**

The objective of introducing dissertation is to develop the research aptitude, skill of report writing and presentation in the form of seminar. The work shall be done on any topic, known theories, established practices etc. related to the field of architecture. The study, editing or collection of information or research may be purely theoretical one. The topic shall be selected by the student in consultation with the coordinator and the guide. It is advisable that the selected topic may have relevance with the proposed topic of thesis. The department may form a Thesis Evaluation Committee headed by a Thesis Coordinator for selection of the guides for various thesis topics.

The dissertation work will be evaluated a stages and a final report shall be submitted with photographs, sketches etc. given at appropriate places. The final presentation will be in the form of seminar/review.

The end semester examination will be evaluated by the respective guides of the students along with one external examiner. For conduction of the practical (viva-voce) examination one external may be appointed for a group of 15-20 students, and the respective guides will act as internal examiners.

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

Semester : **NINTH**

Subject: **ELECTIVE -I (STUDIO)**

Total Practical Periods: **60**

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

Minimum number of Class tests to be conducted: --

Branch: **ARCHITECTURE**

Code: **316924 (16)**

The subject is a lab (studio) oriented subject and hence, the syllabus as specified in Elective-I [316913(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.