

**SEVENTH SEMESTER B.ARCH. DEGREE (2017 SCHEME) EXAMINATION  
NOVEMBER 2020**

AR 17 76 4—VERNACULAR ARCHITECTURE

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer all questions.*

*5 marks each.*

1. Differentiate Traditional and vernacular Architecture.
2. Differentiate urban and rural Vernacular Architecture.
3. What do you mean by term “symbolism” in Vernacular Architecture ?
4. State the types of tribal settlement referred in your syllabus.
5. State the types of factors to be studied for any kind of vernacular documentation.
6. Sketch and list any two characteristic feature of naluketu.
7. Abbreviate ICOMOS and state it's any two salient features with respect to vernacular Architecture.
8. List any four vernacular concepts or contemporary projects observed as part of case studies documentation ?

(8 × 5 = 40 marks)

**Part B**

*Answer all questions.*

*15 marks each.*

1. Briefly discuss the various factors influencing vernacular architecture with suitable examples.
- Or*
2. Is sustainability is another name for vernacular architecture. Illustrate the statement with suitable examples.
  3. Describe the salient features, spatial configuration and construction techniques through sketches of Naga houses of North East India.

*Or*

4. Describe the salient features, spatial configuration and construction techniques through sketches of Toda houses of Tamil Nadu.

**Turn over**

5. Describe the salient features, spatial configuration and construction techniques through sketches of Bangalas of Bengal.

*Or*

6. Describe the salient features, spatial configuration and construction techniques of bhora houses of Gujarat.
7. Discuss the salient features and functions of ICOMOS with respect to vernacular Architecture.

*Or*

8. Bring out the importance of study of vernacular Architecture in 21<sup>st</sup> Century.

(4 × 15 = 60 marks)

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**SEVENTH SEMESTER B.ARCH. DEGREE (2017 SCHEME) EXAMINATION  
NOVEMBER 2020**

AR 17-76-2—COST EFFECTIVE CONSTRUCTION TECHNIQUES

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.  
Support your answers with neat sketches.*

**Part A**

1. Write short notes on :

- (a) Introduce a few cost-effective construction techniques.
- (b) What is the cost for site development ?
- (c) Describe the concept of systems approach.
- (d) Discuss about road and its classification.
- (e) Mention some of the cost-effective construction techniques for walls.
- (f) What is CSEB ? Mention its advantages.
- (g) Critically analyse cost efficient construction methods.
- (h) What is prefabricated slab ?

(8 × 5 = 40 marks)

**Part B**

2. A) What is meant by life cycle cost ? Elaborate on all the costs involved.

*Or*

B) Write about the need and existence of transportation cost and its contribution to the total cost.

3. A) Explain in detail the concept of integrated building construction.

*Or*

B) Critically evaluate the techniques for cost reduction with relevant architectural examples and sketches.

**Turn over**

4. A) What is mud plastering? How is it done? Explain with building examples and relevant sketches.

*Or*

- B) Give a detailed account on adopting appropriate technology for various architectural construction situations.

5. A) Write a brief note on roof construction techniques with relevant examples.

*Or*

- B) Explain the construction of filler slab with architectural examples and sketches.

(4 × 15 = 60 marks)

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**SEVENTH SEMESTER B.ARCH. DEGREE (2017 SCHEME) EXAMINATION  
NOVEMBER 2020**

AR 17 76 1—SUSTAINABLE ARCHITECTURE AND PLANNING

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer all questions.*

*5 marks each.*

1. List down the global and national level environmental issues.
2. What do you mean by the term Sustainable Development ?
3. What are the components of ecosystem ?
4. Differentiate bio-degradable and non-bio-degradable materials.
5. What do you mean by the term embodied energy ?
6. Mention the three parameters coined in Kyoto protocol.
7. Mention any four acts referred in your syllabus with respect to environment.
8. Mention the types of management system referred in your syllabus.

(8 × 5 = 40 marks)

**Part B**

*Answer all questions.*

*15 marks each.*

1. Briefly discuss the impact of man-made impact on environment with suitable examples.

*Or*

2. Describe the goals of sustainable development.
3. Describe with suitable examples in what way site planning consideration will help to reduce the environmental impact.

