

CA
वास्तुकला परिषद्
Council of Architecture

वास्तुविद्युत अधिनियम, 1972 के अंतर्गत भारत सरकार का एक स्वायत्त अधिष्ठाता निकाय
(An Autonomous Statutory Body of Govt. of India, under the Architects Act, 1972)

Ref. No.CA/28/2017/MS (Regulation)
November 17, 2017

Shri B.K. Bhadri
Asst. Educational Advisor (DL)
Technical Section-VI
Department of Higher Education
Ministry of Human Resource Development
Government of India, Shastri Bhawan
New Delhi-110115



Subject: Request for approval of Central Government on the proposed Minimum Standards of Architectural Education Regulations, 2017-reg.

Sir,

I am directed to invite your kind attention to this office letter of even number dated 03.07.2017 on the above subject.

This issue was discussed in the full Council in its 68th meeting held on 13.10.2017. The Council after deliberations, authorized the Executive Committee to consider providing statement indicating the proposed 2017 Regulations vis-à-vis the provisions of the Council of Architecture Minimum Standards of Architectural Regulations, 1983 and to resubmit the same to the Ministry requesting for approval of Central Government.

Pursuant to the above decision of the Council, the Executive Committee of the Council, in its 180th Meeting held on 06.11.2017 has finalized and approved a comparative statement on the various provisions of the proposed Minimum Standards of Architectural Education Regulations of 2017 vis-à-vis provisions of the Regulations of 1983, a copy of which is attached herewith as **Annexure-A** for your ready reference.

We are also attaching herewith the proposed Minimum Standards of Architectural Education Regulations of 2017 as **Annexure-B**.

In view of the above, the Ministry may kindly consider for according its approval on the above proposal of the Council of Architecture.

Thanking you,

Yours faithfully,


R.K. Oberoi
Registrar-Secretary

Encl: As above

Council of Architecture

MINIMUM STANDARDS OF ARCHITECTURAL EDUCATION REGULATIONS, 2017

In exercise of the powers conferred by clauses (e), (g), (h) and (i) of sub-section (2) of section 45 read with section 21 of the Architects Act, 1972 (20 of 1972), the Council of Architecture, with the approval of the Central Government, hereby makes the following regulations, namely:-

1.0 Short Title and Commencement

- 1.1 These regulations may be called the Council of Architecture (Minimum Standards of Architectural Education) Regulations, 2017.
- 1.2 They shall come into force on the date of their publication in the Official Gazette.

2.0 Definitions

In these regulations, unless the context otherwise requires:

- (a) "Act" means the Architects Act, 1972 (20 of 1972);
- (b) "Council" means of Council of Architecture constituted under Section 3 of the Act;
- (c) "Executive Committee" means the Executive Committee constituted under Section 10 of the Act;
- (d) "Faculty" means the teaching staff members in the service of an institution; "Core faculty" means full time teaching staff members with valid registration with the Council, appointed by the institution on regular basis.
- (e) "Institution" means a department of University/ college/school of architecture in India imparting instructions for recognized qualification;
- (f) "Recognized qualifications" means any qualification in architecture for the time being included in the Schedule appended to the Act or notified under section 15 of Act.

3.0 Duration of the Architecture Program

- 3.1 The Architecture program shall be of minimum duration of 5 academic years or 10 semesters of 15 to 18 working weeks (90 work days) each, inclusive of six months/one semester of approximately 16 working weeks of practical training during 8th or 9th Semester, as prescribed in Appendix-A.
- 3.2 The Curriculum structure of the Architecture program shall follow the guidelines as outlined in Appendix-A under the Choice Based Credit System. However, the modes of periodic assessment, end semester and viva voce examinations, weightages and grading system are left to the discretion of the University/ Institution.

- 3.3 A candidate shall not be permitted to enroll for the Architectural Design course in a semester unless he/ she has completed the Architectural Design course of the previous semester.
- 3.4 A candidate shall not be permitted to enroll for the tenth semester Architectural Design Thesis/ dissertation/project course unless he/ she has successfully completed Practical Training/ Internship.
- 3.5 A candidate shall be awarded the degree in Architecture program by the University/ Institution for having earned the minimum credits as specified in the curriculum.
- 3.6 The Architecture Program shall be completed in a maximum period of 8 years. However, in special circumstances a candidate may be granted an extension of 1 year by the University/ Institution to complete the program. This extension shall be given only once to the candidate.
- 3.7 In case a candidate is not able to complete the program in the prescribed duration, the University/ Institution may provide an exit option for the candidate if he/ she has completed and earned all credits for the first three years of study.

4.0 Admission to the Architecture degree program

- 4.1 No candidate shall be admitted to architecture program unless she/ he has passed an examination at the end of the 10+2 scheme of examination with 50% marks in Physics, Chemistry and Mathematics and also 50% marks in aggregate of the 10+2 level examination.

(Note: This eligibility criteria shall come into force from academic session 2019-2020.)

Revised eligibility is proposed as under:

- 4.1 No candidate shall be admitted to architecture program unless she/ he has passed:

An examination at the end of the 10+2 scheme of examination with 50% marks in Physics, Chemistry and Mathematics and also 50% marks in aggregate of the 10+2 level examination.

OR

10+3 Diploma Examination with Mathematics as compulsory subject, with at least 50% marks in aggregate.
- 4.2 In addition to the above, the candidate needs to qualify an Aptitude Test in Architecture conducted by the Council or by the competent authority of the Central Government or the respective State Government, complying with the Admission Norms prescribed in Appendix-D.
- 4.3 The institutions shall give weightage of 50% marks for aptitude tests and 50% marks in the qualifying examination in the matter of admissions.

- 4.4 Reservation of seats and relaxation in percentage of marks obtained in the qualifying examination for admission shall be as per the reservation policy of Central Government or the respective State Governments.

5.0 Intake and Migration

- 5.1 The sanctioned intake of candidates at the first year level shall not exceed a maximum of 40 in a class. If more than 40 candidates are admitted as per sanctioned intake, separate classes shall be organized for each 40 candidates or part thereof.
- 5.2 Migration of a student of any class from one institution to another institution is permitted at the discretion of the institutions involved, subject to the number of students not exceeding the permitted maximum intake in that class in the receiving institution and the same shall be notified by the receiving institution to the Council.
- 5.3 Supernumerary quota of admissions as notified by the Government of India shall be over and above the sanctioned intake. The institutions must create additional physical and academic infrastructural facilities, as may be required, for the same in case such admissions exceed 10% of the sanctioned intake.
- 5.4 A unique Student Enrolment Number shall be issued by the Council to a student admitted to Architecture Degree program, upon being notified by the institution, provided all eligibility norms for admission as prescribed by the Council are satisfied.

6.0 Courses and periods of studies

- 6.1 The guidelines for the courses and periods of studies are provided in Appendix- A.
- 6.2 The institution shall, as an integral part of architectural education curriculum and as a part of teaching programme, arrange for study tours, visits, to places of architectural interests.

7.0 Professional examination, Standards of proficiency and conditions of admissions, qualification of examiners

- 7.1 The University/institution or an independent examining body shall conduct the examinations at the end of each semester.
- 7.2 The sessional work shall, as far as possible, be assessed by a Jury/Panel of internal and external examiners.
- 7.3 The weightage of internal marks for various courses of study shall not exceed 50% of the total marks.
- 7.4 The pass percentage shall not be less than 45% in each subject and shall not be less than 50% in the aggregate.
- 7.5 Any examiner shall have a minimum of 3 years teaching / professional experience in a field of study relating to the subject of examination. However, an external examiner for

tenth semester Architectural Design Thesis/dissertation/project course shall have a minimum of 10 years teaching/ professional experience.

