Study Scheme & Syllabus of

Bachelors of Architecture

Batch 2021 onwards

(For Main Campus, Constituents Campus and Affiliated Colleges)

By
Department of Academics

B. Architecture

COURSE STRUCTURE & DETAIL SYLLABUS BASED ON CHOICE BASED CREDIT SYSTEM 2021

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PREAMBLE

The creation of Architecture that endures rather than architecture that surrenders to the latest trends is a very crucial issue in the education of an architect. The practice of architecture, however, is not a static endeavour that can be easily defined by fixed and precise characteristics, it evolves with the ever-changing demands and development of society. The ability to resist trends yet still respond to most of the changes involves an understanding of the past and present as well as a concern for the future.

Education of an architect must therefore emphasise both continuity and change to prepare the students to meet the demand of the profession as a whole. Given the dynamic & complex nature of architecture, the education of an architect involves not only what constitutes a course of study, but how an architect is educated, (The content and the way it is delivered to them).

This course curriculum for IKG Punjab Technical University is an attempt in this direction. All efforts have been taken to incorporate the guidelines of Statutory bodies. The syllabus is broadly based on Choice Based Credit System (CBCS) policy of UGC under MoE (GoI).

ARCHITECTURE EDUCATION

Since architecture is created as a synthesis of reason, emotion, and intuition, architectural education should be regarded as the manifestation of the ability to conceptualize, co-ordinate, and execute the idea of building rooted in human tradition. Architecture is an interdisciplinary field that comprises several major components which includes Humanities, Social, Physical Sciences and creative arts on one hand and Engg & technology on the other. The basic goal is to develop the 'Architect' as a generalist able to resolve potential contradictions between different requirements, giving form to the society's and the individual's shelter as well as environmental needs.

Architecture education involves the acquisition of the following:

- An ability to create architectural designs that satisfy both aesthetics and technical requirements.
- Adequate knowledge of the history and theories of architecture and the related arts, technologies, and human sciences.
- Knowledge of fine arts as an influence on the quality of architectural design.
- An understanding of the relationship between people and the buildings, and between the buildings and their environment, and of the need to relate buildings and the spaces between them to human needs and scale.
- An understanding of the profession of architecture and the role of the architect in society, in particular in preparing briefs that take into account social factors.
- An understanding of the methods of investigation and preparation of the brief for a design project.
- An understanding of the structural design, construction, and engineering problems associated with building design.

- Adequate knowledge of physical problems and technologies and of the function of buildings so as to provide them with internal conditions of comfort and protection against the climate.
- Necessary design skills to meet building users' requirements within the constraints imposed by cost and building regulations.
- Adequate knowledge of the authorities, organisations, regulations, procedures and industries involved in translating design concepts into buildings and integrating plans into overall planning.

ARCHITECTURE AS PROFESSION

There is increasing recognition today of Architecture as an intellectual discipline, both as art & science and as a profession. Through architectural design, Architects make a vital contribution in defining and shaping our environment and future of society with the use of appropriate technologies for a diverse range of situations, both in the rural and urban contexts. Considering the diverse Indian complexities in terms of social, cultural, geographical, climatic, economic and technical aspects, which are unique and typical of every region in our country, the task for the profession of Architecture becomes all the more challenging.

Making provision of the most optimum and sustainable solutions/ options, to address the basic needs of living, working and care of body and soul(three basic human functions) of even the poorest of the poor, to lead a productive and dignified life, demand appropriate skills, understanding, knowledge and a deep commitment to professed ideals.

Architecture encompasses all four endeavours of human existence i.e. art, science, humanities and technology. Conventionally Architecture involves three pillars of i) Form ii) Function, iii) Aesthetics, three new pillars are added to the profession in contemporary scenarios i.e. iv) Environment v) Energy vi) Management. There had been a paradigm shift in the role of an architect in a profession from conventional i.e. designed focused professionals to team leaders or experts who work in a team of professionals handling multi-dimensional projects with a multidisciplinary approach. Architecture therefore now encompasses the design, visualization, aesthetic coordination, structural conceptualization, writing skills, effective communicative skills, legal knowledge, specification and supervision and giving responsible direction to the erection of buildings and built environments. The profession/practice of architecture further includes the provision/delivery of services in relation to the site, design, physical planning, construction, addition, alteration, renovation, remodelling, restoration, conservation or adaptive reuse of a building or a group of buildings. With this in consideration, emphasis is therefore laid in this curriculum for the holistic development of students.

PROGRAM OBJECTIVES (PO)

To bridge the gap between theory and practice the AICTE under MoE has framed the following larger **Program objectives** (PO) of the 5-year Bachelor of Architecture program:

1. Understanding the basic philosophy and fundamental principles of the multidimensional aspects and multi-faceted nature of architecture.

2. Preparing the students to acquire and enhance creative problem-solving skills including critical thinking and assessment and developing design concepts and solutions and presentation of these skills.
3. Performing standard proficiencies, in harmony with the scope of the local practices of architecture in particular and the global practice in general i.e. making the student market-ready or employable.
4. Preparing the students to work effectively in a multi-disciplinary/inter-disciplinary team in the building industry, by providing 360° knowledge of architecture.
5. Directing and focusing the thrust of architecture education to the needs and demands of society and its integration for social, economic, cultural, and environmental aspects of nation-building.
6. Instilling receptiveness to new ideas and knowledge and infusing a sense of scientific research.
7. Developing the overall personality and professional confidence of the student towards all the stakeholders in the building industry.

LEARNING OUTCOMES (LO)

The objectives of the program are translated into a number of learning outcomes. These outcomes are directly related to the profession of Architecture, the way it is practised in the country and the knowledge components that are necessary for such professional practice. Towards the end, the students who complete this program will possess the ability to:

1. Understand the real-life situation in architectural practice and recognize the dialectic relationship between people and the built environment (especially with reference to the Indian sub-continent) with reference to their needs, values, behavioural norms, and social patterns.

2. Thrive in a rigorous intellectual climate that promotes inquiry through design research.

3. Work collaboratively toward synthetic design resolution which integrates an understanding of the requirements, contextual and environmental connections, technological systems and historical meaning with a responsible approach to environmental, historical and cultural conservation.

4. Apply visual and verbal communication skills at various stages of the design and delivery process.

5. Produce professional-quality graphic presentations and technical drawings/documents.

6. Critically analyze building designs and conduct post-occupancy evaluations.

7. Work in a manner that is consistent with the accepted professional standards and ethical responsibilities.

8. Work in collaboration with and as an integral member of multi-disciplinary/interdisciplinary design and execution teams in the building industry.

9. Conduct independent and directed research to gather information related to the problems in architecture and allied fields

On this basis the Five-year B.Architecture curriculum is given the following objectives and expected outcome yearwise:

Programme Specific Objectives: These objectives are aimed at integrating knowledge-based and skill-based pedagogies which is essential to make the students responsive and sensitive architects and for the holistic development of students

By the end of five-year programme the student shall be able to:

- Take & thoroughly execute client's instructions and prepare design briefs & feasibility reports.
- Evaluate every site, analyse the impact of existing and any proposed development on its immediate environs & prepare environmental impact assessment reports
- Propose architectural design of any building project in totality, i.e. fulfil its stated function, suggest most appropriate structure system & make it appealing in the given budget in a most sustainable manner, appropriate for the given climate.
- Prepare the proposal for the overall development of the site.
- Tackle issues related to public health & building services efficiently.
- The proposal so prepared should be in line with Building Regulations applicable to the site/area.
- In addition to the above, the students will be able to propose: Interior design, landscape design, Graphic & signage design etc.

To achieve the above-stated objectives of the 05 years course of B.Arch, the target to achieve is also divided into the following 05 stages:

PO1 – (First Year):

- To train the students to understand the Principles & Elements of design and to handle basic single/double space designs solutions and prepare its drawings using fundamental construction techniques.
- He should be able to prepare the presentation drawings with models and communicate them well with the client.

Expected Outcome:

The students will be able to understand the Principles & Elements of design and will be able to prepare drawings using fundamental construction techniques. Students shall be able to communicate and present their work.

PO2 – (Second Year)

- To train the students to handle projects of medium complexity having fixed requirements with a maximum of two floors. So that he/she understand the concept of

vertical circulation and can work out fundamental Building Services and issues of public health, as well.

- He/she will be able to suggest improvement/ additions in Rural setups.
- He/she should be able to prepare the drawings using computers basic 2d software's
- Able to understand the importance of climatology along with surveying and levelling so that proposals are climate responsive and appropriate sited.
- The understanding of various Architecture Theories and knowledge of the history of architecture is enhanced for better design outputs.
- Prepare measure /drawing documentation
- Understand the various trends of Architecture

Expected Outcome

- The student will learn to handle small projects with fixed requirements. They shall be able to prepare drawings using 2d software. They shall develop an understanding of climatology, survey, and architectural theories.

PO3 – (Third Year)

- To equip the student with the design skills to handle more than two floors (walk-up buildings) with complex requirements & site needs addressing the needs of environment protection, fire safety and earthquake resistances and other Codal provisions as per (NBC local bye-laws).
- At this stage, students will be able to design buildings needed/required by the middle-income group of the Indian society.
- He/ She will be able to design the basic bulk active structure and prepare structural drawings as well.
- Prepare municipality drawings.
- Understand the trends of world architecture

Expected Outcome

- The students will be able to handle complex projects of more than two floors with utilities. They shall be able to prepare structural drawings.

PO4 - (Fourth Year)

- Due to practical training in a design/construction/professional office the students are aware of the office procedures.
- Specialized learning in any two Professional Electives and one Open Elective in the chosen track is imparted at this stage
- The inputs on Smart village development is given at this stage in view of the Smart City initiative & 12th Five-year plan of GoI (govt of India) the students are required to spend a few days in a nearby village to understand its economic model and thoroughly understand its culture and traditions and able to propose a blueprint for its overall development

Expected Outcome

Students shall be able to understand the real-life situation in architectural practice and recognize the dialectic relationship between people and the built environment.

PO5 – (Fifth Year)

- To equip the students to handle any design project independently fulfilling all aspirations of the client which satisfy the structural/functional/ aesthetics needs and fits into the client budget without harming the environment or violating any Codal provisions. (OR protecting the environment and upholding all Codal provisions)
- The students will be able to analysis his/ her proposals design digitally using high end/BIM software,
- Prepare technical report after thorough research in any particular issue.
- Disaster Management principles are also understood by the student at this stage.

Expected Outcome

- Students shall be able to work in a manner that is consistent with the accepted professional standards and ethical responsibilities. They shall be able to conduct independent and directed research to gather information related to the problems in architecture and allied fields. They shall be able to produce professional-quality graphic presentations and technical drawings/documents

SALIENT FEATURES OF NATIONAL EDUCATION POLICY 2020

- India possesses the highest number of young people of any country entering higher education over the next decade, and the extent **to which high-quality educational opportunities are presented to them** will determine the direction of the future of India and its people.

- Indeed, with the quickly changing employment and global ecosystem, it is becoming increasingly important that children not only learn **but learn how to learn**.

- Education must thus, **move towards less content, and more towards learning about how to think critically and solve problems**, how to be creative and multidisciplinary, and how to innovate, adapt, and absorb new material in novel and changing fields.

- Pedagogy must evolve to make education more **experiential, holistic** and integrated, discovery-oriented, learner-centred, discussion-based, **flexible**, and, **of course, enjoyable**.

- The curriculum must include basic arts, crafts, humanities, games, sports, languages, literature, culture, and values, in addition to science and mathematics, in order to develop all sides of learners' brains and make education more well-rounded, useful, and fulfilling to the learner.

- Education must aim to be character-making, enabling learners to be ethical, rational, compassionate, and caring, while at the same time preparing them for gainful, fulfilling employment.

- The National Education Policy lays special emphasis on the development of the creative potential of each individual, in all its richness and complexity. It is based on the principle that education must develop not only cognitive skills - both 'foundational skills' of literacy and numeracy and 'higher-order ' cognitive skills such as critical thinking and problem solving – but also social and emotional skills - also referred to as 'soft skills ' - including cultural awareness and empathy, perseverance and grit, teamwork, leadership, communication, among others.

- The principles that will guide both individual institutions, and the education system at large, are: **flexibility, so that learners have the ability to choose their learning trajectories and programmes, and thereby choose their paths in life according to their own talents interests; no hard separations between arts and sciences, between curricular and extracurricular activities, between vocational and academic, etc., to ensure the integrity and unity of knowledge**

UGC RECOMMENDATIONS FOR UG COURSES UNDER CBCS

In light of NEP, UGC has already initiated several steps to bring equity, efficiency and academic excellence in the higher education system by including innovation and improvement in course curricula, teaching-learning process and examination systems.

