B.L.D.E.A's V.P.Dr.P.G.HALAKATTI COLLEGE OF ENGINERING AND TECHNOLOGY VIJYAPUR 586103

INDEX FILE QUESTION PAPERS JAN/FEB 2023

BACHULER OF ARCHITECTURE

All. Sem. B.Arch.

CBCS SCHEME

USN | | | | | | | | | | |

18ARC73

Seventh Semester B.Arch. Degree Examination, Jan./Feb. 2023
Building Services – IV

Time: 3 hrs. Max. Marks:100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. State inverse square law. Discuss its application and limitation. **(10 Marks)**

b. Define sound intensity. Explain decibel scales. **(10 Marks)**

OR

2 a. Explain the conditions which cause the following acoustic defects. Suggest corrective measures for the same. i) Focusing of sound ii) Flutter echo iii) Dead spots. **(12 Marks)**

b. State Eyring's formula and its application. **(08 Marks)**

Module-2

3 a. What is speech transmission index? What parameters assist in assessing the same? **(08 Marks)**

b. Explain the functioning of sound level meter. What does 'A' stand for in a reading of 35dB'A' on the sound level meter. **(12 Marks)**

OR

4 a. Suggest and explain suitable types of acoustic materials for the following spaces.
i) Departmental stone ii) Lecture hall iii) Industrial building iv) Open office. **(12 Marks)**

b. What are NC curves? Explain. **(08 Marks)**

Module-3

5 a. Explain the principles of Greek theaters to achieve favorable acoustics. How are Roman theaters different form Greek theaters. **(10 Marks)**

b. Suggest strategies to achieve speech privacy in open office plans. **(10 Marks)**

OR

6 a. Explain considerations to arrive at volume and shape of an auditorium. **(10 Marks)**

b. What are the considerations to achieve favorable acoustic environment in
i) Home theaters ii) Recording studios. **(10 Marks)**

Module-4

7 a. A multistoried office space is located on a busy arterial road. What are the different types of noises which need to be considered? **(12 Marks)**

b. Explain Transmission Loss. Suggest methods to reduce noise at source. **(08 Marks)**

OR

8 a. A conference hall on the fourth floor of building requires noise control strategies. Suggest appropriate detail for : i) Composite walls ii) Floating floors. **(10 Marks)**

b. What are the methods to achieve vibration isolation for mechanical noise from wall, floor, and ceiling? **(10 Marks)**

Module-5

9 a. What are the methods to reduce noise in industries due to
i) Friction ii) Turbulence. **(12 Marks)**

b. Suggest traffic planning strategies for road traffic to reduce noise levels. **(08 Marks)**

OR

10 a. Explain the significance of enclosures and barriers to control noise. **(10 Marks)**

b. Suggest strategies at Town planning level and site level to mitigate noise. **(10 Marks)**

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CBCS SCHEME

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18ARC64

Sixth Semester B.Arch. Degree Examination, Jan./Feb. 2023
Contemporary Architecture

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 Examine the ideas of Le-Corbusier with the help of two Indian examples. **(20 Marks)**

OR

2 Explain the role of climate in the buildings designed by architect Charles Correa with the help of two examples. **(20 Marks)**

Module-2

3 Explain the design philosophy with their works:
a. Ar. Raj Rewal **(10 Marks)**
b. Ar. U C Jain **(10 Marks)**

OR

4 Explain the design ideologies and his design approach through cost effectiveness of Ar. Laurie Baker. Illustrate with few of this projects. **(20 Marks)**

Module-3

5 Write short notes on:
a. Hightech architecture or structural expressionism **(10 Marks)**
b. Postmordernism **(10 Marks)**

OR

6 Elaborate on the ideas of Sir Norman Foster with two examples. **(20 Marks)**

Module-4

7 Briefly describe the contribution of Renzo Piano to contemporary architecture. **(20 Marks)**

OR

8 Discuss on the ideas and works of Robert Venturi on postmodernism citing few examples. **(20 Marks)**

Module-5

9 Discuss on the ideas of Deconstructivism by Daniel Leibskind. **(20 Marks)**

OR

10 Write briefly on the works of Benard Tschumi. **(20 Marks)**

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18ARC53

Fifth Semester B. Arch. Degree Examination, Jan./Feb. 2023
Building Services – II

Time: 3 hrs. Max. Marks: 100

Note: ***Answer any FIVE full questions, choosing ONE full question from each module.***

Module-1

1 a. Define Electrical services and mention its importance. Define the following terminologies i) Electric power ii) Electric current iii) Power Factor iv) Power efficiency. **(08 Marks)**

b. Explain the renewable and non-renewable sources of power generations and distribution with suitable diagram. **(12 Marks)**

OR

2 a. Explain by neat sketches, the process of electricity. Distribution in stages from substation to your residence. **(08 Marks)**

b. What is transformer? Explain its working mechanism. Explain the classification of transformers typologies. **(12 Marks)**

Module-2

3 a. What is renewable energy? What are its different sources of generation? Explain with sketches. **(15 Marks)**

b. Write short notes on the following : i) Fuse ii) Circuit Breakers **(05 Marks)**

OR

4 a. Explain in detail different types of electrical wiring. Also elaborate on their advantages and disadvantages. **(14 Marks)**

b. Explain common ISI standards for wiring installation in small buildings and Large buildings with sketches. **(06 Marks)**

Module-3

5 a. What are faults? Explain the typologies what are their consequences. **(08 Marks)**

b. Explain why buildings need electrical systems and protective devices **(12 Marks)**