7.6 Internal Assessment of Sessional work shall be done periodically for all courses during a semester, in addition to the End-of-semester examinations, if any.

8.0 Standards of staff, equipment, accommodation, training and other facilities for Architecture education

8.1 The institutions shall maintain a teacher/student ratio of 1:10 including core faculty, faculty from allied disciplines and visiting faculty.

8.2 The institutions shall have a minimum number of 12 core faculty members for student strength of 200, apart from faculty from allied disciplines and visiting faculty.

8.3 The institutions shall maintain strength of faculty as per the pattern prescribed in Appendix – B.

8.4 The institutions shall encourage the faculty members to involve in professional practice including research.

8.5 The institutions shall provide facilities as indicated in Appendix-C.

8.6 The institutions shall encourage exchange of faculty members for academic programmes.

8.7 In a selection Committee as prescribed by the Institution/ University or Central/State Government for Selection Process of faculty, there shall be one Nominee of the Council, who shall act as full-fledged member of such Selection Committee constituted for the purpose of recruitment and /or promotion of faculty

8.8 The Academic Calendar to be followed by institutions for the commencement of the Architecture program shall be as published by the Council every year.

9.0 Miscellaneous

9.1 The Institution shall take necessary steps to curb ragging in its premises and take appropriate action as prescribed by competent authority in case of any such incident.

9.2 The Institution shall ensure that women (staff, faculty or students) are protected against sexual harassment at the institution and initiate necessary steps as prescribed by competent authority.

APPENDIX-A

COURSES, PERIODS OF STUDY AND SUBJECTS OF EXAMINATION UNDER CHOICE BASED CREDIT SYSTEM FOR THE ARCHITECTURE DEGREE PROGRAM

1.0 Under the Choice based credit system, which is a student/ learner centric system, the courses of study in the Architecture Degree program shall be as under:

1.1 Professional Core (PC) Course: A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.

1.2 Basic Sciences and Applied Engineering (BS & AE) Course: A course which informs the Professional core and should compulsorily be studied.

1.3 Elective Course: Generally a course which can be chosen from a pool of courses and are of two types:

(i) Professional Elective (PE) which may be very specific or specialized or advanced or supportive to the discipline/ subject of study or which provides an extended scope

(ii) Open Elective (OE) which enables an exposure to some other discipline/subject/domain or nurtures the candidate's proficiency/skill

1.4 Employability Enhancement Courses (EEC) which may be of two kinds: Employability Enhancement Compulsory Courses (EECC) and Skill Enhancement Courses (SEC)

2.0 The Weightage in terms of Credits for each of the above in the prescribed curriculum of the institution shall be as follows:

| | |
|---|--------|
| 1. Professional Core Courses (PC) | : 45% |
| 2. Building Science and Applied Engineering (BS& AE) | : 20 % |
| 3. Elective Courses | |
| (i) Professional Electives (PE) | : 10% |
| (ii) Open Electives (OE) | : 5% |
| 4. Professional Ability Enhancement Courses (PAEC) | |
| (i) Professional Ability Enhancement Compulsory Courses (PAECC) | : 15% |
| (ii) Skill Enhancement Courses (SEC) | : 5% |

Note: Where it is not possible to offer Open Electives, Professional Electives may have a weightage 15% of the total credits.

3.0 The suggested list of courses under each of these groups is provided in Table 1.0

TABLE 1.0

| PROFESSIONAL CORE (PC) | |
|---|---|
| 1. | Basic Design and Visual Arts |
| 2. | Architectural Design |
| 3. | Architectural Design Thesis |
| 4. | Architectural Graphics and Drawing |
| 5. | History of Architecture and Culture |
| 6. | Principles/ Theory of Architecture |
| 7. | Urban Design |
| 8. | Human Settlements Planning |
| 9. | Housing |
| 10. | Landscape Design |
| 11. | Site Planning |
| 12. | Carpentry and Model Making Workshop |
| 13. | Specifications, Cost Estimation and Budgeting |
| BUILDING SCIENCES AND APPLIED ENGINEERING (BS& AE) | |
| 14. | Building Materials |
| 15. | Building Construction |
| 16. | Applied Mechanics |
| 17. | Structural Design and Systems |
| 18. | Climatology |
| 19. | Building Services |
| 20. | Surveying and Leveling |
| 21. | Acoustics |
| 22. | Environmental lab |
| 23. | Environmental Science for Architecture |
| ELECTIVE COURSE (EC) | |
| The list of electives given below is suggestive and the Institution/University may adopt the electives as found feasible. | |
| PROFESSIONAL ELECTIVE (PE) | |
| 24. | Theory of Design |
| 25. | Vernacular Architecture |

| | |
|---|--|
| 26. | Interior Design |
| 27. | Art Appreciation |
| 28. | Art in Architecture |
| 29. | Graphic and Product Design |
| 30. | Contemporary Processes in Architecture |
| 31. | Architectural Journalism |
| 32. | Disaster Mitigation and Management |
| 33. | Green Buildings and Rating Systems |
| 34. | Sustainable Cities and Communities |
| 34A. | Building Performance and Compliance |
| 35. | Architecture of South East Asia |
| 36. | Architectural Design with Steel |
| 37. | Architectural Design with Glass |
| 38. | Furniture Design |
| 39. | Appropriate Building Technologies |
| 40. | Earthquake Resistant Architecture |
| 41. | Architectural Conservation |
| 42. | Building Systems Integration and Management |
| OPEN ELECTIVE (OE) | |
| Courses approved by the Institution/University from subjects of study other than Architecture which will add value to the program and enable the overall development of the student | |
| PROFESSIONAL ABILITY ENHANCEMENT COURSES | |
| | PROFESSIONAL ABILITY ENHANCEMENT COMPULSORY COURSES |
| 43. | Professional Practice |
| 44. | Internship/ Practical Training |
| 45. | Project Management |
| 46. | Dissertation /Seminar/ Research Methodology |
| | SKILL ENHANCEMENT COURSES |
| 47. | Communication Skills |
| 48. | Computer Studio |
| 49. | Building Information Modeling |

| | |
|-----|--|
| 50. | Digital Graphics and Art |
| 51. | Entrepreneurship Skills for Architects |
| 52. | Foreign Language |

Notes:

The names given to the courses of study are suggestive and institutions may use different nomenclatures. The emphasis on teaching various courses may vary from institution to institution. New courses may be introduced and certain courses given less emphasis depending upon the ideology of the institution and context of the region where the institution is located.

4.0 The regulations and curriculum of the University/ Institution shall:

4.1 Provide flexibility in the teaching/ learning system to permit the students to complete program at their own pace.

4.2 Provide for a semester exchange in other Universities (national/ international) with transfer of credits based on course equivalence.

4.3 Permit student to enroll for any one online certified course with the prior approval of the University/ Institution. Such courses shall be considered equivalent to one Elective course.

5.0 Teaching and learning methods

5.1 The contents of the courses as listed in Table 1 shall be taught in an application- oriented manner on a scientific and design basis. The course contents shall be taught and learned in lectures, seminars, labs/ workshops, studio exercises and design projects, internships and study tours.

