



CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY

Courses of Study and Scheme of Examination of B. Arch. First Year
Common to all branches of Engineering except

FIRST SEMESTER

S.No	Board of Study	Subject Code	Subject	Periods Per Week			Scheme of Examination			Total Marks	Credit $\frac{L+T+P}{2}$
				L	T	P	Theory				
							ESE	CT	TA		
1	Architecture	316111(16)	Building Construction – I	3	0	0	80	20	75	175	3
2	Civil Engg.	316112(20)	Structure – I	3	2	0	80	20	20	120	4
3	Architecture	316113(16)	Graphics – I	3	0	0	80	20	75	175	3
4	Architecture	316114(16)	Building Materials – I	2	1	0	80	20	20	120	3
5	Humanities	300111(46)	Language (Professional Communication in English)	2	1	0	80	20	20	120	3
6	Architecture	316115(16)	Design-I	2	6	0	---	---	150	150	5
7	Architecture	316121(16)	Design-I (STUDIO)	0	0	2	50	---	---	50	1
8	Architecture	316122(16)	Building Construction – I (STUDIO)	0	0	4	25	---	---	25	2
9	Architecture	316123(16)	Graphics – I (STUDIO)	0	0	6	25	---	---	25	3
10	Architecture	316124(16)	Workshop	0	0	3	---	---	40	40	2
TOTAL				15	10	15	500	100	400	1000	29

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

Note: (i) The teaching in the 1st and 2nd semester will be divided in two groups consisting of various branches as shown below: P1-GROUP: Electronics & Communication, Information Technology, Electronics & Instrumentation, Electrical, Chemical, Electrical & Electronics; Q1-GROUP: Computer Science, Mechanical, Civil, Mining and Applied Electronics & Instrumentation, Metallurgy.

(ii) Applied Maths - I will be taught to both the groups.

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

Semester: **1st**
Subject: **Building Construction-I**
Total Theory Periods: 40
Total Marks in End Semester Exam: 80
Minimum number of class tests to be conducted: 02

Branch: Common to All Branches
Code: 316111 (16)
Total Tutorial Periods: --

Unit – I

BRICK: Bonds in brick masonry for various thickness of walls and various situations like ends, junctions, attached or detached pier, jointing, pointing, cavity walls.

[No. of Periods:]

Unit – II

STONE: Classification of stones alongwith their uses, dressing, stone masonry of different types for various thicknesses of walls, jointing, pointing.

[No. of Periods:]

Unit – III

FOUNDATION: In brick, stones, plinth filling, for entrance, steps/ramps, plinth protection. D.P.C. and coping, Timbering to excavation

[No. of Periods:]

Unit – IV

ARCHES and LINTEL: In bricks, stones, stone lintels, centering materials and methods.

[No. of Periods:]

Unit – V

PRE-CAST UNIT MASONRY: Concrete block, decorative brick work, compound walls in mud, (Ref-C.B.R.I. publications), other bonds.

[No. of Periods:]

Note:

1. Submission of the sessionals shall be done in form of drawing sheets having scaled drawings and proportionate freehand sketches, along with occasional visits to construction sites.
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: **Ist**

Subject: **Structure-I**

Total Theory Periods: 40

Total Marks in End Semester Exam: 80

Minimum number of class tests to be conducted: 02

Branch: Common to All Branches

Code: 316112 (20)

Total Tutorial Periods: 24

Unit – I

Concurrent, non-concurrent and co-planer forces, composition and resolution of forces, laws of forces, moments and couples, conditions of equilibrium.

[No. of Periods:]

Unit – II

Centre of gravity and moment of inertia of composite and cutout section, parallel and perpendicular axes theorem.

[No. of Periods:]

Unit – III

Stresses in frames and trusses by analytical and graphical method. Maxwell's diagram.

[No. of Periods:]

Unit – IV

Stress, strain, Hook's law, lateral strain, Poisson's ration, Young's modulus, modulus of rigidity. Bulk modulus and their relations.

[No. of Periods:]

Unit – V

Stresses in composite sections.

[No. of Periods:]

Note:

1. Submission of the Sessional work shall include design and analysis of simple elements as stated above with drawings.
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: **1st**

Subject: **Graphics-I**

Total Theory Periods: **40**

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

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

Branch: Common to All Branches

Code: **316113 (16)**

Total Tutorial Periods: ---

Unit – I

- a) Free hand drawing: Techniques and principles of free hand drawing through sketching various elements of nature and man made objects through various mediums like pencil, pen and ink and colour etc.
- b) Architectural lettering: Using the drawing instruments (excluding stencils), freehand, Decorative Lettering.