*Or*

4. Briefly discuss your understanding of sustainability in building services observed from case studies.

**Turn over**

5. Discuss the salient features of TERI with respect to construction techniques to promote sustainability.

*Or*

6. Bring out the concept of renewable and traditional building materials and its pro's and con's with suitable examples.

7. Discuss the salient features of UN Frame work convention of climate change.

*Or*

8. Bring out the salient features of different legislation and act referred in your syllabus.

(4 × 15 = 60 marks)

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**SEVENTH SEMESTER B.ARCH. DEGREE (2017 SCHEME) EXAMINATION  
NOVEMBER 2020**

AR 17 75—BUILDING ECONOMICS AND SOCIOLOGY

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.  
Support your answers with neat sketches.*

**Part A**

*Answer all questions.  
Each question carries 5 marks.*

1. Write short notes on :

- (a) Introduce sociology.
- (b) What is meant by society ?
- (c) Write about the origin, growth and nature of settlements.
- (d) Define the terms “urban” and “rural”.
- (e) Define Economics.
- (f) What is price ?
- (g) What are urban land values ?
- (h) What is meant by initial cost ?

(8 × 5 = 40 marks)

**Part B**

*Answer all questions.  
Each question carries 15 marks.*

2. (a) What is the scope of Sociology ?

*Or*

(b) Explain the utility of sociology in built environment.

3. (a) Give a detailed account on the impact of growing urbanization on health, housing and transportation.

*Or*

(b) Explain some of the non-governmental approaches of engaging with issues regarding slums.

**Turn over**

4. (a) Differentiate the characteristics of wants and needs in detail.

*Or*

(b) Elaborate the concept of opportunity cost.

5. (a) Give a detailed introduction to basics of economics.

*Or*

(b) Elaborate some of the methods of cost reduction through design of building components.

(4 × 15 = 60 marks)

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**SEVENTH SEMESTER B.ARCH. DEGREE (2017 SCHEME) EXAMINATION  
NOVEMBER 2020**

AR 17-74—BUILDING SERVICES IV—(Acoustics and Fire-Fighting Services)

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.*

*Support your answers with neat sketches.*

**Part A**

1. Write short notes on :

- (a) What is Velocity ?
- (b) Define Frequency.
- (c) Describe the behaviour of sound in an enclosed space.
- (d) What is Diffraction ?
- (e) Define Reverberation.
- (f) What are acoustical defects in enclosed spaces ?
- (g) What is noise control ?
- (h) Explain transmission loss.

(8 × 5 = 40 marks)

**Part B**

2. A) Give a detailed introduction to acoustics.

*Or*

B) Explain in detail the methodology to be followed in architectural design with acoustic considerations.

3. A) Elaborate the process of acoustical construction and materials used.

*Or*

B) Explain space absorbers.

**Turn over**

4. A) Discuss the method of calculating reverberation time.

*Or*

B) Elaborate the steps involved in the acoustical design of an auditorium.

5. A) Explain the working of fire resistance of various building elements.

*Or*

B) Elaborate methods of noise control in acoustical design of auditoriums.

(4 × 15 = 60 marks)

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**SEVENTH SEMESTER B.ARCH. DEGREE (2017 SCHEME) EXAMINATION  
NOVEMBER 2020**

AR 17 72—URBAN DESIGN

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.  
Support your answers with neat sketches.*

**Part A**

1. Write short notes on :

- (a) Define Urban Design.
- (b) Give examples of historic place making from medieval times.
- (c) What are the basic urban design principles ?
- (d) Write about the relationship between open space and street network.
- (e) Write a note on the Neighbourhood concept.
- (f) Write about the urban theories of Camillo Sitte and Jane Jacobs.
- (g) What are the steps involved in an urban design process ?
- (h) What is structure plan in Urban Design ?

(8 × 5 = 40 marks)

**Part B**

2. A) Explain in detail the urban form characteristics of ancient and traditional cities.

*Or*

B) Give a detailed account on the influences of post-modern urbanism in contemporary urban space design and development.

3. A) Explain in detail the following terminologies with respect to Urban design :

- (i) Shape.
- (ii) Size.
- (iii) Pattern.
- (iv) Grain.
- (v) Texture.

*Or*

B) Illustrate with examples the typology of buildings influencing public space morphology.

**Turn over**

4. A) What are mixed use developments? Explain in detail about the evolution, need and existence of such developments.

*Or*

B) Elaborate the urban theories of Peter Calthorpe and Aldo Rossi.

5. A) Explain urban design projects through various case studies.

*Or*

B) Write about the formulation of policies for landscape, infrastructure and built forms.

(4 × 15 = 60 marks)

CHMK LIBRARY UNIVERSITY OF CALCUTTA

**SEVENTH SEMESTER B.ARCH. DEGREE (2017 SCHEME)  
EXAMINATION, NOVEMBER 2021**

B.Arch.