5.2 Lectures are held to teach basic connections and the systemization of theoretical knowledge and the methodology of scientific work. Specific subjects are presented in a well-structured form, incorporating new research results. The results shall be evaluated through periodic assessment of sessional work or an end semester examination or both.

5.3 In Seminars the contents shall be taught in dialogue and discussion phases between the teacher and the student. The results shall be evaluated through periodic assessment of sessional work and/ or end semester examination or both

5.4 In labs/ workshops the contents of the course shall be delivered through hands on work and experiments. The results shall be evaluated through periodic assessment of sessional work or end semester examination or both.

5.5 In studio exercises the teachers shall take the lead to provide tasks and offer guidance for solutions finding. The students shall work either individually or in groups. The results shall be defended through drawings; models and reports and evaluated through periodic assessment and an end semester examination/viva-voce.

5.6 In design studios/construction studios/projects the students contribute to the processing, analysis and the solving of problems of direct professional practice, attended by faculty(s) entitled to conduct the studio and examine. The results shall be defended through drawings; models and reports and evaluated through periodic assessment and finally by a jury/ panel.

5.7 In Internship the students engage in work in an architectural practice/ government architecture departments and train specifically under architects registered with the Council. The results shall be periodically assessed by the architect under whom they are assigned and defend their portfolio in front of a jury/ panel at the end of the internship period.

5.8 Study tours shall be part of the program and conducted every year. They help to consolidate course contents by acquainting students not only with professional practice but also the culture and context of a region.

Note: These learning and teaching methods are only suggestive and every institution can innovate and engage in a pedagogy based on the strength of the institutions.

6.0 While calculating credits the following guide lines shall be adopted

- (i) 1 lecture period/ hour shall have 1 credit;
- (ii) 2 lab/workshop/ studio exercises/seminar periods/ hours shall have 1 credit and
- (iii) 1 design studio/construction studio/project/thesis period/ hour shall have 1.5 credits.

For Practical training total number of credits shall be specified for one semester only.

7.0 Course work for every Semester except the Internship/ practical training semester and Architectural Design Thesis Semester shall preferably have 3 or 4 lecture based courses; 2 lab/seminar/studio exercises courses and 1 Design course.

8.0 A suggested structure for one semester of the B. Arch program is worked out in the Table 2.0

TABLE 2.0

| Type of course | Credits per course | Periods/ hours of study per course | | No of courses | Total Credits |
|---|--|------------------------------------|--------------------------------|---------------|---------------------|
| | | Lecture | Studio/ lab/ workshop/ seminar | | |
| Lecture | 3 | 3 | - | 3 / 4 | 9 / 12 |
| Lab/workshop/ studio exercises/ seminar | 3 | 1 | 4 | 2 | 6 |
| Design project | Can vary from 9 in the lower semesters to 15 in the higher semesters | - | Varies from 6 to 10 | 1 | Varies from 9 to 15 |

Notes:

- (i) All courses of study put together would engage the students for a minimum of 26 periods/ hours of study a week and a maximum of 30 periods/ hours a week.
- (ii) Every semester shall offer a minimum of 26 credits and a maximum of 30 credits.
- (iii) Credits for the Architectural Design Project/Thesis can vary from 15 to 18.
- (iv) The total number of credits for the B. Arch Degree Course could vary from a minimum of 260 credits to a maximum of 300 credits.
- (v) This structure is suggestive and offers flexibility for the institutions to adopt as feasible.

Brief description of the courses listed as Professional Core (PC)

1. BASIC DESIGN AND VISUAL ARTS

The understanding the elements and principles of design as the building blocks of creative design will be facilitated through exercises that will develop originality, expression, skill and creative thinking. The grammar of design and visual composition will be explored through two dimensional compositions and three dimensional models using various media for representation. The objective is to enable the understanding of the relationship between the grammar of design and architecture

2. ARCHITECTURAL DESIGN

This studio based course synthesizes the knowledge gained from other courses and is central to the learning and practice of architecture. This course will engage in using conventional methods and linear processes of design to more exploratory nonlinear methods. The scale and complexity will increase progressively from lower semesters to senior semesters. The

range should begin with small single activity/ single space projects to large urban design projects.

3. ARCHITECTURAL DESIGN PROJECT/ THESIS

This is culmination of undergraduate studies and hence shall display the capability of the candidate to conceive/ formulate a design project and provide solution, aptly demonstrated through supporting research. The main areas of study and research can include advanced architectural design, including contemporary design processes, urban design including urban-infill, environmental design, conservation and heritage precincts, housing etc. However, the specific thrust should be architectural design of built environment. Preparation of presentation drawings, working drawings, detailed drawings and study model are part of the requirements for submission.

Submission of the Architectural Design Thesis Project shall be in the form of drawings, project report, models, slides, CDs and reports.

4. ARCHITECTURAL GRAPHICS AND DRAWING

Various mediums and techniques of art for artistic expression; free hand drawing; orthogonal projection of geometrical forms and representation; architectural and building representation through 2 dimensional and three dimensional drawings; measured drawing of building elements and simple building forms; presentation in graphic form all elements of building design; study of shades and shadows, textures, tones, colors etc.; rendering using manual mode as well as digital; hands on working with various mediums and materials.

5. HISTORY OF ARCHITECTURE AND CULTURE

Architecture as evolving within specific cultural contexts including a aspects of politics, society, religion, climate; geography and geology, etc. through history both in the Western context as well as in the Indian sub-continent; Development of architectural form with reference to Technology, Style and Character- Examples from every historical style illustrating the same.

(This course may be delivered in 4- 5 semesters of the program with specific syllabus for each semester advancing in content progressively through the semesters)

6. PRINCIPLES/THEORY OF ARCHITECTURE

Principles and percepts of issues as related to architectural design in theory and practice; Appreciation of architecture with respect to man and his behavior; Nature and Design;

Principles of organization on Nature; Ideas and Intent in design - Intuitive, contextual, Iconic, Experiential, Environmental, Energy based, Symbolic, Modular; Ideologies/ philosophies from the practice of architecture through contemporary history; design communication through graphics.

7. URBAN DESIGN

Urban design as a discipline; Components of a city and their interdependent roles; Determinants of urban form; Evolution of historic urban form.; Theories and illustrations of Urban design and the interpretation of the urban form in different ways and layers; Identity and 'place' making; architectural codes and imageability; contemporary urban issues ; sustainable urban design; case studies.

8. HUMAN SETTLEMENTS PLANNING

Elements and characteristics of human settlements; origins; determinants and their evolution through the course of history; Settlements as expression of political aspirations; Various planning concepts in urban, rural and regional level development plans in the context of India; Changing scenario in the context of Globalization.

9. HOUSING

Social Housing post WW II ; Issues concerning housing in the Indian Context; Various agencies involved in the production of housing; Factors that influence housing affordability; Various schemes and policies of the government in the housing sector; Standards and guidelines for housing; Housing design typologies and the processes involves in housing project development; Case studies and post occupancy evaluation.

10. LANDSCAPE DESIGN

Man and Nature; Landscape traditions; Elements and principles of landscape design; Aspects of outdoor design and site planning in enhancing and improving the quality of building environs, functionally and aesthetically; Site structure relationship; Analytic, artistic and technical aspects of designing open spaces at different scales; Role of Landscape design in sustainability; Overview of ecological balance; Impacts of human activities and the need for environmental protection and landscape conservation.