OR

6 a. What is Earthing? Explain its role in protection system of a building. Mention for earthing of a residential building. **(12 Marks)**

b. Explain plate earthing method with the help of neat sketch. **(08 Marks)**

Module-4

7 Briefly describe the following :

a) Ambient lighting
b) Landscape lighting
c) Façade lighting
d) Laws of illumination **(20 Marks)**

OR

8 An office area is 20 meter (Length) × 10 meter (width) × 3 meter (Height). Ceiling to desk height is 2 meters. The area is to be illuminated to a general level of 250 Lux using twin lamp 32 watt CFL luminaries with a SHR of 1.25 each lamp has an initial output (efficiency) of 85 Lumen per watt. The lamp maintenance factor (MF) is 0.63, Utilization factor is 0.69 and space height ratio (SHR) is 1.25. Calculate the following :

a) Total wattage of luminaries fixtures and Lumen/Fixture.
b) Determine the number of luminaries fixture required for this installation
c) Calculate the number of luminaries fixtures required along the width of the room
d) Make a diagrammatic representation of the room showing axial and traverse spacing between the fixtures. **(20 Marks)**

Module-5

9 Explain the following extra low voltage system.

a) Data cable TV network
b) Building automation and security service
c) Intrusion detection system
d) Land and telephone system **(20 Marks)**

OR

10 a. List out the notations and signages used to depict an electrical layout. Also mentions the various heights, at which level you well provide various electrical points. **(10 Marks)**

b. For a typical drawing room of 8m × 10m × 3m with a toilet of 3m × 2m × 3m, make a furniture layout with an electrical layout. Make a table showing various electrical points in the room. **(10 Marks)**

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18HUM56

Fifth Semester B.Arch. Degree Examination, Jan./Feb. 2023
Sociology and Building Economics

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Define the following :
(i) Society
(ii) Community
(iii) Sociology
(iv) Culture **(10 Marks)**

b. Explain the importance of sociology in architecture with examples. **(10 Marks)**

OR

2 a. What are the different types of family structures? What is the impact of family structures on housing typologies? **(12 Marks)**

b. Differentiate between society and community. **(08 Marks)**

Module-2

3 a. Explain the origin, growth and nature of human settlements. **(12 Marks)**

b. Differentiate between quantitative and qualitative research methods. **(08 Marks)**

OR

4 a. Write a note on 'Slums' in Indian cities. **(10 Marks)**

b. Differentiate between urban and rural on the basis of spatial, economic and social organization. **(10 Marks)**

Module-3

5 a. Define the following :
(i) Economics
(ii) Utility
(iii) Value
(iv) Price
(v) Wealth **(10 Marks)**

b. Explain Primary, Secondary and Tertiary sectors of economy. **(10 Marks)**

OR

6 a. Write short notes on :
(i) Capitalism
(ii) Socialism
(iii) Communism **(12 Marks)**

b. Explain the factors of production. **(08 Marks)**

Module-4

7 a. What are the characteristics of 'Wants'? **(08 Marks)**

b. Explain the following :
(i) Law of increasing returns.
(ii) Law of decreasing returns. **(12 Marks)**

OR

8 a. Write short notes on :
   (i) Opportunity cost.
   (ii) Standard of living **(10 Marks)**
 b. Discuss briefly the present housing market in Indian cities. **(10 Marks)**

Module-5

9 a. Write short notes on:
   (i) Life cycle costs.
   (ii) Time value of money. **(10 Marks)**
 b. Explain "The Bid Rent Theory". **(10 Marks)**

OR

10 a. Explain the various factors affecting the value of urban land. **(10 Marks)**
 b. Write short notes on:
   (i) Burger's concentric zone theory.
   (ii) Hoyt's sector theory. **(10 Marks)**

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CBCS SCHEME

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21ARC33

Third Semester B.Arch. Degree Examination, Jan./Feb. 2023
Climatology

Time: 3 hrs. Max. Marks: 100

Note: 1. ***Answer any FIVE full questions, choosing ONE full question from each module.***
2. ***Draw sketcesh wherever necessary.***

Module-1

1 Discuss the current climatic crises in general and explain the site climate and built form interaction with the help of examples for any one climatic zone. **(20 Marks)**

OR

2 a. Discuss the importance of thermal comfort and how buildings need to respond to the same. **(10 Marks)**
b. Write short note on dry-bulb and wet-bulb temperature **(05 Marks)**
c. Write short note on Kata-thermometer and Globe thermometer **(05 Marks)**

Module-2

3 Elaborate on the study of solar geometry and its significance during the process of building design with the help of sun-path diagram and solar chart. **(20 Marks)**

OR

4 Write short notes on :
a. Concept of sol-air temperature and solar gain factor **(06 Marks)**
b. Thermal properties and performance of any 2 material. **(08 Marks)**
c. Passive cooling. **(06 Marks)**

Module-3

5 a. Discuss thermal heat gain or loss with the help of examples. **(10 Marks)**
b. Explain 'U' value. **(05 Marks)**
c. Types of heat transfer. **(05 Marks)**

OR

6 Discuss the construction techniques used to improve thermal performance of walls and roofs. **(20 Marks)**

Module-4

7 a. Explain the role of shading device in a building along with different types of shading devices. **(12 Marks)**
b. Discuss stack effect due to thermal force and wind velocity. **(08 Marks)**

OR

8 Write short notes on :
a. Shaded courtyards (08 Marks)
b. Wind scoops (06 Marks)
c. Roof ponds. (06 Marks)

Module-5

9 How day lighting is transmitted in different climatic zones? Explain with examples. (20 Marks)

OR

10 Discuss climatic design consideration of informal settlement and formal/designed settlement with the help of examples (20 Marks)

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CBCS SCHEME

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CBCS SCHEME

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CBCS SCHEME

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21ARC33

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CBCS SCHEME

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CBCS SCHEME

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