[No. of Periods:]

Unit – II

Orthographic Projections: from point and line to simple regular solids, complex solids, hollow objects.

[No. of Periods:]

Unit – III

Scales: construction of architectural scales and their application to real objects and Drawings, Graphic codes and symbols for various building elements.

[No. of Periods:]

Unit – IV

Complex Projections: Interpenetration of solids, development of surfaces with or without sections.

[No. of Periods:]

Unit – V

Angular Projections: Isometric, axonometric and oblique projections.

[No. of Periods:]

Note:

1. Submission of the Sessionals shall be done in the form of drawings on drawing sheets and proportionate sketches on above topics.
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: **Ist**
Subject: **Building Materials - I**
Total Theory Periods: 28
Total Marks in End Semester Exam: 80
Minimum number of class tests to be conducted: 02

Branch: Common to All Branches
Code: **316114 (16)**
Total Tutorial Periods: 12

The subject aims at developing the understanding and knowledge of BASIC building materials regarding their availability, constitution, properties, classification, uses and applications.

Unit – I

Clay and clay products (bricks, tiles), stones.

[No. of Periods:]

Unit – II

Cementing materials: Cement, lime, sand, aggregate, mortar and concrete. Concrete blocks.

[No. of Periods:]

Unit – III

Timber: Classification, types, qualities and defects in timber. Seasoning.

[No. of Periods:]

Unit – IV

Metals: Ferrous and non ferrous.

[No. of Periods:]

Unit – V

Glass: Classification and relative uses.

[No. of Periods:]

Note:

1. Submission of the Sessionals shall be done 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: **Ist**

Subject: **Language (Professional Communication in English)**

Total Theory Periods: 28

Total Marks in End Semester Exam: 80

Minimum number of class tests to be conducted: 02

Branch: Common to All Branches

Code: **300111 (46)**

Total Tutorial Periods: 12

Unit – I

Some Key Concepts

Process and Elements of Communication: context of communication; the speaker/writer and the listener/reader; Medium of communication; Principles of communication (7 C's of communication); Barriers in communication, effective communication; Communication in organization.

[No. of Periods: 6+2]

Unit – II

Writing

Selecting material for expository, descriptive, and argumentative pieces; Resume; covering letter, Elements of letter writing and style of writing, business letters: Quotation and Tenders; Basics of Informal and Formal Reports-technical report writing, lab report; Précis writing.

[No. of Periods: 6+2]

Unit – III

Reading

Effective Reading; reading different kinds of texts for different purposes; reading between the lines. Comprehension of Unseen Passages.

Grammar in use: Errors of Accidence and syntax with reference to Parts of Speech; Agreement of Subject and Verb; Tense and Concord; Use of connectives, Question tags. Voice and Narration. Indianism in English: Punctuation and Vocabulary, Building (Antonym, Synonym, Verbal Analogy and One Word Substitution).

[No. of Periods: 6+2]

Unit – IV

Speaking

Achieving desired clarity and fluency; effective speaking; task-oriented, inter-personal, informal and semi-formal speaking.

Meetings, Seminar, Conferences, Interviews, Presentation, Audio-visual communication.

[No. of Periods: 6+2]

Unit – V

Listening

Achieving ability to comprehend material delivered at relatively fast speed; comprehending spoken material in Standard Indian English, British English and American English; Intelligent listening in situations. Advantages of listening. Hearing and Listening; Essentials of Good Listening. Use of Modern Communication Devices; Telephonic Conversation.

[No. of Periods: 6+2]

Name of the Text Books:

- Sharma RC & Mohan K – "Business Corresponding and Report Writing", Tata McGraw Hill, New Delhi, 1994.
- Alok Jain, P S Bhatia & A M Shiekh – "Professional Communication Skills; S. Chand & Company Ltd. 2005.
- Rajendra Pal and JS Korlahalli – "Essentials of Business Communication", Sultan Chand & Sons, 1997.