11. SITE PLANNING

Site and its content in architectural creations; Influencing factors which governs the siting of a building or group of buildings in a given site; Topography analysis; Scientific techniques of site analysis- case studies; Methodology of preparing a site analysis diagram and mapping; Codes and building regulations; Site utilities and Infrastructure planning. Integration of Renewable Energy systems as per ECBC.

12. CARPENTRY AND MODEL MAKING WORKSHOP

Introduction to various carpentry tools and production of simple joints used in joinery; techniques for preparation of block models using various materials; detailed model of a small project using appropriate materials; exploration with plastic material such as clay, plaster of Paris, etc.

13. SPECIFICATIONS, COST ESTIMATION AND BUDGETING

Specifications of various building works as per NBC and ECBC; Writing specifications for materials and various items of work; Systems of taking out quantities and estimating for all trades involved in construction of medium complexity; preparation of Bill of Quantities (BOQ); Cost estimating for building works (material and labor); valuation report preparation; Budgeting for specific projects.

Brief description of the courses listed as Building Sciences and Applied Engineering (BS &AE)

14. BUILDING MATERIALS

Properties and behavior of both natural and man-made building materials such as bricks, stones, metals, timber, glass, steel and finishing materials in contemporary buildings; Application of these materials in construction; Effects of sun, rain, wind and other climatic and environmental conditions on various building materials and built environment and the science of design for creating effective human comfort conditions within the built environment. understanding of parameters like U-factor, R-value, Thermal mass, Solar heat gain coefficient (SHGC), Visible light transmittance (VLT), etc.

(This course may be delivered in 3- 4 semesters of the program with specific syllabus for each semester advancing in content progressively through the semesters)

15. BUILDING CONSTRUCTION

Traditional and conventional knowledge systems that enable construction of a complete building; various structural systems and methods of construction and detailing of buildings of medium complexity using natural and manmade materials including foundation, walls, roofs, staircase, joinery and finishes; Technology that informs the construction of contemporary buildings using various structural systems and materials. Evaluation of overall assembly U-factor of different building and construction system for various climatic zones as per ECBC. The course will combine lecture and studio exercises whose results will be in the form drawings and models, culminating in a studio which will translate an architectural design into working drawings which are good for construction either in manual/ digital mode.

(This course may be delivered in 6-7 semesters of the program with specific syllabus for each semester advancing in content progressively through the semesters)

16. APPLIED MECHANICS

Forces and structural systems; analysis of plane trusses; Properties of Sections; Elastic properties of solids; elastic constants; bending of beams; deflection of beams; theory of columns; Statically indeterminate beams; concepts in analysis of structure

17. STRUCTURAL DESIGN AND SYSTEMS

Understanding the structural concepts and behavior of structural elements- load bearing structures, framed structures, composite systems, steel structures- - simple calculations for columns, beams, frames, footings, slabs, walls etc. using various systems and relating the knowledge acquired to architectural design.

18. CLIMATOLOGY

Climatology as a science for the study of weather conditions averaged over a period of time; the elements of climate; study of human comfort; design of solar shading devices; Heat flow through building envelopes; Air movement due to natural and built form; Design strategies in different climate zones; vernacular and contemporary responses to climate through case studies; analysis using appropriate software; assessment of appropriateness of various Renewable Energy Systems based on climatic conditions.

19. BUILDING SERVICES

Study of and design and detailing for water supply, drainage, sewage disposal, garbage disposal, electrification, illumination, air conditioning, fire hazard protection, acoustical treatment, rainwater harvesting, etc. in buildings and building premises, disaster management systems, intelligent energy conservation systems, electronic security and surveillance systems for buildings, etc. .; compliance requirements w.r.t. National Building Code and Energy Conservation Building Code. (This course may be delivered over 3 or 4 semesters with specific syllabus for each semester)

20. SURVEYING AND LEVELING

Principles of surveying and leveling, use of various survey and leveling instruments, carrying out surveys of land of medium complexity (field work); preparation of survey plans.

21. ACOUSTICS

Science of sound; conditions for good hearing; appropriate materials for sound insulation; approaches in history for acoustic planning; planning for good hearing conditions in auditoriums, classrooms, churches and halls, conference rooms, etc.; analysis using software and simple design exercises; application of codes; case studies

22. ENVIRONMENTAL LAB

Lab based course which will involve measurements; documentation and recording; analysis and design using hand held and digital tools and through simulation using appropriate software focusing on areas such as thermal performance of built environment, natural and artificial lighting and ventilation and wind movement; evaluate performance of Renewable Energy Systems, Fenestration, Opaque Construction, etc. as per test standards specified in NBC and ECBC.

23. ENVIRONMENTAL SCIENCE FOR ARCHITECTURE (MHRD)

Natural systems; Complex relationships between the built and natural environments; Impact of pollution on natural and man-made environments; Strategies to transform the built environment to meet the risks of climate change; Bio-mimicry - the study of natural structures and processes- in helping to solve man-made problems and enabling design; Concepts of urban ecology and landscape urbanism; case studies; integration of Renewable Energy Systems in built environment.

Brief description of the courses listed as Professional Electives (PE)

24. THEORY OF DESIGN

Understanding design and design in history; Role of the designer in changing society; classification of design; Methodologies, theories and models of the design process; Creativity and techniques to enable creative thinking; creativity in architecture; pattern language and participatory approach to design.

25. VERNACULAR ARCHITECTURE

Vernacular architecture as a process and not a product; Determinants of vernacular form; Overview of the various approaches and concepts to the study of vernacular architecture; Various vernacular architectural forms in the various regions of India; Impact of Colonial rule on the vernacular architecture and settlements in India.

26. INTERIOR DESIGN

Vocabulary of interior design; Overview of interior and furniture design and design movements through history; various components of interior space and treatment and finishes; Interior lighting, Interior landscape and furniture. Design based studio exercises on ergonomics, materials and working parameters.

27. ART APPRECIATION

Vocabulary and principles of art; Perception and representation; categories of art in terms of media and technique; Appreciating art through the study of art production in the West from the beginnings to the birth of modern art; Context for new directions in art in the late 19th and early 20th century; Art production in India over history; Contemporary Art from India and its appreciation.

28. ART IN ARCHITECTURE

Role of art in history of world architecture; Symbiotic relationship of folk art and architecture; application of different art forms in architecture; Visual communication in architecture and way finding; Works of different artists and architects that reflect the inter relationship.

29. GRAPHIC AND PRODUCT DESIGN

Graphic design elements, principles and applications; Concept of form and space in product design; Relating Form to Materials and Processes of Manufacture. Use of Computers for

Form generation; Creativity techniques; product detailing and manufacture; exploratory mockup models for concept development, refinement and detailing; product design prototyping and advanced manufacturing processes.

30. CONTEMPORARY PROCESSES IN ARCHITECTURE

Theories of media and its influence on the perception of space – Virtual Reality – Augmented Reality. An understanding of the various aspects of Digital Architecture and its exploration through emerging phenomena that relies on abstraction of ideas is facilitated. This is done through study the works of contemporary architects who have illustrated the influence of the digital media in evolving architecture.

31. ARCHITECTURAL JOURNALISM

Introduction to basic skills relevant to the practice of professional journalism; Fundamentals of writing, Technologies and journals; Contemporary architectural journalism; Code of Ethics and Press Laws; Regional, National and International discussion forums; Public Discourse on the Internet, Mass Media and Public Opinion; Critique on selected pieces of journalism; Introduction to Photojournalism; contributions of photography to the professional practice of architecture; modern photography techniques.