AR 17-76-4—VERNACULAR ARCHITECTURE

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer any **eight** questions.*

*Each question carries 5 marks.*

1. What do you mean by the term Vernacular Architecture ?
2. State any *two* theories with respect to Vernacular Architecture ?
3. Sketch the elevation of any one type of haveli houses.
4. Sketch the section of toda houses and label its parts.
5. Write a note on contextual response in vernacular Architecture.
6. List the spatial planning characteristics of tribal settlements.
7. List the Architects and their projects involved in Vernacular Architecture design approach.
8. State any *three* rules of ICOMOS with respect to build heritage.

(8 × 5 = 40 marks)

**Part B**

*Answer **all** questions.*

*Each question carries 15 marks.*

1. Briefly discuss classification of Vernacular Architecture.

*Or*

2. Illustrate the statement with suitable examples, "is sustainability is part of Vernacular Architecture".
3. Describe the salient features of spatial configuration, cultural aspects and symbolism of tribal settlements in Tamil Nadu. Illustrate with through sketches.

*Or*

**Turn over**

4. Describe the types of surveys and studies involved to document the building or site influenced by Vernacular Architecture.
5. Describe the salient features, spatial configuration and socio cultural aspect of vernacular houses of Haveli in Rajasthan. Illustrate with through sketches.

*Or*

6. Describe the salient features, construction aspects of vernacular houses of Haveli in Rajasthan. Illustrate with through sketches.
7. Describe the salient features to study about the vernacular Architecture with respect to material aspect. Illustrate with through suitable case studies.

*Or*

8. Is Vernacular Architecture is model for contemporary design approach. Illustrate with suitable examples.

(4 × 15 = 60 marks)

**SEVENTH SEMESTER B.ARCH. DEGREE (2017 SCHEME) EXAMINATION  
NOVEMBER 2021**

**B.ARCH.**

**AR 17-76-2—COST EFFICIENT CONSTRUCTION TECHNIQUES**

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.*

*Support your answers with neat sketches.*

**Part A**

1. Write short notes on :

- (a) What is land cost ?
- (b) Explain maintenance cost.
- (c) How does prefabrication help in cost reduction ?
- (d) What are services ?
- (e) Write a short note on use of agricultural waste.
- (f) How is straw Bale used in architecture ?
- (g) Detail out different techniques developed by various agencies in the construction industry.
- (h) What are thin slabs ?

(8 × 5 = 40 marks)

**Part B**

2. (A) Write about labour requirement in building construction industry.

*Or*

(B) Detail out the sustainability considerations in designing and construction of a building.

3. (A) Explain construction techniques for cost reduction of earth work with sketches.

*Or*

(B) Give a critical analysis of various cost-efficient construction methods.

**Turn over**

4. (A) Elaborate on prefabricated components in building construction with its advantages and disadvantages.

*Or*

- (B) Critically analyse building construction based on different finishes.

5. (A) Write a detailed note on floor slabs.

*Or*

- (B) What is a Waffle slab ? Explain in detail with sketches.

(4 × 15 = 60 marks)

CHMK LIBRARY UNIVERSITY OF CALICUT

**SEVENTH SEMESTER B.ARCH. DEGREE EXAMINATION, NOVEMBER 2021****B.ARCH.****AR 17-76-1—SUSTAINABLE ARCHITECTURE AND PLANNING**

(2017 Scheme)

Time : Three Hours

Maximum : 100 Marks

**Part A**

1. What do you mean by the term sustainability ?
2. Write down the correlation between E'S in sustainable development.
3. Write down urban ecology.
4. What do you mean by the term energy management ?
5. Differentiate traditional and vernacular building techniques.
6. Write down the concept of 3R'S.
7. List the acts refereed in your syllabus as part of sustainable development.
8. State any four salient features of UN Framework on climate change.

(8 × 5 = 40 marks)

**Part B**

1. Discuss the salient features of environmental legislation act and bring out the complexity to implement the act observed from the case studies.

*Or*

2. Describe the causes and effect of climate change in cities. Illustrate with suitable case studies.
3. Explain with suitable sketches, the technological intervention observed in case studies to save energy.

*Or*

4. Briefly discuss your understanding of intelligent building systems with respect to sustainability observed from case studies.

**Turn over**

5. In what way passive design principles and building envelope design minimize the environmental impact of building. Illustrate with suitable case studies.

*Or*

6. Discuss the importance of waste management and explain the techniques implemented for waste management observed from the case studies. Substantiate your answer with suitable sketches.
7. Bring out the issues at national level and suggest suitable solution for sustainable development.