The present education system is producing young minds who lack knowledge, confidence, values and skills. There is a big gap in education, employment and skill development in the present education system and Architecture is no exception to this. There is a dire need to transform the prevalent teacher-centric education system to a learner-centric approach in the entire education delivery mechanism.

This revision is an earnest approach in this direction

There shall be flexibility for students to study the subjects/courses of their choice which may be interdisciplinary, intradisciplinary and skill-based courses. This can be possible by adopting a choice based credit system which offers opportunities and avenues to learn professional core subjects along with exploring additional avenues of learning beyond the core subjects for the holistic development of an individual.

VISION

To become a Centre of Excellence in Built Environment studies with strong research and teaching environment that adapts swiftly to the needs of dynamic society, industry and challenges of the 21st century. Target is to produce technically sound, socially responsible professional Architects, imbibed with knowledge and values with proficiency in requisite skills.

MISSION

- To create a favourable environment for the students to evolve as persons with high ethical values, professional qualities, creativity and leadership skills to face any real-time challenges.
- To impart outcome-based education for attaining professional excellence in design and architecture as well as to address futuristic architectural demands.
- To foster the creative spirit in our students to evolve as innovative citizens through dedication, responsibility, innovation in training, continuous improvement and conviction in human values.

FRAMEWORK FOR B.ARCHITECTURE CURRICULUM

The program shall be called Bachelor of Architecture (B. Arch.) and shall be of 5-years duration as prescribed by CoA under Architect's Act 1972.

The curriculum is divided into two-stage, Ten-semester program of five years duration. The first six semesters comprise Stage 1: This is the foundation stage where the focus is on exploring and developing competencies in various subjects in the Architectural framework. The next four semesters comprise Stage 2: students undergo a one-semester Practical Training in professional offices or construction sites and three semesters of in-depth study and understanding in any chosen field through studios, electives and research-based study. Students are also required to present a design and research thesis along with the advanced level of compulsory and elective theory courses.

Mid level exit will be allowed as per CoA guidelines/ IKG PTU notification in this regard

The curriculum provides for choice-based learning at both Stage1 and 2 to make the students explore their own areas of interest by choosing from elective subjects and MOOC courses. The curriculum is carefully distributed into compulsory courses from Professional Core (PC's), Building Sciences and Applied Engineering (BS & AE) & Skill Enhancement Courses (SEC) and Professional & Open electives (PE & OE). At Stage 1 choice-based learning is introduced in the form of electives and MOOC's offered from Sem III to Sem VI. Where in 2nd year students can choose 01 elective/MOOC and in 3rd year students are offered to choose 02 electives 01 each from Professional Elective and Open Elective/MOOC. At stage-II, 8th and 9th semester students are offered 03 electives (02 from PE and one from OE) per semester. The curriculum proposes horizontal and vertical integration of all the courses in a carefully calibrated manner, keeping Professional Core and Building Sciences and Applied Engineering as the central discipline.

ABOUT PROFESSIONAL CORE, BUILDING SCIENCES AND APPLIED ENGINEERING) AND SKILL ENHANCEMENT COMPULSORY COURSES

Compulsory courses constitute courses from Professional Core (PC), Building Sciences and Applied Engineering (BS & AE) and Skill Enhancement Courses (SEC). This program aims at attaining a high level of excellence in Architectural Design (PC) with sound knowledge of Construction (BS & AE). To this end, the Architectural Design and Building Construction &

Materials is seen as the core of the program with supportive inputs from Skill Enhancement Courses (SEC) from other streams like Professional, Technological and Humanities to build upon a strong foundation of enabling skills in communications, understanding and analysis. The emphasis is on the development of faculties of discernment and decision-making with the aid of both objective information and subjective attitudes, based on reason and logic.
Architectural Design, being the core discipline of the course has been dealt in detail and major guidelines have been framed regarding the specific content of these courses. Design tests and group design exercises have been introduced so as to aim for both individual and collective excellence in equal measure. Special emphasis is laid on the organization of seminars in all the courses in all streams so that students get opportunities in doing personal research and become more articulate in direct presentation of their ideas & confident in public speaking. **As far as possible every subject is having 04 Units (except few like Architecture Design and Human Value).**

As per NEP/UGC guidelines to emphasize conceptual understanding, on creativity and critical thinking (to encourage logical decision-making and innovation), on values and ethics, and on life skills (e.g., cooperation, teamwork, communication, resilience); subjects on Universal Human Values, Life Skills, Mentoring and Professional ethics are included compulsorily up to 6th semester (Stage-I). It is believed that this will help the students to explore themselves and experience the joy of learning. This shall help them stand up to peer pressure, take decisions with courage, create awareness about the relationship with colleagues and supporting staff in the hostel and department, etc. Communicative English is there in 1st semester to build upon a strong foundation of enabling skills in communications, understanding and analysis.

The purpose of this is essential to create a favourable environment for the students to evolve as persons with high ethical values, professional qualities, creativity and leadership skills to face any real-time challenges.

ABOUT VARIOUS PROFESSIONAL ELECTIVE

As per UGC guidelines for choice-based credit system (CBCS) and Council of Architecture regulations 2020, to shift in focus of education from teacher-centric to Student-centric, it is suggested to offer 15% courses as Professional electives/Department specific Electives.

A total of seven professional electives of 03 credits each have been offered to the students; 02 during stage-I and 05 in stage-2.

Students are given more flexibility by choosing courses of their choice from the following tracks given in **Table-1:**

A. Arch Allied
B. Design/Arts Allied
C. Energy/Environment
D. Planning
E. Building Science, Applied Engineering, Building Services and Technology

F. Various Building Typology

Table-1 Codes assigned to Professional Electives (Stream/Track wise) in stage I & II of B. Architecture.

Track	Stream/ core area	5th sem BARCH/PE-507 X	6th sem BARCH/PE-606 X	8th sem BARCH/PE	8th sem BARCH/PE	9th sem BARCH/PE	9th sem BARCH/PE	Track	10th sem BARCH/PE
		PE-I	PE-II	PE-III	PE-IV	PE-V	PE-VI		PE-VII
T1	Allied Arch	Hill Architecture	Traditional Indian Architecture	Architecture Conservation	Contemporary Indian Architecture	Futuristic Architecture	Contemporary world Architecture	BS & AE/BS/BT	Constructions Management
	Code	507 A	606 A	804 A	805A	904 A	905 A		1004 A
T2	Allied Design/Arts	Interior Design	Landscape Design	Furniture Design	Art in Architecture	Product Design	Urban Design		Advance Building materials
	Code	507 B	606 B	804 B	805B	904 B	905 B		1004 B
T3	Energy/ Environment	Ecology	Green Buildings & Rating Systems	Green Building Technologies / Passive Arch	Building Maintenance	Sustainable cities & Communities	Building system integration & management		Cost efficient technologies
	Code	507 C	606 C	804 C	805C	904 C	905 C		1004 C
T4	Planning	Principles of Human Settlement	Smart Cities/ Real Estate	Housing	Traffic & Transportation Planning	Infrastructure planning	Town & Country Planning		Architecture Acoustics
	Code	507 D	606 D	804 D	805 D	904 D	905D	TS	1004 D
T5	BS & AE/BS/BT	Building Industry/ Building Economics	GIS/Remote Sensing/ Geo Spatial Technologies	High Rise Buildings	Risk Management	Lighting design	Digital Arch/ Advance Computer Software's		Earthquake resistant Architecture
	Code	507 E	606 E	804 E	805 E	904 E	905 E		1004 E
T6	Building Typology	Design for Containment	Design for Animals & Plants	Design for Tourism industry	Design for Retail & Wholesale	Design for Travel/ MRTS	Design for Health & Happiness		Advance Structure Systems
	Code	507 F	606 F	804 F	805 F	904 F	905 F		1004 F

- The Professional Electives offered in 10th semester are all related to Building Technology courses.

ABOUT OPEN ELECTIVES

There shall be flexibility for students to study the subjects/courses of their choice by combining unique combinations which may be interdisciplinary/ intradisciplinary. Broad areas defined for open electives are given in **Table-2:**

A. Performing Arts
B. Journalism/
C. Health & Happiness/ Entrepreneurship
D. Technology/ Management
E. Social Sciences

Table-2 Codes assigned to Open Electives (Track wise) in stage I & II of B. Architecture.

S.No	Track	Stream	5th sem BARCH/OE-508 X	6th sem BARCH/OE-607 X	8th sem BARCH/OE-806 X		9th sem BARCH/OE-906 X
			OE-I	OE-II	OE-III		OE-IV
1	T1	Performing Arts	Music	Dance	Cyber law & Ethics	Foreign Languages	French
		Code	508 A	607 A	806 A		906 A
2	T2	Journalism/	Creative Writing – I	Creative Writing – II	Society's Perception of Architects & Architecture		Japanese
		Code	508 B	607 B	806 B		906 B
3	T3	Health & Happiness/ Entrepreneurship	Health Education – I	Health Education – II	Generic Skills & Entrepreneurship Development		German
		Code	508 C	607 C	806 C		906 C
4	T4	Technology/ Management	Laser Technology & Architecture	Printing Tech. & Arch.	Human resource development & organization behavior		Spanish
		Code	508 D	607 D	806 D		906 D
5	T5	Social Sciences	Sociology VS Architecture	Psychology VS Architecture	Customer/Client Psychology		Mandarin
		Code	508 E	607 E	806 E		906 E

- The open electives offered in 9th semester are all related to Foreign Language Courses.

ABOUT MOOC COURSES

A total of 13 MOOC courses with 03 credits each are being offered as per UGC /IKGPTU guidelines. Curriculum is designed in such a way the students are given complete flexibility to students to opt for stream of their choice from available MOOC courses and they may earn upto maximum of 39 credits or at least 24 credits by the end of the program by choosing courses from single/multiple tracks. This can help the students to diversify and explore in their field of choice for higher learning as minimum 24 credits in a concerned discipline are deemed sufficient to satisfy a requirement for admission to any Masters Course as per UGC guidelines (2016) & its amendments issued thereafter.

The broad areas defined for 2020-2021 are as per following **Table-3:**

A. Allied Architecture/Design / Arts
B. Energy/Environment
C. Planning
D. Building Science & Applied Engineering / Building Services / Building Technology
E. Computer Science/ Programming/ Data Sciences/ Software's/ Interruptive Technologies
F. Management/ Business/ Entrepreneurship
G. Humanities/Social Sciences/Education/ Teaching
H. Journalism/Mass Communication / Media
I. Finance/Commerce/Economics Accounts
J. Legal Services/Administration/ Personal Development / Health & Happiness / Miscellaneous

Note: The further categorization with in the track will be done as A(i), A (ii), A(iii)....

Note: A MOOC Coordinator will be deputed by each institute who will look after these courses keeping in mind the UGC/MoE guidelines issued from time to time. The student-centric approach must be followed and students be guided to choose MOOC courses from the wide range of available national/international courses on the portals of reputed MOOC providers.

Table-3 Codes assigned to MOOC's (Stream/Track wise) in stage I & II of B. Architecture.