32. DISASTER MITIGATION AND MANAGEMENT

Disasters, their significance and types; Relationship between vulnerability, disasters, disaster prevention and risk reduction is understood. Inter- relationship between disasters and development; Disaster Risk Reduction (DRR); Disaster Risk Management in India; Disaster Management Act and Policy; Role of GIS and Information Technology Components in Preparedness, Risk Assessment, Response and Recovery Phases of Disaster; Disaster Damage Assessment; applications and case studies.

33. GREEN BUILDINGS AND RATING SYSTEMS

Passive design considerations; active systems; design for energy efficient building- day lighting and natural ventilation; technologies for alternative sources of energy; Net Zero buildings; software tools for the design of a building and the performance evaluation of a building with respect to energy; Rating systems: IGBC, LEED, GRIHA.

34. SUSTAINABLE CITIES AND COMMUNITIES

Introduction to Green concepts; Depleting resources and climate change; Sustainable site selection and development sustainable building materials and technologies; Low impact construction – Bio mimicry, Dimensions of sustainable, sustainable community; case studies of eco- cities/ communities.

34A. BUILDING PERFORMANCE AND COMPLIANCE

Building performance assessment and energy simulation tools, understanding of National Building Code (NBC) and Energy Conservation Building Code (ECBC) of India to provide minimum requirements for energy efficient design and construction of buildings; various compliance approaches; Building Envelope; Comfort Systems; Lighting systems; Electrical and renewable energy systems.

35. ARCHITECTURE OF SOUTH EAST ASIA

Architecture as evolving within specific cultural contexts including aspects of politics, society, religion, climate; geography and geology, etc. through history in the context of South East Asia (Indonesia, Malaysia, Thailand and Cambodia, Sri Lanka); Development of architectural form with reference to Technology, Style and Character illustrated with examples from each country.

36. ARCHITECTURAL DESIGN WITH STEEL

To understand the design potential of steel as a material in construction and the inherent structural benefits of the material. To inform the various components of steel as structural and aesthetic design element thru various case studies. To familiarize the best practices of steel as a construction material.

37. ARCHITECTURAL DESIGN WITH GLASS

This is an Industry based course to provide the students with the latest & recent trends in the use of glass in architecture. The right selection and usage of glass for appropriate purposes is vital in the design of buildings. Therefore modern concepts on Glass Architecture, Role of Glass in Green design and concepts on considerations for improving the building performance using glass are included.

38. FURNITURE DESIGN

Principles and history of furniture design; modern movements and the creation of ergonomic and functional furniture; modular concepts in furniture design, mass production and fabrication; codes and specifications; eco- design.

39. APPROPRIATE BUILDING TECHNOLOGIES

Appropriate technologies and cost effective technologies; technologies as evolved from contexts through the practice of International architects and Indian architects; Systems and techniques developed in research labs, etc.

40. EARTHQUAKE RESISTANT ARCHITECTURE

Fundamentals of Earthquake and the basic terminology; Historical experience; Site Planning and Performance of Ground and Buildings; Seismic codes and building configuration; Seismic design and detailing of non-engineered construction; Seismic design and detailing of RC and steel buildings; Design of non-structural elements; architectural design for Seismic resistance.

41. ARCHITECTURAL CONSERVATION

Various issues and practices of Conservation; values and ethics; status of conservation in India and the various agencies involved in the field of conservation worldwide and their policies; various guidelines for the preservation, conservation and restoration of buildings; management of historic sites; study of various charters; character and issues in our heritage towns through case studies; Role of INTACH, UNESCO, ICOMOS and other such organization.

42. BUILDING SYSTEMS INTEGRATION AND MANAGEMENT

System and Sub-systems in buildings, relationship and analysis of sub-systems; Building systems for different building typologies, Optimization and sub-system; Control systems for various buildings services, Types of controllers. Preparation of necessary drawings for installing control systems, Integrated building management system, remote monitoring and management, Home automation, Developments in service control systems

Brief description of the courses listed as Professional Ability Enhancement Compulsory Course (PAECC)

43. PROFESSIONAL PRACTICE

The architectural profession and the role of professional bodies and statutory bodies; Code of Conduct and ethics in professional practice and the mandatory provisions of the Architects Act 1972; Building bye-laws, Important legislations which have a bearing on the practice of architecture; Arbitration and other legal aspects; Project Management- tender and contract; Implications of globalisation on professional practice with particular reference to WTO and GATS.

44. INTERNSHIP/ PRACTICAL TRAINING

Orientation under an architect that would include the process of development of conceptual ideas, presentation skills, involvement in office discussions, client meetings, development of the concepts into working drawings, tendering procedure, site supervision during execution and coordination with the agencies involved in the construction process and to facilitate the understanding of the evolution of an architectural project from design to execution.

45. PROJECT MANAGEMENT

Project management concepts—objectives & scope, planning /monitoring & control, scheduling / Quality & cost; Traditional management system; Development of bar chart; CPM networks- Merits and Demerits; PERT network, theory of probability and statistics; Cost model and cost optimization; resource allocation-resource smoothing, resource leveling; Project Feasibility study, Real estate & regulatory strategies, Facility Programming & Planning, Design management, EPC, Testing & commissioning.

46. DISSERTATION / SEMINAR / RESEARCH METHODOLOGY

This is research writing in a thrust area in architecture. Methods of analysis should have a scientific basis and thorough investigative research is required from primary and secondary sources- through library research and literature review; documentation; etc. This can be a prelude to the 'Architectural Design Thesis'.

Brief description of the courses listed as Skills Enhancement Courses (SEC)

47. COMMUNICATION SKILLS

Communication skills in English through listening, speaking, reading and writing; Listening skills through talks for specific information; Speaking skills with specific reference to prospective/ actual clients, suppliers, business partners and colleagues; Reading particularly, rules and regulations, catalogues, architecture journals and textbooks; writing skills especially writing emails, resumes; statement of purpose, proposals and reports.

48. COMPUTER STUDIO

Computer operation principles and image editing through a graphical Composition; Computer aided 2D drafting and 3D Modeling through simple exercises; Rendering of a building to create a photo realistic image.

49. BUILDING INFORMATION MODELING

Lab based course to build comprehensive Building Information Models (BIM) using appropriate Digital software and Media; BIM for building energy simulation; BIM for cost estimating, project phasing and administration.

50. DIGITAL GRAPHICS AND ART

Lab based course involving video, image and vector editing using editing software; scripting; synchronization of sound with patterns generated; Presentation using voice over and production of CD ROMs.

51. ENTREPRENEURSHIP SKILLS FOR ARCHITECTS

Introduction to entrepreneurship; leadership skills and self-motivation; marketing and finance management; starting a small business; future-oriented design principles to increase the design organization's innovative and competitive qualities; Sustainability; Risk-taking; Job procurement; Employee management; marketing; Social entrepreneurship and its relevance to the practice of architecture.

52. FOREIGN LANGUAGE

Course on any foreign language.

**GUIDELINES FOR CONDUCT OF
PRACTICAL TRAINING AND ARCHITECTURAL DESIGN THESIS**

1.0 PRACTICAL TRAINING

1.1 Practical Training shall be undergone during 8th/ 9th semester of the Architecture Degree program for a period of one semester in the office of an architect or an organization operating in an allied field of practice or research, duly approved by the institution, under mentorship of an architect having experience of at least 5 years.