*Or*

8. Discuss the salient features of BREEM and its implementation techniques observed from case studies.

(4 × 15 = 60 marks)

CHMK LIBRARY UNIVERSITY OF CALICUT

**SEVENTH SEMESTER B.ARCH. DEGREE (2017 SCHEME)  
EXAMINATION, NOVEMBER 2021**

B.Arch.

AR 17 75—BUILDING ECONOMICS AND SOCIOLOGY

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.*

*Support your answers with neat sketches.*

**Part A**

1. Write short notes on :

- (a) Write a note on the basic concepts of sociology.
- (b) Define Community.
- (c) Write about the origin, growth and nature of communities.
- (d) Define Urbanization. What are the causes of urbanization ?
- (e) Define Goods.
- (f) What is Wealth ?
- (g) What is meant by building efficiency ?
- (h) Explain operational cost.

(8 × 5 = 40 marks)

**Part B**

2. A) Give definitions of any *five* terminologies used in sociology.

*Or*

B) How does sociology influence architecture ? Explain in detail.

3. A) Elaborate various social, economic and special characteristics associated with rural settlements.

*Or*

B) Give a detailed account on origin of slums in Indian cities.

**Turn over**

4. A) Describe and differentiate micro and macro-economics in detail.

*Or*

B) Bring out the salient features of various concepts of economics.

5. A) Explain the various factors affecting, the value of urban land.

*Or*

B) Elaborate your understanding of economic factors affecting different stages of a building.

(4 × 15 = 60 marks)

CHMK LIBRARY UNIVERSITY OF CALICUT

**SEVENTH SEMESTER B.ARCH. DEGREE (2017 SCHEME) EXAMINATION  
NOVEMBER 2021**

B.Arch.

AR 17 74—BUILDING SERVICES IV (ACOUSTICS AND FIRE FIGHTING SERVICES)

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.*

*Support your answers with neat sketches.*

**Part A**

1. Write short notes on :

- (a) What is the wavelength of sound ?
- (b) Sketch the human ear and mark the parts.
- (c) What is meant by room acoustics ?
- (d) What are membrane absorbers ?
- (e) What is reverberation time ?
- (f) Explain the acoustical design of an auditorium.
- (g) How to control noise in residences ?
- (h) Why is fire, rating and assessment necessary ?

(8 × 5 = 40 marks)

**Part B**

2. A) What is meant by nature of sounds ? Explain in detail.

*Or*

B) Write about various acoustical materials and their properties with construction details.

3. A) Elaborate the behaviour of sound in enclosed spaces.

*Or*

B) What are cavity -resonators ? Explain the different types and uses of such resonators.

**Turn over**

4. A) What is Sabine's formula ? How to use it in calculation of reverberation time ? Explain the steps involved.

*Or*

B) Give a detailed account on the acoustical defects in enclosed spaces.

5. A) Elaborate design considerations and construction techniques required for noise control in hospital design.

*Or*

B) Write in detail about the building by laws relating to fire safety provisions in buildings.

(4 × 15 = 60 marks)

CHMK LIBRARY UNIVERSITY OF CALICUT

**SEVENTH SEMESTER B.ARCH. DEGREE (2017 SCHEME) EXAMINATION  
NOVEMBER 2021**

B.ARCH.

AR 17 72—URBAN DESIGN

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.  
Support your answers with neat sketches.*

**Part A**

1. Write short notes on :

- (a) Write a note on the urban form of medieval cities.
- (b) Give examples of historic place making from Industrial times.
- (c) Highlight the concepts of urban spatial organization.
- (d) How is human vision related to urban design in terms of spatial organization ?
- (e) What is Space Syntax theory ?
- (f) Write about the urban theories of Donald Appleyard and William H Whyte.
- (g) What are Development Control Guidelines ?
- (h) What is Art and Heritage Commission ?

(8 × 5 = 40 marks)

**Part B**

2. (A) Explain about the need, scope and objectives of Urban Design.

*Or*

(B) Give a detailed account of urban form of cities in the modern times.

3. (A) Give a detailed account on Gordon Cullen's Townscape analysis.

*Or*

(B) Explain in detail the following terminologies with respect to Urban Design.

- (i) Pedestrian Path.
- (ii) Circulation Pattern.
- (iii) Activity Nodes.

**Turn over**

4. (A) Explain in detail the smart city concepts.

*Or*

(B) Give a detailed account on the concepts of Bill Hillier and Rob Krier.

5. (A) Write about Brownfield Development with focus on Urban Redevelopment and Revitalization.

*Or*

(B) Write about an urban design project implementing various agencies including financing agencies.

(4 × 15 = 60 marks)

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