Sr. No.	Track	MOOC (Stream)	Stage – I						Stage – II						
			3rd semester BARCH/PE/MOO C-307 X	4th semester BARCH/PE/MOO C-407 X	5th semester BARCH/PE/MOO C- 507 X	5th semester BARCH/OE/MOO C-508 X	6th semester BARCH/PE/MOO C- 606 X	6th semester BARCH/OE/MOO C-607 X	8th semester BARCH/MooC			9th semester BARCH/MooC			10th semester BARCH/MooC
			MooC -I	MooC -II	MooC -III	MooC IV	MooC V	MooC VI	MooC VII	MooC VIII	MooC IX	MooC X	MooC XI	MooC XII	MooC XIII
1	T1	Allied Architecture/Design / Arts	307 A	407 A	507 A	508 A	606 A	607 A	804 A	805 A	806 A	904 A	905 A	906 A	1004 A
2	T2	Energy/Environment	307 B	407 B	507 B	508B	606 B	607 B	804 B	805 B	806 B	904 B	905 B	906 B	1004 B
3	T3	Planning	307 C	407 C	507 C	508C	606 C	607 C	804 C	805 C	806 C	904 C	905 C	906 C	1004 C
4	T4	Building Science & Applied Engineering / Building Services / Building Technology	307 D	407 D	507 D	508D	606D	607 D	804 D	805 D	806 D	904 D	905 D	906 D	1004 D
5	T5	Computer Science/ Programming/ Data Sciences/ Software's/ Interruptive Technologies	307 E	407 E	507 E	508 E	606 E	607 E	804 E	805 E	806 E	904 E	905 E	906 E	1004 E
6	T6	Management/ Business/ Entrepreneurship	307 F	407 F	507 F	508 F	606 F	607 F	804 F	805 F	806 F	904 F	905 F	906 F	1004 F
7	T7	Humanities/Social Sciences/Education/ Teaching	307 G	407 G	507 G	508 G	606 G	607 G	804 G	805 G	806 G	904 G	905 G	906 G	1004 G
8	T8	Journalism/Mass Communication / Media	307 H	407 H	507 H	508 H	606 H	607 H	804 H	805 H	806 H	904 H	905 H	906 H	1004 H
9	T9	Finance/Commerce/Economics Accounts	307 I	407 I	507 I	508 I	606 I	607 I	804 I	805 I	806 I	904 I	905 I	906 I	1004 I
10	T10	Legal Services/Administration/ Personal Development / Health & Happiness / Miscellaneous	307 J	407 J	507 J	508 J	606 J	607 J	804 J	805 J	806 J	904 J	905 J	906 J	1004 J

INSTRUCTIONS FOR THE FACULTY

Architectural Design

- Design faculty should encourage and motivate the students for live projects of their immediate surroundings. (Identifying need, Framing requirements, and solution for the same, and it should be evaluated as one of the assignments and marked accordingly.)
- Design faculty are required to take a well prepared well-researched lecture on the issues related to the Design of a particular semester.
- Minimum two more projects/assignments should be handled by students during the semester including a detailed study. The study shall be done in groups to bring out the existing settlement pattern, socio-economic conditions, the pattern of life, building typology, materials/building technology used, and important architectural features etc. The end product shall be a well-documented report and drawings. Library/case study shall be made an integral part of every assignment.
- Model and perspective should be made an essential part of project presentation.

Building Construction & Materials

All efforts must be directed to make the learning an enriching experience. The subject shall be taught through the combination of Field visits, Visits to the Project Sites, Expert talks. Focus on the live study and application of the subject into the architecture design.

- Market Survey to study the complete range of products available in the market under

different trade names with their manufacturing details, specifications, and Performance.

Theory subjects:

- The objective is to promote holistic and integrated learning of students.
- The emphasis should be to encourage continuous learning and self-learning processes in the students.
- To motivate the students to work for knowledge generation and bridge the gap between indigenous and contemporary skills and practices.

EVALUATION CRITERIA FOR EXAM/ GENERAL GUIDELINE FOR QUESTION PAPER SETTING

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For Theory Exam

The examiner is required to set eight questions with a minimum of two from each unit. Students are required to attempt five questions with a minimum of one from each unit

For Architectural Design

One compulsory question is to be set from the entire syllabus. The evaluation is to be done through Viva-voce conducted at the institute level by Internal / External jury members appointed in consultation with the university from the approved panellist of examiners. The answer sheet shall be retained at the institute after the exam for the viva voce.

For Building Construction & Materials

Total eight questions are to be set, two from each unit & students are required to attempt a total of four questions i.e. one from each unit. The distribution of marks for **Part A** (Unit I&II): **Part B** (Unit III & IV) is 12: 28 marks.

IMPORTANT NOTE FOR PREPARATION OF QUESTION BANK

The question banks will be prepared by the respective faculty members from time to time and submitted to the university within one month of the commencement of the semester through the concerned Head of the department. **The first exhaustive question banks will be submitted by the BoS Architecture.**

CORE REFERENCES:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same in the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

ABBREVIATION USED IN THE TEACHING SCHEME

PC	Professional Core	L	Lecture
BS & AE	Building Science & Applied Engineering	Sem/Tut	Seminar/ Tutorial
PAECC	Professional Ability Enhancement Compulsory	P/FW	Practical/ Field Work
PE	Professional Electives	Stu	Studio
OE	Open Elective	Int	Internal
SEC	Skill Enhancement Courses	Ext	External

SEMESTER WISE COURSE STRUCTURE

FIRST YEAR

1st SEMESTER

Course Type	S. No	Course Code	Course Title	Load Allocations					Marks %	Credits	Duration of Univ. Exam in hours / Viva-Voce
				L	Sem/ Tut	P/ FW	Stu	Total	Int : Ext		
PC	1	BARCH-101/21	Architectural Design & Theory-I	1	-	-	4	5	60:40	5	06 + Ext. Viva Voce
	2	BARCH-102/21	Architectural Drawing-I	1	-	-	3	4	60:40	4	3
	3	BARCH-103/21	Architectural Graphics-I	1	-	-	2	3	60:40	3	3
	4	BARCH-104/21	Workshop-I	-	-	2	-	2	100:0	1	No Exam,only Int. jury Viva-Voce
BS&AE	5	BARCH-105/21	Building Construction & Materials-I	1	-	-	3	4	60:40	4	3
	6	BARCH-106/21	Theory of Structure- I	2	1	-	-	3	40:60	3	3
SEC	7	BTHU-101/18	Communicative English	2	-	-	-	2	40:60	2	3
	8	BTHU-102/18	Communicative Skill Laboratory		-	2	-	2	60:40	1	No Exam,only Ext. jury Viva-Voce
	9	HSMC-122/18	Human Values and Professional Ethics	2	1	-	-	3	40:60	3	3
	10	BARCH-107/21	Life skills-I	1	-	-	-	1	S/US	NC	No Exam
	Total							29		26	

2nd SEMESTER

Course Type	S. No	Course Code	Course Title	Load Allocations					Marks %	Credits	Duration of Univ. Exam in hours / Viva-Voce
				L	Sem/ Tut	P/ FW	Stu	Total	Int : Ext		
PC	1	BARCH-201/21	Architectural Design -II	1	-	-	4	5	60:40	5	06 + Ext. Viva-voce
	2	BARCH-202/21	Architectural Drawing-II	1	-	-	3	4	60:40	4	3
	3	BARCH-203/21	Architectural Graphics-II	1	-	-	2	3	60:40	3	3
	4	BARCH-204/21	History of Architecture-I	2	1	-	-	3	40:60	3	3
	5	BARCH-205/21	Workshop-I	-	-	2	-	2	100:0	1	No Exam,only Int. jury Viva-Voce
BS & AE	6	BARCH-206/21	Building Construction & Materials-II	1	-		3	4	60:40	4	3
PE	7	BARCH-207/21	Theory of Design- I	1	1	-	-	2	40:60	2	3
SEC	8	BARCH-208/21	Environmental Science	1	1	-	-	2	40:60	2	3
	9	BARCH-209/21	Computer Application-I	1	-	2	-	3	60:40	2	No Exam, only Ext. jury Viva-Voce
	10	BARCH-210/21	Mentoring & Professional Development- I	-	-	2	-	2	S/US	NC	No Exam
	11		*Educational Tour I/ Summer Training-I/Vacation Assignment-I	-	-	-	-	-	-	-	Evaluation will be done in 3rd sem
	Total							30		26	

*NOTE: Educational Tour of 1-2 week duration during or after the first year of studies must be undertaken and Summer Training/ Vacation assignment to be given based on BARCH-210/21. The marking of the same will done in the third semester BARCH-310/21

SECOND YEAR

3rd SEMESTER

Course Type	S. No	Course Code	Course Title	Load Allocations					Marks %	Credits	Duration of Univ. Exam in hours / Viva-Voce
				L	Sem/ Tut	P/ FW	Stu	Total	Int : Ext		
PC	1	BARCH-301/21	Architectural Design -III	1	-	-	4	5	60:40	5	06 + Ext. Viva-Voce
	2	BARCH-302/21	Architectural Presentation-I	1	-	-	1	2	100:0	2	No Exam, only Int. jury Viva-Voce
	3	BARCH-303/21	History of Architecture-II	2	1	-	-	3	40:60	3	3
BS & AE	4	BARCH-304/21	Building Construction & Materials-III	1	-	-	3	4	60:40	4	3
	5	BARCH-305/21	Structure Design-I	2	1	-	-	3	40:60	3	3
	6	BARCH-306/21	Surveying & Leveling-I	2	-	2	-	4	40:60	3	3
PE (choose one)	7	BARCH-307/21	Theory of Design- II	2	1	-	-	3	40:60	3	3
		BARCH/PE/MOOC - 307 X	MOOC-I (Ref Table-3)	3	-	-	-		-		Certificate from imparting agency
SEC	8	BARCH-308/21	Computer Application-II	1	-	2	-	3	60:40	2	No Exam, only Ext. jury Viva-Voce
	9	BARCH-309/21	Life skills-II	1	-	-	-	1	S/ US	NC	No Exam
	10	*BARCH-310/21	* Educational Tour I/ Summer Training-I / Vacation Assignment-I	-	-	-	-	-	100:0	1	Int. jury Viva-Voce
	Total							28	-	26	

NOTE: * BARCH-309/21 is carried out in the intervening period of 2nd and 3rd semester, the evaluation of report/s to be done in the 3rd semester.

4TH SEMESTER

Course Type	S. No	Course Code	Course Title	Load Allocations					Marks %	Credits	Duration of Univ. Exam in hours / Viva-Voce
				L	Sem/ Tut	P/ FW	Stu	Total	Int : Ext		
PC	1	BARCH-401/21	Architectural Design –IV	1	-	-	4	5	60:40	5	06 + Ext. Viva Voce
BS & AE	2	BARCH-402/21	Building Construction & Materials-IV	1	-	-	3	4	60:40	4	3
	3	BARCH-403/21	Structure System-I	1		2		3	60:40	2	No Exam only Ext. jury Viva-Voce
	4	BARCH-404/21	Structure Design-II	2	1	-	-	3	40:60	3	3
	5	BARCH-405/21	Building Services-I	2	1	-	-	3	40:60	3	3
PAECC	6	BARCH-406/21	Climate & Architecture-I	2	1	-	-	3	40:60	3	3
PE	7	BARCH/PE/MOOC - 407x/21	MOOC-II(Ref Table-3)	3	-	-	-	3	-	3	Certificate from imparting agency
SEC	8	BARCH-408/21	Computer Application-III	1	-	2	-	3	100:0	2	No Exam only Ext. jury Viva-Voce
	9	BARCH-409/21	Mentoring and Professional Development-II	-	-	2	-	2		NC	No Exam
	10	----	*Education Tour II / Summer Training II /Vacation Assignment II	-	-	-	-	-	-	-	Evaluation will be done in 5th sem
	Total							29		25	

*NOTE: Educational Tour of 1-2 week duration during or after the IInd year of studies (as a Measure drawing /Documentation Camp)should be undertaken or Summer Training/ Vacation assignment to be given based on BARCH-409/21. The marking of the same will done in the fifth semester BARCH-510/21

THIRD YEAR

5TH SEMESTER

Course Type	S. No	Course Code	Course Title	Load Allocations					Marks %	Credits	Duration of Univ. Exam in hours / Viva-Voce
				L	Sem/ Tut	P/ FW	Stu	Total	Int : Ext		
PC	1	BARCH-501/21	Architectural Design -V	1	-	-	4	5	60:40	5	12 (in 2 days) + Ext. Viva Voce
BS & AE	2	BARCH-502/21	History of Architecture-III	2	1	-	-	3	40:60	3	3
	3	BARCH-503/21	Building Construction &Materials V	1	-	-	3	4	60:40	4	3
	4	BARCH-504/21	Building Services-II	2	1	-	-	3	40:60	3	3
	5	BARCH-505/21	Structure Design-III	2	1	-	-	3	40:60	3	3
PAECC	6	BARCH-506/21	Climate & Architecture (Sustainable Design) -II	2	1	-	-	3	40:60	3	3
PE (choose one)	7	BARCH/PE-507x/21	Professional Elective- I (Ref Table-1)	3	-	-	-	3	40:60	3	3
		BARCH/PE/MOOC-507x/21	MOOC-III (Ref Table-3)		-	-	-		-		Certificate from imparting agency
OE(choose one)	8	BARCH/OE-508x/21	Open Elective- I (Ref Table-2)	3	-	-	-	3	40:60	3	3
		BARCH/OE/MOOC-508x/21	MOOC-IV (Ref Table-3)		-	-	-		-		Certificate from imparting agency
SEC	9	BARCH-509/21	Life skills-III	1	-	-	-	1	S/US	NC	No Exam
	10	BARCH-510/21	*Educational Tour II/ Summer Training-II/ Vacation Assignment-II	-	-	-	-	-	100:0	1	Int. jury Viva-Voce
	Total							28		28	

Note: * BARCH-510/21 is carried out in the intervening period of 4th and 5th semester, the evaluation of report/s to be done in the 5th semester.