1.2. The practical training shall be supervised and evaluated through periodic assessment by the mentoring architect and end semester examination (viva voce) as part of curricular studies.

1.3. Training in Foreign Country shall be done under the Registered Architect of that Country and to be approved and monitored by the Head of the Institution.

2.0 ARCHITECTURAL DESIGN THESIS

2.1 The Architectural Design Thesis shall be prepared under the guidance of a core Faculty member.

2.2 The Institution shall conduct the internal evaluation at stages for the Architectural Design Thesis with the guide as a co-assessor.

2.3 A jury comprising of an internal and external examiner and the guide shall conduct the final examination (Viva-voce) of the Architectural Design Thesis. External Examiners shall have minimum 10 years' experience.

2.4 Practical Training shall be completed before the commencement of Architectural Design Thesis.

APPENDIX-B
STAFF REQUIREMENT

(Strength of full time-faculty based on sanctioned intake)

A. FULL TIME TEACHING STAFF:

| Year | I | | | | II | | | | III | | | | IV | | | | V | | | | Total |
|------|---|---|------|----|----|---|------|----|-----|---|------|----|----|---|------|----|---|---|------|----|-------|
| | H | P | A Pr | AP | H | P | A Pr | AP | H | P | A Pr | AP | H | P | A Pr | AP | H | P | A Pr | AP | |
| 40 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 4 | 1 | 0 | 2 | 6 | 1 | 0 | 3 | 8 | 1 | 1 | 3 | 10 | 15 |
| 80 | 1 | 0 | 1 | 4 | 1 | 0 | 3 | 8 | 1 | 1 | 4 | 12 | 1 | 2 | 5 | 15 | 1 | 2 | 6 | 20 | 29 |
| 120 | 1 | 0 | 2 | 6 | 1 | 1 | 4 | 11 | 1 | 2 | 6 | 17 | 1 | 3 | 8 | 22 | 1 | 4 | 10 | 28 | 43 |

H- Head of Institution; **P-** Professor; **A Pr-** Associate Professor; **AP-** Assistant Professor

Notes:

- 1) Only candidates registered with Council of Architecture (COA) under the provisions of the Architects Act, 1972 shall be eligible for the core faculty posts subject to minimum qualifications and experience as prescribed in Appendix B.
- 2) In addition to above, approximately 25% of the teaching load should be allotted to the Visiting faculty drawn from profession.
- 3) Full time faculty may be recruited in the allied areas from the field of Engineering / Fine Arts / Humanities, etc. provided that there is a minimum of 12 core full time faculty along with Head for an intake of 40. The faculty from allied areas shall not exceed more than 3 for an intake of 40, 6 for an intake of 80 and 9 for an intake of 120. Further, they should be appointed only at the posts of Associate Professor and Assistant Professor in the cadre ratio of 1:2. The minimum qualifications and experience required for appointment of these faculty shall be as per AICTE/UGC Norms, as the case may be.
- 4) To maintain teacher/student ratio of 1:10, the institution shall have requisite number of visiting faculty teaching equivalents in addition to Full time teaching staff.

- 5) One Professor Design Chair for every intake of 40 can be appointed and shall be counted against Professor Cadre.
- 6) Professor Design Chair and other faculty members appointed on tenure basis cannot be considered as Head of the Institution / Principal / Dean/ Head of Department.
- 7) Upto 50% of the faculty members other than Professors (excluding Professor Design Chair) can be on tenure basis. The minimum duration of tenure should be 3 years.

B. NON TEACHING STAFF

| S No | Position | Intake | | | | | | | | | Remarks |
|------|---------------------------|-------------------|----|-----|----|----|-----|-----|----|-----|--------------------------------------|
| | | 40 | | | 80 | | | 120 | | | |
| | | I | II | III | I | II | III | I | II | III | |
| | | Year of operation | | | | | | | | | |
| 1 | Librarian | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Qualifications As per UGC |
| 2. | Assistant Librarian | - | - | - | - | - | - | - | - | 1 | Desirable- Qualifications As per UGC |
| 3 | Lab / Workshop Technician | - | 1 | 2 | - | 1 | 2 | 1 | 2 | 2 | Min one for computer centre |
| 4 | Administrative personnel | 1 | 2 | 2 | 2 | 3 | 4 | 3 | 3 | 4 | |
| | Accounts personnel | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 3 | 4 | |
| 5 | Class IV employees | As required | | | | | | | | | |

**C. MINIMUM QUALIFICATIONS, EXPERIENCE AND STRUCTURE FOR TEACHING
POSTS IN DEGREE LEVEL ARCHITECTURAL INSTITUTIONS**

| Sl.No. | Designation | Pay-Scale | Qualifications & Experience |
|--------|---------------------|---|---|
| 1. | Assistant Professor | Pay-Scale as prescribed by Central/respective State Government from time to time. | Bachelor's Degree in Architecture with minimum 60% marks and Three years of relevant professional experience. OR Bachelor's Degree in Architecture and Master's Degree in Architecture with minimum 60% marks at either level and one year of relevant professional experience. |
| 2. | Associate Professor | Pay-Scale as prescribed by Central/respective State Government from time to time. | Bachelor's Degree in Architecture and Master's Degree in Architecture with minimum 60% marks at either level and Eight years experience in teaching/ research/ professional work out of which a full-time teaching experience of minimum Three years Or Thirteen years of professional experience. |
| 3. | Professor | Pay-Scale as prescribed by Central/respective State Government from time to time. | Bachelor's Degree in Architecture and Master's Degree in Architecture with minimum 60% marks at either level and Fourteen years experience in teaching/ research/ professional work out of which a full-time teaching experience of minimum Five years Or Nineteen years of professional experience. Desirable : Ph.D. in Architecture. |
| 4. | Principal/ Director | Pay-Scale as prescribed by Central/respective State Government from time to time. | Bachelor's Degree in Architecture and Master's Degree in Architecture with minimum 60% marks at either level and Seventeen years experience in teaching/ research/ professional work out of which a full-time teaching |

| | | | |
|----|-----------------------------|--|--|
| | | | <p>experience of minimum Eight years Or Twenty years of professional experience.</p> <p>Desirable : Ph.D. in Architecture. Experience in Administration at a responsible position.</p> |
| 5. | Professor (Design Chair) | Pay-Scale as prescribed by Central/respective State Government from time to time. | <p>Bachelor's Degree in Architecture and Twenty Five years professional experience of commendable, acknowledged and published professional work.</p> <p>(Each institution may have one such appointment per intake of 40, strictly on tenure basis.)</p> |

Note :

1. It is advisable that approx. 25% of the teaching load should be allotted to the visiting faculty so that the students are brought in closer contact with the persons actively engaged in practice.
2. Each institution may have a staff structure (faculty) consisting of the following:
Principal/ Director and Professors, Associate Professor and Asstt. Professors in the ratio of **1:2:6**. Refer Table A under Appendix-B.
3. The Institutions may recruit faculty in the field of Engineering/Qty. Surveying/Art/Humanities depending on the actual requirements against the total sanctioned strength. Refer Table A under Appendix-B.
4. The equivalent qualification shall mean any such qualification as recognised by the Council of Architecture for registration as an Architect under section 25 of the Architects Act, 1972.
5. The Institution may appoint Professor (Design chair).

