



ANJUMAN-I-ISLAM'S

AIKTC KALSEKAR TECHNICAL CAMPUS

INNOVATIVE TEACHING · EXUBERANT LEARNING

School of Architecture

School of Engineering & Technology

School of Pharmacy

Knowledge Resource & Relay Centre (KRRC)

AIKTC/KRRC/SoA/ACKN/QUES/2022-23/

Date: 25/01/23

School: SoA-CBSGS

Branch: SoA

SEM: V

To,
Exam Controller,
AIKTC, New Panvel.

Dear Sir/Madam,

Reg.

Received with thanks the following **Semester/Periodic** question papers from your exam cell:

Sr. No.	Subject Name	Subject Code	Format		No. of Copies
			SC	HC	
1	Architectural Building Construction 5			✓	
2	Theory & Design of Structures 5			✓	
3	Architectural Building Services 3			✓	
4	Humanities			✓	
5	Architectural Representation & Detailing				
6	Architectural Theory				

Note: SC – Softcopy, HC - Hardcopy

(Shaheen Ansari)
Librarian, AIKTC



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Approved by : All India Council for Technical Education, Council of Architecture, Pharmacy Council of India New Delhi,
Recognised by : Directorate of Technical Education, Govt. of Maharashtra, Affiliated to University of Mumbai.

- SCHOOL OF ENGINEERING & TECHNOLOGY
- SCHOOL OF PHARMACY
- SCHOOL OF ARCHITECTURE

Subject - Architectural Building Construction

Max Marks - 50

Date - 20/10/2022

Sem-V Reg

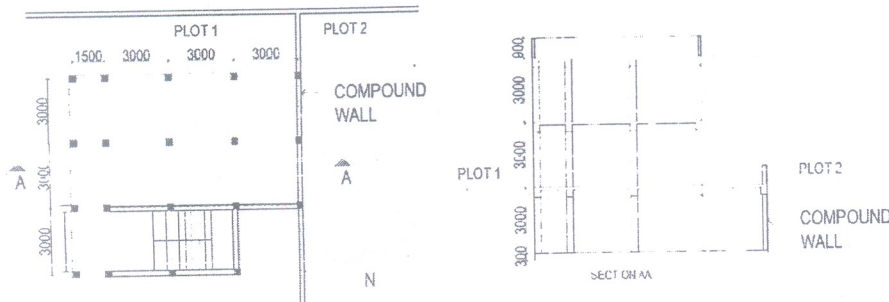
Duration - 3hrs.

**Read questions carefully and write down with neat drawn sketches.
Proper sketches will carry more weightage of marks.**

Answer according to the marks allotted.

Question 1 is compulsory, Answer any three questions from the remaining questions

Q1. Following is a plan / section of a G+2 commercial building located in Mumbai, Maharashtra. Building has a common wall sharing to next plot. Column size - 300x300 mm, floor to floor height- 3000 mm, slabs thk. 120 mm, Beam size-300 x450 mm. Draw a footing layout showing various types of pad foundation at 1:100 scale. Draw sections of any two types of pad foundations with appropriate nomenclature and dimensions at 1:20 scale. **(20 marks)**



Q2. What is soil bearing capacity (SBC) of a soil? Explain different types of shallow and deep foundations as well as their application with respect to SBC. **(10 marks)**

Q3. Draw detailed section of raft foundation with shear wall, reinforcement details and waterproofing details (scale 1:20) **(10 marks)**

Q4. Write short note (**any two**) sketches are compulsory **(10 marks)**

- A. Curtain wall Details
- B. Types of raft foundation
- C. Buoyant foundation

Q5. Design an entrance canopy in steel for a residential building having 6 m wide opening. Draw plan and section of canopy with gutter detail at 1:20 scale **(10 marks)**



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**THIRD YEAR B.ARCH - SEM V REGULAR EXAMINATION
OCTOBER 2022**

Subject - TOS

Max Marks - 50

Date - 17/10/2022

Duration - 2hrs.

- 1) Question No 1 is compulsory.
- 2) From question no 2, 3, 4 - Attempt any two questions.
- 3) Use of non-programmable calculator is allowed.
- 4) Assume additional data and draw sketches wherever necessary and specify the same.

Q1) Attempt any four

(20M)

- i. With neat sketches explain different types of welds
- ii. Determine the design strength of the member of size 150mm by 300mm due to yielding of plate. Take $f_y = 250 \text{ N/mm}^2$
- iii. Write short note on specification of butt weld and fillet weld
- iv. Write down the geometrical properties of ISHB 450 @87.2kg/m.
- v. Differentiate between shearing failure and bearing failure

Q2)

- a. Design the base plate for column ISMB 450 @ 72.4 kg/m take M20 grade of concrete and steel Fe250. The column is subjected to an ultimate load of 950KN

(10M)

- b. Define pitch, gauge, edge distance and end distance.

(5M)

Q3)

- a. Determine the capacity of ISMB 200 @25.4kg/m if the effective length of column is 3m. (10M)
- b. Explain advantages and disadvantages of welded connections (5M)

- Q4) Design a Column using single ISMB section to carry factored axial compression load of 650kN, Length of the column is 6.0 m and both the ends are fixed. (15M)





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**THIRD YEAR B.ARCH - SEM V REGULAR EXAMINATION
OCTOBER 2022**

Subject - Architectural Building Services

Max Marks - 50

Date - 19/10/2022

Duration - 2hrs.