6TH SEMESTER

Course Type	S. No	Course Code	Course Title	Load Allocations					Marks %	Credits	Duration of Univ. Exam in hours / Viva-Voce
				L	Sem/ Tut	P/ FW	Stu	Total	Int : Ext		
PC	1	BARCH-601/21	Architectural Design -VI	1	-	-	4	5	60:40	5	12 (in 2 days) + Ext. Viva Voce
	2	BARCH-602/21	Architecture Legislation -I	2	1	-	-	3	40:60	3	3
	3	BARCH-603/21	Estimating Costing & Specifications-I	2	1	-	-	3	40:60	3	3
BS& AE	4	BARCH-604/21	Building Construction & Materials-VI	1	-	-	3	4	60:40	4	3
	5	BARCH-605/21	Structure Design (Project) -IV	1	2	-	-	3	60:40	3	3
PE (choose one)	6	BARCH/PE-606x/21	Professional Elective- II (Ref Table-1)	3	-	-	-	3	40:60	3	3
		BARCH/MOOC/PE-606x/21	MOOC-V (Ref Table-3)		-	-	-		-		Certificate from imparting agency
OE(choose one)	7	BARCH/OE-607x/21	Open Elective- II (Ref Table-2)	3	-	-	-	3	40:60	3	3
		BARCH/MOOC/OE-607x/21	MOOC-VI (Ref Table-3)		-	-	-		-		Certificate from imparting agency
SEC	8	BARCH-608/21	Constitutional Law	2	-	-	-	2	40:60	2	3
	9	BARCH-609/21	Mentoring and Professional Development-III	2	-	-	-	2	S/US	NC	No Exam
	Total							28		26	

FOURTH YEAR

7TH SEMESTER

Course Type	Sr. no	Course Code	Course Title	Duration	Credits	Duration of Univ.Exam in hours / Viva-Voce
PAECC	1	BARCH- 701/21	Practical Training	One semester	18	No Exam/ Only Univ. Viva-Voce
	Total				18	

8TH SEMESTER

Course Type	S. No	Course Code	Course Title	Load Allocations					Marks %	Credits	Duration of Univ. Exam in hours / Viva-Voce
				L	Sem/ Tut	P/ FW	Stu	Total	Int : Ext		
PC	1	BARCH-801/21	Architectural Design -VII	1	-	-	6	7	60:40	7	Portfolio viva voce
	2	BARCH-802/21	Comprehensive Smart Village Development	1	-	-	2	3	60:40	3	Portfolio viva voce
BS & AE	3	BARCH-803/21	Building Construction & Materials-VII	1	-	-	4	5	60:40	5	3
PE	4 (choose one)	BARCH-804x/21	Professional Elective-III (Ref Table-1)	3	-	-	-	3	40:60	3	3
		BARCH/MOOC/PE - 804x/21	MOOC-VII (Ref Table-3)		-	-	-		-		Certificate from imparting agency
	5 (choose one)	BARCH-805x/21	Professional Elective- IV (Ref Table-1)	3	-	-	-	3	40:60	3	3
		BARCH/MOOC/PE - 805x/21	MOOC-VIII (Ref Table-3)		-	-	-		-		Certificate from imparting agency
OE	6 (choose one)	BARCH-806x/21	Open Elective- III (Ref Table-2)	3	-	-	-	3	40:60	3	3
		BARCH/MOOC/OE - 806x/21	MOOC-IX (Ref Table-3)		-	-	-		-		Certificate from imparting agency
SEC	7	----	*Education Tour III / Summer Training III/ Vacation Assignment III	-	-	-	-	-	-	NC	Evaluation will be done in 9th sem
	Total							24		24	

*NOTE: Educational Tour of 1-2 week duration during or after the 4th year of studies should be undertaken or Summer Training/ Vacation assignment to be given. The marking of the same will done in the ninth semester BARCH-907/21

FIFTH YEAR

9TH SEMESTER

Course Type	S. No	Course Code	Course Title	Load Allocations					Marks %	Credits	Duration of Univ. Exam in hours / Viva-Voce
				L	Sem/ Tut	P/ FW	Stu	Total	Int : Ext		
PC	1	BARCH- 901/21	Architectural Design -VIII	1	-	-	6	7	60:40	7	Portfolio viva voce
BS &AE	2	BARCH-902/21	Building Construction & Materials-VIII	1	-	-	4	5	60:40	5	3
PAECC	3	BARCH-903/21	Research Methodology & Dissertation	2	-	-	3	5	60:40	5	03 Hours Theory exams. The dissertation to be marked by taking viva voce
PE	4 (choose one)	BARCH/PE - 904x/21	Professional Elective-V (Ref Table 1)	3	-	-	-	3	40:60	3	3
		BARCH/MOOC/PE 04x/21	MOOC-X (Ref Table-3)		-	-	-		-		Certificate from imparting agency
	5 (choose one)	BARCH/PE- 905x/21	Professional Elective- VI (Ref Table-1)	3	-	-	-	3	40:60	3	3(Question Bank)
		BARCH/MOOC/PE - 905x/21	MOOC-XI (Ref Table-3)		-	-	-		-		Certificate from imparting agency
OE	6 (choose one)	BARCH/OE- 906x/21	Open Elective – IV (Ref Table-2)	3	-	-	-	3	40:60	3	3
		BARCH/MOOC/OE - 906x/21	MOOC-XII (Ref Table-3)		-	-	-		-		Certificate from imparting agency
SEC	7	BARCH-907/21	*Educational Tour III/Summer Training III/Vacation Assignment-III	-	-	-	-	-	100:0	1	Int. jury Viva-Voce
	Total							26		27	

NOTE: * BARCH-907/21 is carried out in the intervening period of 8th and 9th semester, the evaluation of report to be done in the 9th semester.

10TH SEMESTER

Course Type	S. No	Course Code	Course Title	Load Allocations					Marks %	Credits	Duration of Univ. Exam in hours / Viva-Voce
				L	Sem/ Tut	P/ FW	Stu	Total	Int : Ext		
PC	1	BARCH-1001/21	Architectural Design (Thesis Project) -IX	1	-	-	14	15	60:40	15	External Jury
PAECC	2	BARCH-1002/21	Professional Practice	1	2	-	-	3	40:60	3	3
	3	BARCH-1003/21	Disaster Management	1	2	-	-	3	40:60	3	3
PE	4	BARCH/PE- 1004x/21	Professional Elective- VII (Ref Table-1)	3	-	-	-	3	40:60	3	3
		BARCH/PE/MOOC - 1004x/21	MOOC-XIII (Ref Table-3)		-	-	-		-		Certificate from imparting agency
	Total							24		24	

Comprehensive Scheme of B. Arch Curriculum 2021

		I		II		III		IV		V		VI		Total		VII		VIII		IX		X		Total		Total		Percentage (credits)
		Load	Credits	Load	Credits	Load	Credits	Load	Credits	Load	Credits	Load	Credits	Load	Credits	Load	Credits	Load	Credits	Load	Credits	Load	Credits	Load	Credits	Load	Credits	
PC	Arch Design	5	5	5	5	5	5	5	5	5	5	5	5													44	44	
	Arch Drawing	4	4	4	4																					8	8	
	Arch Graphics/ Presentation	3	3	3	3	2	2											7	7	7	7					8	8	
	History of Arch			3	3	3	3			3	3															9	9	
	Workshop	2	1	2	1							3	3													4	2	
	Architecture Legislation											3	3													3	3	
	Estimating Costing & Specification											3	3													3	3	
	Comprehensive Smart Village Study																	3	3							15	15	
	Thesis																					15	15			97	95	38
	Total	14	13	17	16	10	10	5	5	8	8	11	11	65	63	0	0	10	10	7	7	15	15	32	32			
	PC Total Stage wise																											
BS & AE	BC & Material	4	4	4	4	4	4	4	4	4	4	4	4													Total		
	Structure System							3	2									5	5	5	5					34	34	
	Theory of Structure	3	3																							3	2	
	Structure Design					3	3	3	3	3	3	3	3													3	3	
	Surveying & Levelling					4	3																			12	12	
	Building Services							3	3	3	3															4	3	
	Total	7	7	4	4	11	10	13	12	10	10	7	7	52	50	0	0	5	5	5	5	0	0	10	10	62	60	24
	BS & AE Total Stage wise																											
PAECC	Climate & Arch/ Sustainability																									Total		
	Professional Training							3	3	3	3															6	6	
	Research Methodology & Dissertation																18									0	18	
	Professional Practice																			5	5					5	5	
	Disaster Management																					3	3			3	3	
	Total	0	0	0	0	0	0	3	3	3	3	0	0	6	6	0	18	0	0	5	5	6	6	11	29	17	35	14
	PAECC Total Stage wise																											
PE / OE	Theory of Design			2	2																					Total		
	Professional Elective 1					3	3	3	3	3	3	3	3					3	3	3	3	3	3			2	2	
	Professional Elective 2									3	3	3	3					3	3	3	3					21	21	
	Open Elective																	3	3	3	3					6	6	
	Total	0	0	2	2	3	3	3	3	6	6	6	6	20	20	0		9	9	9	9	3	3	21	21	41	41	16.4
	PE / OE Total Stage wise																											
SEC	Communicative English	2	2																							Total		
	Communicative Skill Lab	2	1																							2	2	
	Human Values	3	3																							2	1	
	Life Skills	1	NC			1	NC			1	NC															3	3	
	Environmental Science			2	2																					3	0	
	Mentoring& Professional Development			2	NC			2	NC			2	NC													2	2	
	Computer Application			3	2	3	2	3	2																	6	0	
	Educational Tour/ Summer Training					0	1			0	1									0	1					9	6	
	Constitutional Law											2	2													0	3	
	Total	8	6	7	4	4	3	5	2	1	1	4	2	29	18	0	0	0	0	0	1	0	0	0	1	29	19	7.6
	SEC Total Stage wise																											
	Grand Total	29	26	30	26	28	26	29	25	28	28	28	26	172	157	0	18	24	24	26	27	24	24	74	93	246	250	100
	Stage wise Grand Total																											

Table-1: Professional Electives (Stream/Track wise) and their assigned Codes in Stage I & II of B. Architecture.

Track	Stream/ core area	5th sem BARCH/PE-507 X	6th sem BARCH/PE-606 X	8th sem BARCH/PE-804 X	8th sem BARCH/PE-805 X	9th sem BARCH/PE-904 X	9th sem BARCH/PE-905 X	Track	10th sem BARCH/PE-1004 X
		PE-I	PE-II	PE-III	PE-IV	PE-V	PE-VI		PE-VII
T1	Allied Arch	Hill Architecture	Traditional Indian Architecture	Architecture Conservation	Contemporary Indian Architecture	Futuristic Architecture	Contemporary world Architecture	T5 BS & AE/BS/BT for 10th Semester PE	Constructions Management
	Code	507 A	606 A	804 A	805 A	904 A	905 A		1004 A
T2	Allied Design/Arts	Interior Design	Landscape Design	Furniture Design	Art in Architecture	Product Design	Urban Design		Advance Building materials
	Code	507 B	606 B	804 B	805 B	904 B	905 B		1004 B
T3	Energy/ Environment	Ecology	Green Buildings & Rating Systems	Green Building Technologies / Passive Arch	Building Maintenance	Sustainable cities & Communities	Building system integration & management		Cost efficient technologies
	Code	507 C	606 C	804 C	805 C	904 C	905 C		1004 C
T4	Planning	Principles of Human Settlement	Smart Cities/ Real Estate	Housing	Traffic & Transportation Planning	Infrastructure planning	Town & Country Planning		Architecture Acoustics
	Code	507 D	606 D	804 D	805 D	904 D	905 D		1004 D
T5	BS & AE/BS/BT	Building Industry/ Building Economics	GIS/Remote Sensing/ Geo Spatial Technologies	High Rise Buildings	Risk Management	Lighting design	Digital Arch/ Advance Computer Software's		Earthquake resistant Architecture
	Code	507 E	606 E	804 E	805 E	904 E	905 E		1004 E
T6	Building Typology	Design for Containment	Design for Animals & Plants	Design for Tourism industry	Design for Retail & Wholesale	Design for Travel/ MRTS	Design for Health & Happiness		Advance Structure Systems
	Code	507 F	606 F	804 F	805 F	904 F	905 F		1004 F

Note: Theory of Design-II is offered as a Professional Elective in the 3rd Semester

All the Professional Elective of 10th semester are from Building Technology stream. Further categorization if needed should be done as given code (i), code (ii).... So on

MOOCs can be opted as a substitute of all the Professional Electives

Table-2 : Open Electives (Stream/Track wise) and their assigned Codes in Stage I & II of B. Architecture.