1.0 Explanations:

- 1.1 Experience shall mean professional experience and/or Teaching and/or Research in the field of Architecture, counted from the date of registration with Council for core faculty or valid equivalent certification from concerned authorities. Professional experience shall be

substantiated by Experience certificates from employers, Work orders, Completion certificates & Sample Drawings of the projects undertaken as the case may be.

- 1.2 Full time faculty means a registered architect, who has put up full time service as a faculty member with the institutions approved by COA, either on regular (Permanent) or tenure basis (full time).
- 1.3 Section-D attached to this Appendix provides an indicative list of programs considered equivalent to M. Arch. Degree for the purpose of employment in the Institutions imparting Architectural education. This list will be notified by Council of Architecture from time to time.
- 1.4 Undergraduate qualifications acquired through self-study / non-formal mode though acceptable for purpose of Registration shall not be considered as equivalent Qualification for recruitment as faculty. However, such candidates with Post Graduate qualification in Architecture through formal mode are acceptable for Teaching. Post graduate qualification acquired through self-study/ non formal mode shall not be considered as acceptable qualifications.
- 1.5 Ph.D. shall be Doctorate conferred by recognized Indian Universities on any topic related to various subjects related to Architecture. Ph.D. awarded by universities outside India shall be considered equivalent only after such certification from Association of Indian Universities and/or any other competent authority of the Central/State Government.
- 1.6 Published Professional Work shall mean publication of Professional Work by candidate in any journal(s) or reputed magazine(s) related to design/architecture.

2.0 Other Notes:

- 2.1 Only candidates registered with Council of Architecture (COA) under the provisions of the Architects Act, 1972 shall be eligible for the above posts.
- 2.2 All the qualifications appearing in the schedule of qualifications under section 14 or notified under 15 of the Architects' Act 1972 shall be considered at par with Bachelor's Degree in Architecture for the purpose of recruitment as faculty member.
- 2.3 (i) Each Institution shall have minimum staff of 20 faculty members for an intake of 40, including the Principal / Head of Department. The staff structure prescribed by the Council for an intake of 40 shall be 15 full time faculty with minimum 12 core faculty including the Principal/Head, 3 faculty from allied areas and 5 visiting faculty teaching equivalents. The cadre ratio for full time faculty shall be Principal (Professor Cadre) – 1, Professors- 2, Associate Professors- 4 and Assistant Professors – 8.

- (ii) Each institution may have one position of full time Professor (Design Chair) for every intake of 40 and may be counted against the Professor Cadre provided one Full-time Professor is already appointed.
- (iii) For intake more than 40, proportionate increase in the above posts shall be made as outlined in Appendix B
- (iv) The full time faculty in allied areas shall be governed by norms prescribed by the AICTE/ UGC respectively for employment and up gradation
- (v) Of these full time faculty members, minimum 50% must be on permanent posts/ regular appointments and rest may be on tenure/ contract basis (full time). However, Principal / Head of Institution shall be a regular (permanent) Employee.
- (vi) 12 hours/ periods of contact within the working week is considered as one teaching equivalent for visiting faculty.

2.4 If a grade point system is adopted the CGPA will be converted into equivalent marks as given in the table E-6 of the notification no. 1-65/NEC/98-99, March 15, 2000 (Degree level – Government institutions) and May 3, 2000 (Degree level – Self-financing institutions)

| Grade point | Percentage of Marks |
|-------------|---------------------|
| 6.25 | 55 |
| 6.75 | 60 |
| 7.25 | 65 |
| 7.75 | 70 |
| 8.25 | 75 |

2.5 All full time, regular faculty members must be paid the remuneration/ salary prescribed by University Grants Commission or such other Government body, in force at the time of appointment and duly revised from time to time.

2.6 To recognize the services rendered by senior faculty members who do not fit into above requirements, and are already in full-time employment at the same Institution for 15 years, the requirement of qualifications may be relaxed only once in the career for promotion to higher post, except for the post of Principal / Head of Department

- 2.7** All faculty members must be encouraged to actively pursue practice / research without neglecting their duties towards Institution / students and with due permission from the institution.
- 2.8** Service conditions of affiliating university and respective government for faculty members shall be applicable to all full time permanent faculty members.
- 2.9** The Retirement Age including Superannuation for Teaching posts of Assistant Professor, Associate Professors and Professors, including Professor (Design Chair) shall be 65 years or as stipulated by the Central/ State Government from time to time. Re-employment after superannuation shall be permissible against sanctioned vacancies and the faculty may continue to serve until the age of 70 but shall not hold an administrative position.
- 2.10** An Architecture degree program graduate who does not possess M. Arch. (or equivalent) or any experience, shall become eligible for the post of Assistant Professor, after undergoing a Training Program of minimum period of 3 to 6 months conducted by Research & Training Centre of the Council and upon qualifying Faculty Eligibility Test to be conducted by the Council.

D. LIST OF POST GRADUATE PROGRAMS TO BE CONSIDERED EQUIVALENT TO M.ARCH. FOR THE PURPOSE OF RECRUITMENT/EMPLOYMENT AS FACULTY MEMBERS IN ARCHITECTURAL INSTITUTIONS

The Post Graduate degree or diploma programs in the following areas of specialization having duration of Two year/Four Semester (Full-Time) or Three years/Six Semester (Part-Time), granted by Indian Universities/competent Authorities recognized by Central/State government shall be considered equivalent to M. Arch. for the purpose of employment in the Institutions imparting Architectural education:

1. Architectural/ Heritage/ Building Conservation
2. Urban Design
3. Interior Design
4. Landscape Architecture
5. Product Design
6. Visual Communication
7. Sustainable Design
8. Housing
9. Urban Planning
10. Urban and Regional/ Rural Planning
11. City/ town and country Planning
12. Urban Development
13. Transportation Planning
14. Environmental Planning
15. Infrastructural / International / Construction / Project Management
16. Building Technology/Construction Management
17. Structural Design
18. Appropriate Technology
19. HVAC Design/ Building energy performance
20. Building Services
21. Building Automation
22. Computer Aided Design
23. Digital Architecture
24. Urban Infrastructure
25. Construction Engineering

26. Architecture Technology
27. Habitat studies/ Habitat management/Real Estate Management
28. Culture Studies

- Note:**
1. All architects possessing Post Graduate Degree/ Diploma awarded by Authorities outside India shall be required to produce certificate of equivalence to that of M. Arch. degree awarded by Indian Universities from Association of Indian Universities and/or any other competent authority of the Central/State Government, in order to be considered for employment as faculty members.
 2. In case specializations of any Post Graduate degree or diploma programs are not listed above, the same shall be considered on case-to-case basis by the Council for ascertaining their equivalence.
 3. During certain period in the past, the post graduate courses offered in India were of one and half years (Three semesters) Full-Time duration. Such courses shall be considered equivalent to two years (Four semesters) course.