- A guide to Correct English – Oxford University Press, Ely House, London W.I., Latest Edition. (For Unit III)
- English Sentence Structure by T.C. JUPP, and JOHN MILNE, ELBS edition published by Heinemann Educational Books Ltd. – Latest Edition. (For Unit III)

Name of the Reference Books:

- Fiske, John – "Introduction to Communication Studies", Rotledge London, 1990.
- Geoffrey Leech & Jan Svartvik – "A Communicative Grammar of English", ELBS Longman, England.
- Bill Scott – "The Skills of Communicating", Jaico Publishing House, Mumbai, 2004.
- Gartside L- "Model Business Letters", Pitman, London, 1992.
- Krishna Mohan & N. P. Singh – "Speaking English Effectively"; MacMillan India, New Delhi; 2001.
- 100 Tests in VOCABULARY; Indian Institute of Publishing, Chennai.
- Communication skills for technical students, book-I; July 1995; compiled by the Curriculum Development Centre, TTTI, Western Region, Bhopal; Somaiya Publications Pvt. Ltd. New Delhi.
- A Prelude to English by L. A. HILL, Oxford University Press, Madras-Latest Edition.
- The English Errors of Indian Students by T.L.H. Smith – Pearse, I.E.S., Oxford University Press, Madras- Latest Edition.
- Grammar and Composition by P.R. Sarkar, Anand Marg Publications, Kolkata

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

Semester: **1st**

Subject: **Design - I**

Total Theory Periods: 28

Total Marks in End Semester Exam: 80

Minimum number of class tests to be conducted: 02

Branch: Common to All Branches

Code: **316115 (16)**

Total Tutorial Periods: 72

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

Semester: **Ist**

Subject: **Design - I Lab**

Total Practical Periods: 28

Total Marks in End Semester Exam: 50

Minimum number of class tests to be conducted: 02

Branch: Common to All Branches

Code: **316121 (16)**

Total Tutorial Periods: ---

- The aim of the subject is to introduce to the students the design fundamentals and design vocabulary to refine their aesthetic sensitivity and enable them to apply the same in compositions and designs.
- PRIMARY ELEMENTS : Points, Lines, Planes.
- VOLUMETRIC ELEMENTS : Forms, Properties of forms, variations in forms.
- CIRCULATION ELEMENTS : Scale and Proportion, Elements of aesthetics, Color-Theory.
- SURFACE ARTICULATION : Inter-relationship among planes, colours, textures and their inter-relationship.
- FORM AND SPACE : Space defining elements, Visual Organization of form and space.
- Application of the above in two and three-dimensional compositions, presented in form of scaled drawings, views, and freehand sketches to develop the skill and understanding of forms, proportions, shades. Shadows etc. in various mediums viz. pencil, pens, colors etc.
- Study through models in different materials viz. paper, clay, wax, soap, wires etc. to understand to roles of form, colour and texture in composition of 3-dimensional objects.
- Minimum one time problem of 6 hours duration is to be conducted in class other than regular design problems.

Note: Submission of 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.

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

Semester: **Ist**

Subject: **Building Construction -I Lab**

Total Practical Periods: 50

Total Marks in End Semester Exam: 25

Branch: Common to All Branches

Code: **316122 (16)**

Total Tutorial Periods: Nil

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

Semester: **Ist**

Subject: **Graphics - I Lab**

Total Practical Periods: 72

Total Marks in End Semester Exam: 25

Branch: Common to All Branches

Code: **316123 (16)**

Total Tutorial Periods: Nil

Chhattisgarh Swami Vivekanand Technical University

Bhilai (C.G.)

Semester: **1st**

Subject: **Workshop**

Total Practical Periods: 40

Total Marks in End Semester Exam: -----

Branch: Common to All Branches

Code: **316124 (16)**

Total Tutorial Periods: Nil

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

Unit – I

CARPENTRY: Understanding the structure of timber, varieties of Indian timber, commercial boards, handling different carpentry tools, carpentry process, carpentry joints and wood working machines.

[No. of Periods:]

Unit – II

PLASTIC MATERIALS: Fire clay, Clay and Plaster of Paris etc.

[No. of Periods:]

Unit – III

PLUMBING: Introduction to various pipes and fittings, screwed joints, threads, bending and plumbers tools.

[No. of Periods:]

Unit – IV

MASONRY: Handling the bricks, mixing the mortar, bond work of bricks/stones and masonry tools.

[No. of Periods:]

Unit – V

PAINTING & POLISHING: Preparation of various surfaces, painting by brush, sprays, guns, etc., polishing of timber surfaces.

[No. of Periods:]

Note: Submission of the sessionals will be in the form of different job works in each trade and models prepared by using the above methods. An internal via at the end on all the job works may be carried out for TA (Theory).