S,No	Track	Stream	5th sem BARCH/OE-508 X	6th sem BARCH/OE-607 X	8th sem BARCH/OE-806 X		9th sem BARCH/OE-906 X
			OE-I	OE-II	OE-III		OE-IV
1	T1	Performing Arts	Music	Dance	Cyber law & Ethics	Foreign Languages	French
		Code	508 A	607 A	806 A		906 A
2	T2	Journalism/	Creative Writing – I	Creative Writing – II	Society's Perception of Architects & Architecture		Japanese
		Code	508 B	607 B	806 B		906 B
3	T3	Health & Happiness/ Entrepreneurship	Health Education – I	Health Education – II	Generic Skills & Entrepreneurship Development		German
		Code	508 C	607 C	806 C		906 C
4	T4	Technology/ Management	Laser Technology & Architecture	Printing Tech. & Arch.	Human resource development & organization behavior		Spanish
		Code	508 D	607 D	806 D		906 D
5	T5	Social Sciences	Sociology VS Architecture	Psychology VS Architecture	Customer/Client Psychology		Mandarin
		Code	508 E	607 E	806 E		906 E

Note: All the OE of 9th semester are from Language (Foreign Language) stream
MOOCs can be opted as a substitute of all the Open Electives

Table-3 : MOOC's (Stream/Track wise) and their assigned Codes in Stage I & II of B. Architecture.

Sr. No.	Track	MOOC (Stream)	Stage – I						Stage – II						
			3rd semester BARCH/PE/MOO C- 307 X	4th semester BARCH/PE/MOO C- 407 X	5th semester BARCH/PE/MOO C- 507 X	5th semester BARCH/OE/MOO C- 508 X	6th semester BARCH/PE/MOO C- 606 X	6th semester BARCH/OE/MOO C- 607 X	8th semester BARCH/PE/MOO C- 804 X	8th semester BARCH/PE/MOO C- 805 X	8th semester BARCH/OE/MOO C- 806 X	9th semester BARCH/PE/MOO C-904 X	9th semester BARCH/PE/MOO C-905 X	9th semester BARCH/OE/MOO C-906 X	10th semester BARCH/PE/MOO C-1004 X
			MOOC -I	MOOC -II	MOOC -III	MOOC-IV	MOOC-V	MOOC-VI	MOOC-VII	MOOC-VIII	MOOC-IX	MOOC-X	MOOC-XI	MOOC-XII	MOOC-XIII
1	T1	Allied Architecture/Design / Arts	307 A	407 A	507 A	508 A	606 A	607 A	804 A	805 A	806 A	904 A	905 A	906 A	1004 A
2	T2	Energy/Environment	307 B	407 B	507 B	508 B	606 B	607 B	804 B	805 B	806 B	904 B	905 B	906 B	1004 B
3	T3	Planning	307 C	407 C	507 C	508 C	606 C	607 C	804 C	805 C	806 C	904 C	905 C	906 C	1004 C
4	T4	Building Science & Applied Engineering / Building Services / Building Technology	307 D	407 D	507 D	508 D	606 D	607 D	804 D	805 D	806 D	904 D	905D	906 D	1004 D
5	T5	Computer Science/ Programming/ Data Sciences/ Software's/ Interruptive Technologies	307 E	407 E	507 E	508 E	606 E	607 E	804 E	805 E	806 E	904 E	905 E	906 E	1004 E
6	T6	Management/ Business/ Entrepreneurship	307 F	407 F	507 F	508 F	606 F	607 F	804 F	805 F	806 F	904 F	905 F	906 F	1004 F
7	T7	Humanities/Social Sciences/Education/ Teaching	307 G	407 G	507 G	508 G	606 G	607 G	804 G	805 G	806 G	904 G	905 G	906 G	1004 G
8	T8	Journalism/Mass Communication / Media	307 H	407 H	507 H	508 H	606 H	607 H	804 H	805 H	806 H	904 H	905 H	906 H	1004 H
9	T9	Finance/Commerce/Economics Accounts	307 I	407 I	507 I	508 I	606 I	607 I	804 I	805 I	806 I	904 I	905 I	906 I	1004 I
10	T10	Legal Services/Administration/ Personal Development / Health & Happiness / Miscellaneous	307 J	407 J	507 J	508 J	606 J	607 J	804 J	805 J	806 J	904 J	905 J	906 J	1004 J

Note: Further categorization if needed should be done as given code (i), code (ii).... So on
MOOCs courses are allowed from wide range of available National/International portal of reputed and recognized providers (in view of limited options available at domestic portals).

FIRST YEAR

1st SEMESTER

Course Type	S. No	Course Code	Course Title	Load Allocations					Marks %	Credits	Duration of Univ. Exam/ Viva-Voce
				L	Sem/ Tut	P/ FW	Stu	Total	Int : Ext		
PC	1	BARCH-101/21	Architectural Design & Theory-I	1	-	-	4	5	60:40	5	06 + Ext. Viva Voce
	2	BARCH-102/21	Architectural Drawing-I	1	-	-	3	4	60:40	4	3
	3	BARCH-103/21	Architectural Graphics-I	1	-	-	2	3	60:40	3	3
	4	BARCH-104/21	Workshop-I	-	-	2	-	2	100: 0	1	No Exam, only Int. jury Viva-Voce
BS&AE	5	BARCH-105/21	Building Construction & Materials-I	1	-	-	3	4	60:40	4	3
	6	BARCH-106/21	Theory of Structure- I	2	1	-	-	3	40:60	3	3
SEC	7	BTHU-101/18	Communicative English	2	-	-	-	2	40:60	2	3
	8	BTHU-102/18	Communicative Skill Laboratory		-	2	-	2	100: 0	1	No Exam, only Ext. jury Viva-Voce
	9	HSMC-122/18	Human Values and Professional Ethics	2	-	-	-	2	40:60	2	3
	10	BARCH-107/21	Life skills-I	1	-	-	-	1	S/US	NC	No Exam
	Total							28		25	

IK Gujral Punjab Technical University

Bachelor of Architecture (B. Arch. 1st Semester) 2021

Course Code	Course Name	L-1, ST-4	Int. : Ext.	Duration of Exam
BARCH101-21	Architectural Design & Theory – 1	Credits - 05	60:40	06 Hours

Course Objective:

The main objective of the course is to get the students interested in and to familiarize them with the basic concepts of Design. To enhance and promote visualization, expressional skills and sensitivity to surrounding environment and to develop the ability to translate principle of design into architecture solution.

Course Outcomes:

At the end of the course, the students will able to-

- Understand & will gain a fundamental knowledge of architecture design and its basic principles.
- To apply visual and formal analysis of architecture in their mind and they will be able to appreciate well-designed buildings.
- Understand the skill required to interpret a work of architecture and to evaluate, identify and analyse artistic expression of architectural forms.
- Understand the relationship between human activities of Space.

Detailed Syllabus:

UNIT-I (Theory)

- Introduction to Basic Design
- Objectives of Design
- Elements of Design
- Principles of Design
- Scale and proportion in Architecture.
- Anthropometrics (including norms for physically challenged persons)
- Human functions and their interactions for space requirements.
- Minimum and optimum areas for various human activities & functions.

UNIT-II (Design Exercise & Application)

- 2D compositions with basic geometric shapes, colour, texture and pattern.
- Experience in 3D Design, compositions with simple forms like cube, cuboids, cylinder, cone, prism etc.
- Compositions with 3-D Solids.
  Note - Stress is given to 2D, 3D exercise **(Black & white and colours.)**
- Functional furniture layout, circulation as anthropometric/Activity pattern

UNIT-III

- Gazebo/ rain shelter/ Milk booth/Florist kiosk/ park layout etc...

Evaluation Criteria for Exam / Question Paper Setting:

The examiner will set five questions from Unit- I and two from Unit-III & students are required to attempt any three question from Unit-I and only one from Unit-III during the six hour examination. No question to be set from Unit- II

Important Note:

The evaluation is to be done through Viva - voce conducted at the institute level by Internal / External jury members appointed in consultation with the university from the appointed panel list of examiners. The answer sheet shall be retained at the institute after the exam for the viva voce.

Instructions for the Faculty:

Design faculty should encourage and motivate the students for live projects of their immediate surrounding. (Identifying need, Framing requirements and solution for the same and it should be marked as an assignment.)

The stress should be given on making students grasp the concept and do the design assignment as a creative fun activity.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same in the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University

Bachelor of Architecture (B. Arch. 1st Semester) 2021

Course Code	Course Name	L - 1, ST - 3	Int. : Ext.	Duration of Exam
BARCH102-21	**Architectural Drawing –I**	**Credits - 04**	**60:40**	**03 Hours**

Course Objective:

The objective is to make the students familiarize with good drafting and lettering techniques use in architecture. To gain the basic knowledge for preparing the architectural drawings by learning about the orthographic projections of simple geometric forms and representation of 3-D & 2-D forms.

Course Outcomes:

At the end of the course, the students will able to –

- Gain the comprehensive understanding of the fundamental techniques of technical drawing and its architectural representation.
- Attain the knowledge to visualize the geometrical forms through plans, elevations and sections.

Detailed Syllabus:

UNIT- I

- Drafting – Technique & its Principles
- Line - Types of Lines and Dimensioning of line
- Lettering - free hand & block lettering
- Scales – Different types of scale and its uses in the Architectural Drawing.

UNIT- II

- Orthographic Projections - Point, Lines, Plane and Solid in various positions in the First Quadrant.

UNIT- III

- Section of Solids- Cube, Cuboids, Cone, Cylinder, Pyramid, Prism etc.

UNIT- IV

- Development of Surfaces - Simple Geometrical Solids (Cube, Cuboids, Cone, Cylinder, Pyramid, Prismatic)
- Interpenetration of Solids

Instructions for the Faculty:

Emphasis should be laid on learning by doing and students have to be encouraged to make proper models to understand the geometry of forms.

Evaluation Criteria for Exam / Question Paper Setting:

Total eight questions are to be set (two questions from each unit) and the students are required to attempt total four questions (one from each unit).

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University

Bachelor of Architecture (B. Arch. 1st Semester)

Course Code	Course Name	L - 1, ST - 2	Int. : Ext.	Duration of Exam
BARCH103-21	**Architectural Graphics –I**	**Credits - 03**	**60:40**	**03 Hours**

Course Objective:

The objective is to make the students familiar with visual arts and its basic principles and to explore the potential of Pencil of different grades and Coloured pencils as a powerful tool of Graphic Communication.

Course Outcomes:

At the end of the course, the students will able to –

- Gain a fundamental knowledge of architecture Graphics and its principles.
- Achieved a comprehensive understanding of architectural presentation techniques.

Detailed Syllabus:

UNIT- I (Pencil as fundamental tool of drawing)

- Free hand line-work with different strokes/grades in pencil.
- Effect of light and shade on simple geometrical solids.
- Textures of different building materials (such as bricks, stones, grass, glass, timber etc.) in pencil through shading and surface finishes of wall and floor.
- B/W Composition by using different geometric forms with charcoal pencil.

UNIT- II (Pencil as presentation medium)

- Freehand (proportionate) sketching of human figures, different types of vegetation, different transport modes and buildings etc.
- Indoor and outdoor furniture/antique items & Staircase-shading/role with light
- Sketches of scenes and activities from memory involving public spaces, markets, festivals, recreational spaces etc.
- Live sketching – indoor and outdoor area

UNIT-III (Rendering with coloured pencils/crayons/dry pastels)

- Colour rendering of human figures, different types of vegetation, different transport modes and buildings etc.
- Colour Rendering of various scenes such as Garden/Park Scene, Street Scene, Lake Scene, Village/Market Scene, etc.
- Live sketching – indoor and outdoor area
- Role of light in rendering co-relation with different shapes of geometry and some building elements.