APPENDIX-C
INFRASTRUCTURE REQUIREMENTS

A: SPACE

| S. No | Year of Operation → | 1 st Year | | | 2 nd Year | | | 3 rd Year | | | 4 th Year | | | 5 th Year | | | Remarks |
|----------|--|----------------------|----|-----|----------------------|----|-----|----------------------|----|-----|----------------------|----|----|----------------------|----|----|--|
| | Sanctioned Intake → | 40 | 80 | 120 | 40 | 80 | 120 | 40 | 80 | 120 | 40 | 80 | 20 | 40 | 80 | 20 | |
| | Activity Spaces (Carpet Area) | | | | | | | | | | | | | | | | |
| | Studio - 120 sq. m each | 1 | 2 | 3 | 2 | 4 | 6 | 3 | 6 | 9 | 4 | 8 | 12 | 4/5 | 9 | 13 | Flexibility in terms of studio spaces can be based on local conditions, provided that area of 3 Sq. M. per student of sanctioned intake is made available. Studios for Stage 2 of the course are to make provision for use of laptops with internet connectivity. |
| | Lecture rooms - 60 sq. m each | 1 | 2 | 3 | 1 | 2 | 3 | 2 | 4 | 6 | 2 | 4 | 6 | 2 | 4 | 6 | If studios incorporate lecture spaces within them, then the area of studio spaces shall be calculated at 4 sq m per student. To be provided with OHP and digital projection facilities and sound amplifier system. |
| | Labs and Workshops - 40 sq.m each | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 4 | 4 | Environmental lab, lighting and acoustic lab, Model making and carpentry workshop, Material Museum etc. |
| | Computer Centre - 60 sq. m | - | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Library | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Library shall have 0.6 Sq. m. per student upto total student strength of 200 and 0.3 Sq. m for every additional student beyond student strength of 200. Library shall be provided with reprography and scanning facilities. |
| Principal's Cabin - 30 sq.m | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Administrative Office - 30 sq. m 60 sq.m | 1 | - | - | 1 | - | - | 1 | - | - | 1 | - | - | 1 | - | - | | |
| | - | 1 | 1 | - | 1 | 1 | - | 1 | 1 | - | 1 | 1 | - | 1 | 1 | | |
| Staff Rooms / Cabins - Professor- 12 sq. m each Associate Professor- 8 sq. m each Assistant Professor- 6 sq. m each | | | | | | | | | | | | | | | | | As per the COA faculty norms in the yearly progressive fashion |
| Staff Lounge 30 sq. m/ 60 sq.m | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| Construction Yard - 200 sq. m | | | | | | | | | | | | | | | | | Open space activity from second year onwards |
| Students Common/Rest Rooms | | | | | | | | | | | | | | | | | Adequate as per Building Regulations |

Note: Depending on local conditions, the areas mentioned above may vary by up to 10%.

Other Desirable Activity Spaces:

1. Canteen
2. Stationary Shop
3. Reprography Section and Digital printing
4. Open air theatre with stage
5. Permanent Exhibition space
6. Provision for outdoor sports facility
7. Girls Common Room.
8. Resource Center.
9. Submission and Exam Room.

Desirable Labs:

1. Climatology / Environment*
2. Surveying*
3. Materials Testing
4. Electrical / Lighting / Illumination*
5. Plumbing and Sanitation
6. Acoustics
7. Material Museum.*
8. Digital lab

Recommended Workshops

1. Model making*
2. Carpentry*
3. Fabrication workshop

*Note: Labs / workshops with * are mandatory.*

B: LIBRARY FACILITIES

1. Minimum 300 books on subjects of Architecture shall be available in the library for the intake of 40 (including minimum 100 titles) at the time of 1st Inspection.
2. Add 150 books on subjects of Architecture (including minimum 50 titles) for every additional intake of 40.
3. From second year onwards, minimum 120 books on subjects of Architecture (including minimum 40 titles) for every year per intake of 40.
4. Library of old schools, having more than 5000 Titles; should acquire minimum 30 titles on subjects of Architecture per intake of 40 every year.
5. Journals and Periodicals of architectural relevance as below –

| Intake/ Year | I | | II | | III | | IV | | V | |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | (INT) | (NAT) | (INT) | (NAT) | (INT) | (NAT) | (INT) | (NAT) | (INT) | (NAT) |
| 40 | 1 | 4 | 1 | 4 | 2 | 6 | 2 | 8 | 2 | 8 |
| 80 and above | 1 | 4 | 2 | 5 | 2 | 8 | 4 | 10 | 4 | 10 |

Desirable: e-books and e-journals along with computer terminal with net facility for reference.

At least 2 Refereed journals (Min. 1 international) per intake of 40 shall be subscribed.

Note: INT- International NAT- National

C: COMPUTER CENTER

| Intake/ Year | I | II | III | IV | V |
|--------------|----|----|-----|----|----|
| 40/ 80/ 120 | 20 | 40 | 40 | 40 | 40 |

Requisite licensed software and peripherals such as printers, plotters, scanners, etc. shall be available at the computer center.

Upgrading of systems (hardware and software) shall be done every three years. Computers more than three years old shall not be counted as part of lab.

Broadband internet connectivity of appropriate bandwidth shall be available to all computers.

Desirable:

All faculty and staff shall be provided with individual/ personal computers in addition to above outlined computer center requirements.

Wifi connectivity throughout the campus freely accessible to faculty and students.

LAND REQUIREMENTS:

Minimum 8000 Sq. m. or Independent or undivided and contiguous share of land adequate enough to provide for built floor space of 2,000 Sq. m. for intake of 40, 3,000 Sq. m. for intake of 80 and 4,000 Sq. m. for intake of 120 in Architecture degree program; provided further that the built space should be contiguous. Further, the Institution should also have sufficient space for sports, co-curricular activities and hostel, canteen and other facilities.

The land where the building of the institution is located/ built must be institutional land and must be owned by the trust / society / company.

The relaxation in the above may be made by the Council on the case to case basis for institutions located in hilly areas.

APPENDIX-D

1.0 ADMISSIONS

- 1.1 The candidates admitted to 1st year of the five year Architecture degree program without fulfilling the admission eligibility prescribed by the Council shall not be deemed to have attained recognized qualification listed in the schedule of qualifications appended to the Act. Such candidates shall not be eligible for registration as an architect with the Council.
- 1.2 Admission shall not be made under any quota whatsoever, including the Central Government Nominee / Minority Institution / Management / Non-Resident Indian / Persons of Indian Origin/Foreign National or any another Quota, unless a candidate has passed an Aptitude Test in Architecture conducted by a competent authority.

2.0 COMPETENT AUTHORITY FOR ADMISSION

- 2.1 A Competent Authority duly formulated / recognized by State /Central Government, which may include the Government or University, or such authorities / institution concerned [School / College of Architecture] / Association or Federation of Institutions [Schools or Colleges of Architecture], shall conduct the admission to the Architecture degree program through a merit-based process in a transparent, fair and non-exploitative manner.
- 2.2 The Institution shall submit a list of students admitted to the Architecture Degree program every year to the Council in the prescribed format, containing the score in the Aptitude Test in Architecture, and the marks secured in the qualifying examination, and in Physics, Chemistry and Mathematics subjects.

3.0 ADMISSION COUNSELING

Counseling for admission to the Architecture Degree program should be held independently and not combined with the counseling for Engineering, Pharmacy, Medicine or any other discipline.

4.0 FEE STRUCTURE, PERCENTAGE AND RESERVATION OF SEATS

The fee structure and admission of students to Architecture degree program under various categories/ admission quota shall be as determined by the concerned Government/competent authority.

5.0 COMMENCEMENT OF COURSE

Classes for 1st year/Semester of a 5-year Architecture degree program shall not commence later than the 1st working day in the month of September of a calendar year and all admissions must be completed before the said date.