**Read questions carefully and write down with neat drawn sketches.
Proper sketches will carry more weightage of marks.
Answer according to the marks allotted.
Q.1 is compulsory, Attempt any 3 out of remaining.**

Q.1. An artificial lighting system has to be designed for a class room of size 10m x 10m, with a height of 3.2 mts. Use LED light fixtures of suitable wattage. (20M)
Required Lux level: 300 Lumen / sq.mt

- Calculate the number of lights required.
- Draw a sketch plan & section showing lighting arrangement in the room along with other necessary electrical appliances (FAN), looping, Switch board locations etc.

Q.2. Write short notes on-(Any 2) (10M)

- a. Echo
- b. RCCB and ELCB
- c. Diffraction of a sound wave
- d. Different types of lamps/lights

Q.3. Explain Reverberation. What is reverberation time? How is it calculated? (10M)

Q.4. Elaborate on various acoustical materials and their application. (10M)

Q.5. Write in detail about Earthing and its types as a means of protection for over-current in electrical systems? (10M)





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DEPARTMENT OF ARCHITECTURE
SCHOOL OF PLANNING & ARCHITECTURE
K. J. Somaiya Institute of Engineering & Information Technology

**THIRD YEAR B.ARCH - SEM V ~~ATKT~~ or REGULAR EXAMINATION
OCTOBER 2022**

Subject - Humanities

Max Marks - 50

Date - 18/10/2022

Duration - 2hrs.

Read questions carefully and write down with neat drawn sketches.
Proper sketches will carry more weightage of marks.
Answer according to the marks allotted.
Q.1 is compulsory, Attempt any 4 out of remaining.

Q. 1 Refer to the article on Page 2 and answer ANY 2 of the following questions:

10M

- In what ways did Ar. Le Corbusier detail his buildings in Chandigarh?
- Explain in your own words, Ar. B. V Doshi's critique on Chandigarh.
- Describe in brief, how the modernist architecture of Ar. Doshi is rooted in the Indian context.

Q. 2 Define Critical Regionalism and describe its features. Give examples of any two architects and their projects with proportionate sketches highlighting the same.

10M

Q.3 Explain the significance of Portuguese colonization in India.

10M

Q.4 Discuss pointwise, the difference between ANY ONE of the following with appropriate sketches:

10M

- Modernism VS Post-modernism
- Classical era VS Modernism

Q.5 Make proportionate sketches and highlight the relevant architectural style for ANY TWO of the following:

10M

- One building in Mumbai city existing today
- One building from the French colonization
- One building from the Art Deco precinct in Mumbai
- One building from the Deconstructivist style of architecture.

Q.6 Describe the Deconstructivist style of Ar. Zaha Hadid with sketches of any two projects.

10M

Q.7 Discuss the planning and development of Bombay. Consider the design and geographical setting of the ports, Fort and the railway line at Bombay. Also consider the impact of various events and how these events affect the development of Bombay.

10M





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How Balkrishna Doshi Bent Le Corbusier's Modernism to the Needs of India

By Samanth Subramanian

A quiet, lank-haired man of ninety, Doshi is no starchitect. He hasn't dreamed up opera houses and museums in cities around the world; he hasn't even designed airport terminals or skyscrapers in India. Instead, in a career that has spanned seventy years, he has focussed on public institutions: universities, libraries, performance-art centres, and low-cost housing complexes. He committed early to sustainability—not necessarily out of any premonition about the environment but because to be sustainable was to be local. Doshi wanted his buildings, above everything, to be of the place where they reside, of its weather and its vegetation, and of the rhythms of its people's lives.

When Doshi first studied architecture, in Bombay, in the late nineteen-forties, his courses taught nothing about Indian styles of building; indeed, he felt his education to be so deficient that he travelled to London, stayed with a friend, and schooled himself every day in the library of the Royal Institute of British Architects. At a conference in England, Doshi met Le Corbusier, the modernist wizard who had been commissioned to lay out the new Indian city of Chandigarh, and to design several of its buildings. Having wangled a job out of the elder architect, Doshi moved to Paris to work in his atelier, where he stayed for four years. In the newly independent India of the time, modernism was as much a political project as an architectural one. The hallmarks of Le Corbusier's style—the shells of poured concrete, the industrial spirit, the monumentality—sang of the future, and Doshi wanted to be part of it. “Le Corbusier didn't pay me for eight months, I had hardly any money,” he said, in a documentary about his life, in 2009. “Eight months with olives and cheese and bread, that's all.”

The Chandigarh project, though, brought Doshi mixed satisfaction. Le Corbusier, he later said, was new to the challenges of building in India—“the relentless sun, the hot winds. . . the fury of the monsoon.” Realizing that his designs had to have “a pact with nature,” Le Corbusier set about breaking the fierce stare of the sun, and he introduced ways for air to flow through his structures. Yet his buildings—a legislative assembly, a courthouse, a secretariat, and several others—looked as if they'd been imported whole and plunked down in India; they bore no relationship to the country around them. The city plan discouraged mixed-income neighbourhoods and street bazaars, both vital to the character of Indian towns. Chandigarh had streets and open spaces, Doshi realised, but it had no life.

Doshi's first projects nevertheless retained many of Le Corbusier's influences. An archive called the Institute of Indology, shaped as an ark-like refuge for the manuscripts within, was an edifice of modernist concrete. Its corridors, looping around the outside of the building, were open to the air; the basement allowed natural light, tempered to a Corbusian softness. But Doshi felt that his buildings looked foreign, that they had no roots in the soil. “He switched to using more bricks, the kind found in this part of the world,” Nimish Patel, a fellow-architect in Ahmedabad, told me. “He reduced the scale. Most of his buildings are quite humane, not as large as Le Corbusier's.” Doshi wanted his structures to be spaces for communal interactions—to host, as he put it in a talk in 1981, “the relations of classes and communities in their depth, their mutual actions and reactions. In short, the whole web of life.”

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Vision : To be the most sought after Technical campus that others would wish to emulate.