UNIT-IV (Art & Illusion)

- Different exercises involving Logo Design, Collage making etc.
- Mural and Sculpture design in different materials like POP, Clay, ceramic/Mosaic etc.

Instructions for the Faculty:

- Workshops related to above stated units should be organised, highlighting its technique and style which can be organised indoor or outdoor. The students must be encouraged to appreciate the natural/man-made landscape and to understand the interrelationship of nature and architecture. Emphasis should be on enhancing the observation skills & aesthetics sensibility of the students.

Evaluation Criteria for Exam / Question Paper Setting:

Total four questions are to be set from all the units and students are required to attempt all the questions.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same in the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University

Bachelor of Architecture (B. Arch. 1st Semester)

Course Code	Course Name	P - 2	Int. : Ext.	Duration of Exam
BARCH104-21	**Workshop – I**	**Credits - 01**	**100:0**	**No exam only Internal viva-voce**

Course Objective:

The student will gain basic hands on experience and fundamental knowledge in carpentry, brick masonry and model making.

Course Outcomes:

At the end of the course, the students will able to –

- Gain the basics knowledge of the carpentry tools and its joints.
- Attain skill to work with different materials for making architectural model.

Detailed Syllabus:

UNIT-I 2D/ 3D composition

- Exercise in 2-D compositions (formal, informal, abstract or modern etc.)
- Block making of 3-D geometrical blocks (by choosing different forms and different materials).
- Soap carving for creating three dimensional forms in space

UNIT-II Carpentry

- Carpentry – Introduction to the types, use of carpentry Tools and various joints in Carpentry.

UNIT-III Model Making

- Model Making—making of different types of trees and other landscape elements like street lamps, pathways, plantation, water-bodies and different types of automobiles.
- Preparation of wooden base for model making.

UNIT-IV Masonry Construction

- Brick/Stone Masonry – Low height wall construction by using either bricks or stones for the understanding of various bonds, jallies etc.

Instructions for the Faculty:

- The Faculty is required to give a complete demonstration of brick work, stone work, textured & timber work and other various exterior finishes through audio-visual aids or through site visits.

Evaluation Criteria for Exam / Question Paper Setting:

In the end of the semester internal jury Viva-voce to be conducted (the jury comprises of the subject incharge and the HOD nominee)

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on

web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University

Bachelor of Architecture (B. Arch. 1st Semester)

Course Code	Course Name	L-1, ST-3	Int. : Ext.	Duration of Exam
BARCH105-21	**Building Construction & Materials - I**	**Credits - 04**	**60:40**	**03 Hours**

Course Objective:

- The objective is to introduce the elementary building materials and their applications. To familiarize students with construction details of various basic components of construction.

Course Outcomes:

At the end of the course, the students will able to –

- Understand the properties, types, uses and application of various building materials i.e. brick, lime, cement, mortar, sand, stones etc.
- Gain the fundamental knowledge of building Construction especially in brick and stone.

Detailed Syllabus (This subject consists of two Parts)

Part A: Building Materials

UNIT-I (Brick As A Construction Material)

- Brief introduction to mud, sand, clay, surkhi, aggregates, lime and cement etc.
- Different types of mortar like mud mortar, lime mortar, cement mortar etc.- their properties and uses
- Classification &types, uses, sizes and properties of bricks
- Cost-effective bricks, AAC blocks, Fly-ash bricks etc. – their properties and uses in construction industry.

UNIT-II (Stone As A Construction Material)

- Classification & types, uses, sizes and properties of Stone available in India
- Stone – dressing, and deterioration and preservation measures.
- Application properties and visual check for different types of stone.
- Properties and uses of artificial stone.

Part B: Building Construction

UNIT-III (Brick masonry)

- Introduction to various components of a building (sub-structure to super-structure), their structural and functional roles.
- Brick masonry –different types of bonds (English, Flemish, Rat trap, etc.) and junctions (L-junctions, T-Junctions, cross junction) of varying wall thickness (not more than 2 brick thick).
- Attached and detached brick Piers of varying thickness (~~not more than 3'-0"~~)
- Brick jalli-design and construction details

UNIT-IV (Stone masonry)

- Stone masonry of various types
- Lintels and sill level details
- Coping and threshold details.
- Arches-Flat, Segmental and Semi-circular

Instructions for the Faculty:

- The assigned Faculty is advised to undertake 2-3 site visits for better understanding of Brick/Stone bonds, Brick Jalli and different types of exterior finishes. Faculty is advised to read the preamble of the syllabus carefully.

Evaluation Criteria for Exam / Question Paper Setting:

Total eight questions are to be set two from each unit & students are required to attempt total four questions i.e. one from each unit. The distribution of marks for **Part A** (Unit I&II): **Part B** (Unit III&IV) is 12: 28 marks.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University

Bachelor of Architecture (B. Arch. 1st Semester)

Course Code	Course Name	L-2, T-1	Int. : Ext.	Duration of Exam
BARCH106-21	**Theory of Structures - I**	**Credits - 03**	**40:60**	**03 Hours**

Course Objective

Give introduction of basic principles governing structural systems. Make students understand basic properties of solids and sections, which influence their behaviour under the effect of various types of forces.

Course Outcomes:

At the end of the course, the students will able to –

1. Develop techniques for analysing forces in statically determinate structures.
2. Apply basic knowledge of Maths and Physics to solve real life problems related to structures.
3. Describe Hooke's law relationships and perform calculations

Detailed Syllabus:

UNIT I

- Various types of Gravitational and Lateral Loads (I.S. 875) such as Dead, Live, Wind, Earthquake etc.
- Type of Forces, Cause- Effect, Concurrent Forces, Coplanar Forces and Parallel Forces. Triangle Law of Forces, Parallelogram Law of Forces, Equilibrium of Forces, Concept of Resultant, Conditions of Equilibrium.
- Centre of Gravity, Definition, Centroid, Centre of Gravity of Plane Figures, Moment of Inertia; Radius of Gyration of simple cross-section of beams and columns, Theorem of Parallel and Perpendicular Areas.

UNIT II

- Classification of Frames, Type of stresses and strains, Analysis of determinate trusses by Method of Joints, Design examples.

UNIT III

- Moment of Resistance, Theory of Bending, Bending Stresses, Sectional Modulus of Rectangular and Circular Sections , bending and shear stress distribution across a section.

UNIT IV

- Types of Stresses & Strains, Hooke's law, Young Modulus, Shear Modulus, Bulk Modulus.

Instructions for the Faculty –

The student of architecture must be clear about the Basic structure design concepts.

Evaluation Criteria for Examination/ Question Paper Setting:

The examiner is required to set eight questions with minimum two from each unit. Students are required to attempt five questions with a minimum one from each unit.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same in the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University

Bachelor of Architecture (B. Arch. 1st Semester)

Course Code	Course Name	2 - L	Int. : Ext.	Duration of Exam
BTHU101-18	**Communicative English**	**Credit - 2**	**40:60**	**03 Hours**

Course Objective:

The student will gain basic hands on experience and fundamental knowledge English and become the independent users of English Language.

Course Outcomes:

At the end of the course, the students will able to –

- Have proficiency in reading & listening, comprehension, writing and speaking skills.
- Understand spoken and written English language, particularly the language of their *chosen technical field*.
- Converse fluently.
- Produce clear and coherent texts on their own.

Detailed Syllabus:

UNIT-I Vocabulary Building & Basic Writing Skills

- The concept of Word Formation
- Root words from foreign languages and their use in English
- Acquaintance with prefixes and suffixes from foreign languages in English to
- form derivatives.
- Synonyms, antonyms, and standard abbreviations.
- Sentence Structures
- Use of phrases and clauses in sentences
- Importance of proper punctuation
- Creating coherence
- Organizing principles of paragraphs in documents
- Techniques for writing precisely

UNIT-II Identifying Common Errors in Writing

- Subject-verb agreement
- Noun-pronoun agreement
- Misplaced modifiers
- Articles
- Prepositions
- Redundancies
- Clichés

UNIT-III Mechanics of Writing

- Writing introduction and conclusion
- Describing
- Defining

- Classifying
- Providing examples or evidence

UNIT-IV **Writing Practices**

- Comprehension
- Précis Writing
- Essay Writing
- Business Writing-Business letters, Business Emails, Report Writing, Resume/CV, Architectural Report Writing

Evaluation Criteria for Exam Question Paper Setting:

One objective type compulsory question to be set covering the entire syllabus in addition to eight others (two from each unit). The students are requiring attempting total 05 questions i.e. compulsory question and one from other from each unit.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University

Bachelor of Architecture (B. Arch. 1st Semester)

Course Code	Course Name	P-2	Int : Ext	Duration of Exam
BTHU102-18	**Communicative Skill Laboratory**	**Credit - 1**	**100:0**	**No exam only Internal viva-voce**

Course Objective:

The objective of the course is to help the students become the independent users of English language.

Course Outcomes:

At the end of the course, the students will able to –

- Students will acquire basic proficiency in listening and speaking skills.
- Students will be able to understand spoken English language, particularly the language of their chosen technical field.
- They will be able to converse fluently
- They will be able to produce on their own clear and coherent texts.

Detailed Syllabus:

Interactive practice sessions in Language Lab on Oral Communication:

- Listening Comprehension
- Self-Introduction, Group Discussion and Role Play
- Common Everyday Situations: Conversations and Dialogues
- Communication at Workplace
- Interviews
- Formal Presentations

Instructions for the Faculty:

- The available software/ language lab must be put to use by the students.

Evaluation Criteria for Exam / Question Paper Setting:

In the end of the semester internal jury Viva-voce to be conducted (the jury comprises of the subject incharge and the HOD nominee)

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University

Bachelor of Architecture (B. Arch. 1st Semester)

Course Code	Course Name	L-2	Int : Ext	Duration of Exam
HSMC122-18	Human Values and Professional Ethics	**Credits - 2**	**40:60**	**03 Hours**

Course Outcomes:

To help the students to discriminate between valuable and superficial in the life. To help develop the critical ability to distinguish between essence and form, or between what is of value and what is superficial, in life - this ability is to be developed not for a narrow area or field of study, but for everyday situations in life, covering the widest possible canvas. To help students develop sensitivity and awareness; leading to commitment and courage to act on their own belief. It is not sufficient to develop the discrimination ability, it is important to act on such discrimination in a given situation. Knowingly or unknowingly, our education system has focused on the skill aspects (learning and doing) - it concentrates on providing to its students the skills to do things. In other words, it concentrates on providing "How to do" things. The aspects of understanding "What to do" or "Why something should be done" is assumed. No significant cogent material on understanding is included as a part of the curriculum. A result of this is the production of graduates who tend to join into a blind race for wealth, position and jobs. Often it leads to misuse of the skills; and confusion and wealth that breeds chaos in family, problems in society, and imbalance in nature. This course is an effort to fulfill our responsibility to provide our students this significant input about understanding. This course encourages students to discover what they consider valuable. Accordingly, they should be able to discriminate between valuable and the superficial in real situations in their life.

MODULE 1. Course Introduction - Need, Basic Guidelines, Content and Process for Value Education

1. Purpose and motivation for the course, recapitulation from Universal Human Values-I
2. Self-Exploration–what is it? - Its content and process; 'Natural Acceptance' and Experiential Validation- as the process for self-exploration.
3. Continuous Happiness and Prosperity- A look at basic Human Aspirations
4. Right understanding, Relationship and Physical Facility- the basic requirements for fulfilment of aspirations of every human being with their correct priority
5. Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario.
6. Method to fulfil the above human aspirations: understanding and living in harmony at various levels.

Include practice sessions to discuss natural acceptance in human being as the innate acceptance for living with responsibility (living in relationship, harmony and coexistence) rather than as arbitrariness in choice based on liking-disliking

MODULE 2. Understanding Harmony in the Human Being - Harmony in Myself!

7. Understanding human being as a co-existence of the sentient 'I' and the material 'Body'
8. Understanding the needs of Self ('I') and 'Body' - happiness and physical facility

9. Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer)
10. Understanding the characteristics and activities of 'I' and harmony in 'I'
11. Understanding the harmony of I with the Body: Sanyam and Health; correct appraisal of Physical needs, meaning of Prosperity in detail
12. Programs to ensure Sanyam and Health.

Include practice sessions to discuss the role others have played in making material goods available to me. Identifying from one's own life. Differentiate between prosperity and accumulation. Discuss program for ensuring health vs dealing with disease.

MODULE 3: Understanding Harmony in the Family and Society- Harmony in Human-Human Relationship

13. Understanding values in human-human relationship; meaning of Justice (nine universal values in relationships) and program for its fulfilment to ensure mutual happiness; Trust and Respect as the foundational values of relationship.
14. Understanding the meaning of Trust; Difference between intention and competence
15. Understanding the meaning of Respect, Difference between respect and differentiation; the other salient values in relationship.
16. Understanding the harmony in the society (society being an extension of family): Resolution, Prosperity, fearlessness (trust) and co-existence as comprehensive Human Goals.
17. Visualizing a universal harmonious order in society- Undivided Society, Universal Order- from family to world family.

Include practice sessions to reflect on relationships in family, hostel and institute as extended family, real life examples, teacher-student relationship, goal of education etc. Gratitude as a universal value in relationships. Discuss with scenarios. Elicit examples from students' lives.

MODULE 4: Understanding Harmony in the Nature and Existence - Whole existence as Coexistence

18. Understanding the harmony in the Nature
19. Interconnectedness and mutual fulfilment among the four orders of nature - recyclability and self-regulation in nature
20. Understanding Existence as Co-existence of mutually interacting units in all pervasive space
21. Holistic perception of harmony at all levels of existence.

Include practice sessions to discuss human being as cause of imbalance in nature (film "Home" can be used), pollution, depletion of resources and role of technology etc.

MODULE 5: Implications of the above Holistic Understanding of Harmony on Professional Ethics

22. Natural acceptance of human values
23. Definitiveness of Ethical Human Conduct
24. Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order
25. Competence in professional ethics:

a. Ability to utilize the professional competence for augmenting universal human order
b. Ability to identify the scope and characteristics of people friendly and eco -friendly production systems,
c. Ability to identify and develop appropriate technologies and management patterns for above production systems.

26. Case studies of typical holistic technologies, management models and production systems.
27. Strategy for transition from the present state to Universal Human Order:

a. At the level of individual: as socially and ecologically responsible architects, engineers, technologists and managers
b. At the level of society: as mutually enriching institutions and organizations.

28. Sum up.

Include practice Exercises and Case Studies will be taken up in Practice (tutorial) Sessions eg. to discuss the conduct as an engineer or scientist etc.

READINGS:

Text Book

1. Human Values and Professional Ethics by R R Gaur, R Sangal, G P Bagaria, Excel Books, New Delhi, 2010.

Reference Books

1. Jeevan Vidya: EkParichaya, A. Nagaraj, Jeevan VidyaPrakashan, Amarkantak, 1999.
2. Human Values, A.N. Tripathi, New Age Intl. Publishers, New Delhi, 2004.
3. The Story of Stuff (Book).
4. The Story of My Experiments with Truth - by Mohandas Karamchand Gandhi
5. Small is Beautiful - E. F Schumacher.
6. Slow is Beautiful - Cecile Andrews
7. Economy of Permanence - J CKumarappa
8. Bharat Mein Angreji Raj -PanditSunderlal
9. Rediscovering India - by Dharampal
10. Hind Swaraj or Indian Home Rule - by Mohandas K. Gandhi
11. India Wins Freedom - Maulana Abdul Kalam Azad
12. Vivekananda - Romain Rolland (English)
13. Gandhi - Romain Rolland (English)

OUTCOME OF THE COURSE:

By the end of the course, students are expected to become more aware of themselves, and their surroundings (family, society, nature); they would become more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind. They would have better critical ability. They would also become sensitive to their commitment towards what they have understood (human values, human relationship and human society). It is hoped that they would be able to apply what they have learnt to their own self in different day-to-day settings in real life, at least a beginning would be made in this direction. This is only an introductory foundational input. It would be desirable to follow it up by a) Faculty -student or mentor-mentee programs throughout their time with the institution. b) Higher level courses on human values in every aspect of living. E.g. as a professional

Evaluation Criteria for Exam / Question Paper Setting:-

One objective type compulsory question to be set covering the entire syllabus in addition to ten others (two from each unit). The students are requiring attempting total 06 questions i.e. compulsory question and one from other from each unit.

Core References

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same in the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University

Bachelor of Architecture (B. Arch. 1st Semester)

Course Code	Course Name	L-1	Int. : Ext.	Duration of Exam
BARCH108-21	**Life skills**	**Non - Credits**	**S/US**	**Non Credit**

Course Objective:

To enable students to cope with challenges of today's world and live a life which is socially and emotionally enriching.

Course Outcomes:

At the end of the course, the students will able to develop an awareness of the self and apply well-defined techniques to cope with emotions and stress. Use appropriate thinking and problem solving techniques to solve new problems

Detailed Syllabus:

UNIT- I

Decision Making

UNIT- II

Critical thinking /lateral thinking

UNIT- III

Communication and Interpersonal skills

UNIT- IV

Self-awareness and empathy, Coping with emotions and stress

Instructions for the Faculty:

Read the preamble of the syllabus & take utmost care to discuss life issues with budding architects.

2nd SEMESTER **Total Con Hr 28**

Course Type	Course Code	Course Title	Load Allocations				Marks		Credits	Duration of Univ. Exam/ Viva-Voce
			L	Sem/ Tut	P/ FW	Stu	Internal	External		
PC	BARCH-201/21	Architectural Design -II	1	-	-	4	60	40	5	06 + Ext. Viva-voce
	BARCH-202/21	Architectural Drawing-II	1	-	-	3	60	40	4	3
	BARCH-203/21	Architectural Graphics-II	1	-	-	2	60	40	3	3
	BARCH-204/21	History of Architecture-I	2	1	-	-	40	60	3	3
	BARCH-205/21	Workshop-II	-	-	2	-	100	0	1	No Exam, only Int. jury Viva-Voce
BS & AE	BARCH-206/21	Building Construction & Materials-II	1	-		3	60	40	4	3
PE	BARCH-207/21	Theory of Design- I	1	1	-	-	40	60	2	3
SEC	BARCH-208/21	Computer Application-I	1	-	2	-	60	40	3	No Exam, only Ext. jury Viva-Voce
	BARCH-209/21	Mentoring & Professional Development- I	-	-	2	-	Satisfactory/Non satisfactory NO Credit			No Exam
		*Educational Tour I/ Summer Training-I/Vacation Assignment-I	-	-	-	-	-	-	-	Evaluation will be done in 3rd sem
	Total		8	2	6	12			25	

*NOTE: Educational Tour of 1-2 week duration during or after the first year of studies must be undertaken and Summer Training/ Vacation assignment to be given based on BARCH-211/21. The marking of the same will done in the third semester BARCH-310/21

IK Gujral Punjab Technical University
Bachelor of Architecture (B. Arch. 2nd Semester)

Course Code	Course Name	L-1, Stu-4	Int. : Ext	Duration of Exam
BARCH-201/21	**Architectural Design - II**	**Credits - 5**	**60:40**	**06 Hours + Ext viva-voce**

Course Objective
Understand the Architectural design of a small building with reference to function, form and structures.

Course Outcomes - At the end of the course, the students will be able to:
Develop a basic understanding of function, form, structure in the design of small structures. Understand & gain a fundamental knowledge of the architecture design process and its principles.

Detailed Syllabus

UNIT-I

Design of small buildings - Security check post, Bus Queue Shelter, Kiosk cum Cafes, etc. (involving circulation, form structure, and function)

UNIT-II

Architect's Office, Doctor's Clinic, Lawyer office & such similar projects of small scale (Cycle stand, E-Rickshaw stand, Taxi stand & Parking layouts, etc.)

Minimum 2 -5 exercises to be taken. (01 major, 02 minor and 02 as time problem)

NOTE - All buildings should have accessibility to the physically challenged persons as per SC guidelines.

Instructions for the Faculty –

The Basic methodology of teaching should be based on

- Library study to understand the basic functions of building and anthropometry.
- Case Study to understand the similar buildings in similar context.
- The emphasis of design should be on the space organisation and built form**.**
- Stress should be given to new thoughts/ innovation in design.

Design faculty should encourage and motivate the students for live projects of their immediate surroundings.

Evaluation Criteria for Examination/ Question Paper Setting:

One compulsory question is to be set from the entire syllabus.

The answer sheet shall be retained at the institute after the exam for conduct of the viva voce which will be conducted at the institute level by Internal / External jury members appointed in consultation with the university from the approved panel list of examiners.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same in the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University
Bachelor of Architecture (B. Arch. 2nd Semester)

Course Code	Course Name	L-1, ST-3,	Int. :Ext.	Duration of Exam
BARCH-202/21	**Architectural Drawing - II**	**Credits - 4**	**60:40**	**03 Hours**

Course Objective
To make students learn the techniques to represent different objects through 3-D and developing skill for visualization of 3-D forms through isometric/axonometric views, perspective and sociography to enhance the designing skills.

Course Outcomes- At the end of the course, the students will be able to:
- Understand the fundamental techniques of technical drawing used in 3-D.
- Analyse the 3-dimensional drawings of the building with Sociography.

Detailed Syllabus

UNIT-I (Isometric/ Axonometric projections)
- Principle of Isometric projection, Isometric grid and Scale.
- Isometric /Axonometric Views of simple/complex forms.
- Fundamentals of Sociography (point, line, plane, solids etc.)
- Sociography in Plans and Elevations

UNIT–II (Perspective Drawing)
- Introduction to theory of Geometrical Perspective Drawing.
- Angular (Two Point Perspective) and Parallel (One Point Perspective)
- Perspective of different Solids and Building elements
- Sociography in Perspectives (both one point & two-point perspectives)
- Perspective of one design problem being done in semester with sociography.

Instructions for the Faculty
- The Faculty is required to give maximum examples of the perspective view to enable the students to draw the views by using thumb rules.
- Emphasis should be laid on learning by doing and students have to be encouraged to make proper models to understand the geometry of forms.

Evaluation Criteria for Examination/ Question Paper Setting:
Total four questions are to be set, two from each unit & students are required to attempt a total of two questions i.e. one from each unit. The distribution of marks for unit I: Unit II is 15: 25 marks

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same I;n the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University
Bachelor of Architecture (B. Arch. 2nd Semester)

Course Code	Course Name	L-1 , ST-2	Int. : Ext.	Duration of Exam
BARCH-203/21	Architectural Graphics - II	Credits-3	60 : 40	03 Hours

Course Objective
The objective of the course in Architectural Graphics is to make the students familiar with the basic potential of Pencil and colours as a powerful tool of Graphic Communication.

Course Outcomes - At the end of the course, the students will be able to:
- Gain a fundamental knowledge of architecture Graphics and its principles.
- Attain the knowledge about the role of colours in presentation drawing and rendering techniques used in architectural design.

Detailed Syllabus

UNIT- I (Poster Colours as an effective presentation tool and its use in architecture design)
- Colour theory, Understanding colour value and intensity
- Colour Wheel showing Primary, Secondary and Tertiary colours.
- Colour Schemes & Charts showing Tints and Shades of various colours.
- Effect of colours in relief compositions.

UNIT- II
(Oil Pastels, Charcoal and watercolours as presentation medium)
- Representation of different textures in colour (brick, stone, timber, marble, glass etc.)
- Outdoor/indoor sketching of buildings, huts, group of trees, different kinds of trees/shrubs/grass with varying foliage in colours
- Colour rendering of blocks/geometrical forms, human figures, different types of vegetation, different transport modes and buildings etc.
- Rendering of drawings (Plan, elevation, 3-D views) in oil pastels and water coloured medium of one design problem being done in semester in any one medium.

Instructions for the Faculty
- Workshops related to colour rendering will also be organised, highlighting its technique and style which can be organised indoor or outdoor. The students must be encouraged to appreciate the natural/man-made landscape and to understand the interrelationship of nature and architecture.

Evaluation Criteria for Examination/ Question Paper Setting:
Total four questions are to be set, two from each unit & students are required to attempt one from each unit.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same in the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University

Bachelor of Architecture (B. Arch. 2nd Semester)

Course Code	Course Name	L -2, T - 1	Int. : Ext.	Duration of Exam
BARCH-204/21	History of Architecture - I	Credits - 03	40:60	03 Hours

Course Objective

To appreciate the constraints in the Architectural design of an ancient building with reference to its function, form and structures. To make students understand how different Architectural solutions were evolved(in successive historic periods)within the limitations imposed by prevalent social and religious customs, available building materials, climate of region/topography, complex structural problems and the limited technology available at that time period.

Course Outcomes: At the end of the course, the students will be able to –

- Developing a holistic approach to architecture is an integral component of the built environment.
- Develop an understanding of architecture as an outcome of various social, political and economic influences and as a response to the cultural and climate conditions.
- Understand the physical experience of buildings in order to appreciate the complexity of the physical and metaphysical influences bearing on architecture.

Detailed Syllabus

UNIT-I

- Introduction, Definition and scope & importance of History of Architecture - Man's early/ prehistoric attempts to colonise and personalise space by taking the examples of early shelters, Stonehenge, tumuli etc. As an expression of man's physical and spiritual needs.
- Introduction to the river valley civilizations- the Origin and the Form of the civilization.
- Architecture and town planning of Harappan civilization such as towns of Lothal, Mohenjo- Daro, Dholavira, Kalibanga etc.

UNIT-II

- Understanding of Vedic architecture, and settlements.
  The Vedic village-Building typology and its construction details.
- **Buddhist Art and Architecture**: Beginning & origin of Buddhist architecture and the important Socio-political factors in selection of sites. Architectural examples of Mahayana and Hinayana Buddhism; Rock-cut and free standing. Study of caves, stupas, and viharas of places like Sanchi, Amravati, Karle, Ajanta etc.

UNIT-III

Introduction to architecture and planning of river valley civilizations of ancient Egypt, Mesopotamia. Study of palace, hypostyle hall, temple, tomb architecture.

Nile Valley Civilization

Salient building types: (Egyptian)

- Mastabas – development and typical components
- Pyramids –development and typical components , Complex of Zoser, Pyramid of Cheops and Cephren, Standard mortuary complex layout of pyramids
- Temples & temple complexes - Cult Temple and Mortuary Temple

Mesopotamian civilization

Salient building types : (Mesopotamian)

- Ziggurats and their development – White Temple, Ziggurat of Ur, Ur Nammu and Khorsabad
- Generic Temple Layout - Temple Oval and Khafaje
- Palace Complex/Citadel of Khorsabad

UNIT-IV

Introduction to architecture and planning of ancient Greece and Rome. Study of principles of design, proportion, optical corrections and classical orders.

a) Greek Architecture:- Classical Order – Doric, Ionic, Corinthian
Salient building types:
- Temple types on basis of column layout – case example of Acropolis, Athens
- Public Buildings and Square – Agora, Stoa, Theatres

b) Roman Architecture: - Contribution in new materials and new construction/structural systems, eg, Pozzolana, Cementae, Stone Blocks, Stone Masonry, Arch, Vault, Dome.

Salient buildings types:-
Pantheon, Colosseum, Bath of Caracalla, Basilica of Trajan, Forums of Rome, Aqueduct

Instructions for the Faculty:

- The Faculty is advised to consider limited examples (not more than 05) of each type of Architecture emphasizing on the analysis of architecture style/building typology must include the functional, constructional/structural and ornamentation aspects.
- Educational trip will be organised to impart practical knowledge of the content.

Evaluation Criteria for Exam / Question Paper Setting: -

The examiner is required to set eight questions with minimum two from each unit. Students are required to attempt five questions with a minimum one from each unit.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same in the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University
Bachelor of Architecture (B. Arch. 2nd Semester)

Course Code	Course Name	P - 2	Int. : Ext.	Duration of Exam
BARCH-205/21	**Workshop - II**	**Credits-01**	**100**	**No Exam only Internal Viva-voce**

Course Objective
The student will gain basic hands on experience and fundamental knowledge in model making, sculpture and clay modelling.

Course Outcomes: At the end of the course, the students will able to--

- Proficiency in handling clay as a material.
- Acquire skills in different types of architectural model making using various materials and get hold of skill in sculpture making in various mediums.

Detailed Syllabus

UNIT-I (Clay & Sculpture)

- Clay Modelling, Pinching, Coiling Techniques Slab Techniques
- Sculptures in Plaster of Paris, Wires, Scrap, Wood, Ceramic tiles etc.

UNIT-II (Product design)

- Design & Model Making of Furniture, Lamp shades and other Interior & Exterior Elements.

UNIT- III (Model Making in paper, cardboard and mount board)

- Prepare block model of the design project introduced in the semester along with site plan details such as parking area, green areas and landscape techniques etc.
- To prepare a detailed model of mixed materials for a major design project of one design problem being done in semester.

Instructions for the Faculty

- The Faculty is required to organize one or two Sculpture/Mural workshops to enable the students to understand the concept of "learning by doing".

Evaluation Criteria for Examination/Question Paper Setting
In the end of the semester internal jury Viva-voce to be conducted (the jury comprises of the subject incharge and the HoD nominee)

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same in the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University
Bachelor of Architecture (B. Arch. 2nd Semester)

Course Code	Course Name	L-1, ST-3,	Int. :Ext.	Duration of Exam
BARCH-206/21	Building Construction & Materials - II	Credits-4	60:40	03 Hours

Course Objective

The main objective is to introduce the properties of timber as building material and to familiarize the students with traditional construction methods of a single storeyed building in timber with sloping roofs.

Course Outcomes: At the end of the course, the students will be able to-

- Comprehend timber as a building material and its application in building components and gain knowledge on construction of Door, window, roof made out of it.
- Understand various surface finishes for single storey building and the fundamental knowledge for water proofing details in simple structures.

Detailed Syllabus (This subject consists of two Parts)

Part A: Building Materials

UNIT-I (Materials)

- Timber: Sources of timber, its classification & characteristics, defects of Timber, different Preservation and treatment measures and Uses of Timber in building construction.
- Industrial timber products and their applications-plywood, particleboard, laminated board, block board and batten board etc.

UNIT – II (Waterproofing and Surface finishes)

- Water proofing: - Water proofing materials (liquid, semi liquid and solid) – Composition, Properties, Applications.
- Surface finishes: -White wash, Distemper, Paints and Varnishes- Types, Applications, Suitability, Advantages and Disadvantages.

Part B: Building Construction

UNIT – III (Doors & Windows)

- Doors -Types of Doors, Design and construction details of Framed, Ledged, Braced & Battened Door, Flush Door, and Wire mesh Door, Panelled Door etc. (considering different types of Joints and Joinery details)
- Windows - Types of Windows, Design and Construction details of Casement, Bay, Clearstory, Corner window Dormer window etc. (considering different types of Joints and Joinery details)

UNIT – IV (Foundation, Walls and Roofs)

- Foundation – introduction and importance of foundations, Types of Foundations (brick and stone) and their design considerations for load bearing structures.
- Damp proof course – introduction and types of D.P.C., laying and maintenance of D.P.C. layers Roofs - Construction of R.B.C. roof, Jack Arch Roof, Tiled and Battened Roof and concepts of water proofing & Thermal Insulation of roofs.
- Section through a single storey building covering the foundation, D.P.C. layer, window with sill and lintel level, roof and wall junction, roof insulations and parapet wall details.
- Walls- various types of timber frame walls with details of joints and cladding
- Dhajji wall construction
- Foundation of timber post

Instructions to the Faculty

- The faculty should encourage the students to visit the construction site/conduct market survey w.r.t. the topics covered in the class.
- Audio-visual lectures should be presented.

Evaluation Criteria for Examination/ Question Paper Setting:

Total eight questions are to be set, two from each unit & students are required to attempt a total of four questions i.e. one from each unit. The distribution of marks for **Part A** (Unit I&II): **Part B** (Unit III & IV) is 12: 28 marks.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same I;n the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University
Bachelor of Architecture (B. Arch. 2nd Semester)

Course Code	Course Name	L-1 T-1	Int. : Ext.	Duration of Exam
BARCH-207/21	Theory of Design - I	Credits -2	40:60	03 Hours

Course Objective

The objective is to establish the role and importance of Theory of Design as a broad, comprehensive activity to help students to formulate a responsible opinion and a well-reasoned judgement by looking at the design in depth and in a critical way.

Course Outcomes: At the end of the course, the students will able to-

- Develop a basic understanding of spatial organisation
- Learn about the inter-dependence of function, structure and form in architectural design. .

Detailed Syllabus

UNIT-I

- Primary Elements of Design such as Point, Line, Planes and Volume with building examples.
- Proportion, scale, balance, rhythm, symmetry, hierarchy, pattern, axis with building examples
- Formal Collision of Geometry and Articulation of Forms.

UNIT-II

- Organization of Form and Space.
- Spatial relationships; space within space, interlocking space, adjacent space, space linked by common space.; influencing factors for spatial organization and their types; centralized, linear, radial, clustered etc.

UNIT – III

- Analysis and classification: space usage & inter-relationship of different spaces within a building.
- Form defining Space with Horizontal Elements and Vertical Elements.
- Spatial Organization and Circulation Elements including Approach, Entrance, Configuration of the Path (Path- Space Relation, Form of the Circulation Space).

UNIT – IV

- Proportion and Scales, Proportion System, Visual Scale and Human scales, scalar comparison.
- Aesthetic principles in Indian and western cultures.

Instructions for the Faculty

- The Faculty is required to guide the students with building examples (taken from Indian/world architecture) to understand the necessary relationship between indoor and outdoor space in context to the theory of design and must encourage the students to do in depth study of design theory.
- Audio-visual lectures should be presented and the subject must be taught in coordination to site visits or study tour for topics relating to theory of form, space and basic architectural forms.

Evaluation Criteria for Examination/ Question Paper Setting:

The examiner is required to set eight questions with minimum two from each unit. Students are required to attempt five questions with a minimum one from each unit.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same in the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

IK Gujral Punjab Technical University
Bachelor of Architecture (B. Arch. 2nd Semester)

Course Code	Course Name	L-1 P-2	Int. : Ext.	Duration of Exam
BARCH-208/21	Computer Applications - I	Credits -2	60:40	No Exam, only Ext. jury / Viva-Voce

Course Objective: To make students aware of the role and importance of Computers in the field of Architecture.

Course Outcomes: At the end of the course,the students will be able to understand basics of Computers hardware, operating systems and operative languages, being a fundamental course the students will be introduced to the basics of hardware and software. They will be introduced to 2D presentations.

Detailed Syllabus: - Being an advanced learning course, students will be introduced to 2D drawing and rendering techniques.

UNIT- I

- Introduction to MS Office tools (PowerPoint presentation, word file/excel etc.)-basic templates for creating text documents, editing, formatting, spelling/grammar check, dictionary and thesaurus, page layout, fonts, indentation, inserting tables and images, document review and annotation in software like MS Word.
- Image processing: basic image sourcing, editing and insertion for desktop publishing in Adobe Photoshop or similar software.

UNIT- II

- Basic commands like copy, paste, stretch, offset, move fillet, extend, trim and other 2D commands.
- Basic Text writing and dimensioning of the Plans, Elevation and Sections.
- Basic hatching and filling of the Walls in the Plans, Elevations and Sections.
- Understanding of unit settings, scale, limits, line type, line weight, layers, colours, and print commands.
- Simple exercises in to 2D CAD software (AutoCAD/Revit) specifically for proficiency of, drawing/editing objects, text, dimensioning, making and inserting blocks,
- Drawing the basic Plans, Sections, and Elevations
- Basic rendering in the Auto Cad and in other Software's in 2D..

Evaluation Criteria for Exam

The evaluation of students shall be based on practical conducted based on a specific problem given to know the student's understanding of the computers in the field of Architecture.

Instructions for the Faculty –

Emphasis should be laid on developing the skill of 2-D drafting on the Software's

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same in the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus

IK Gujral Punjab Technical University
Bachelor of Architecture (B. Arch. 2nd Semester)

Course Code	Course Name	P/FW-2	Int. : Ext.	Duration of Exam
BARCH-209/21	**Mentoring & Professional Development-I**	**Non-Credit**	**S/US**	**No Exam**

Guidelines regarding Mentoring and Professional Development

The objective of mentoring will be development of

- Overall Personality
- Aptitude (Technical & General)
- General Awareness (Current Affairs & GK)
- Communication Skills
- Presentation Skills

The course shall be split in two sections i.e. class activities and outdoor activities for achieving the above suggestive list of activities to be conducted are:

Part A (Class Activities)

- Expert and video lectures
- Aptitude Test
- Group Discussions
- Quiz (Technical & General)
- Presentation by the Students
- Team Building Exercises

Part B (Outdoor Activities)

- Sports: NSS/NCC
- Society activities in various student chapters i.e. NASA, ISTE, SCIE, SAF, CSI, Various Clubs such as Cultural, Hobby, Adventure etc.

Evaluation shall be based on rubrics for Part A & B

Mentors faculty incharge shall maintain a proper record student wise of each activity conducted and the same shall be submitted to the department.