



Knowledge Resource & Relay Centre (KRRC)

AIKTC/KRRC/SoA/ACKN/QUES/ 2018/19,

Date: 25/07/2019

School: SoA-CBSGS

Branch: SoA

SEM: III

To,
Exam Controller,
AIKTC, New Panvel.

Dear Sir/Madam,

✓ (ATKT)

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			✓	02
2	Theory and Design of Structures			✓	02
3	Architectural Building Services			✓	02
4	Humanities			✓	02
5	Environmental Studies				
6	Architectural Representation & Detailing				

Note: SC - Softcopy, HC - Hardcopy

(Shaheen Ansari)
Librarian, AIKTC



**ANJUMAN-I-ISLAM'S
KALSEKAR TECHNICAL CAMPUS, NEW PANVEL**

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

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

**B.ARCH. SECOND YEAR- SEMESTER III
APRIL 2019 REGULAR/KT EXAM**

Subject: Architectural building construction and materials - iii
Maximum Marks- 50
Date: 23/04/2019

DURATION: 3 hours

Notes:

- All Questions are compulsory.
- Numbers on the right hand side indicate marks for each question.
- Start answer of every new question on a new page.
- Assume suitable data wherever necessary.
- All sketches and drawing should be properly labelled and must have required nomenclature and dimensions.

Q.I Draft the following in suitable scale. (any 1)

(marks – 20)

1. Draft a neat and labelled plan and section of RCC footing

Footing Type	Excavation depth	P.C.C. Size	Footing Size	Footing Height	Reinforcement both direction	Column Reinforcement	8 mm Stirrups for column
Isolated column footing (230 x 750mm)	(2.05 x 2.80 x 2.15) in metre	(1.75 x 2.5) in metre	(1.5 x 1.9) in metre	0.75 m	Provide bottom and top layer bar with supporting bars	4 Nos. 20 mm ϕ at corners 8 Nos. 16 mm ϕ Total 12 Nos. bars With system of stirrups	10 cm c/c upto footing top, above footing top 20 cm c/c

OR

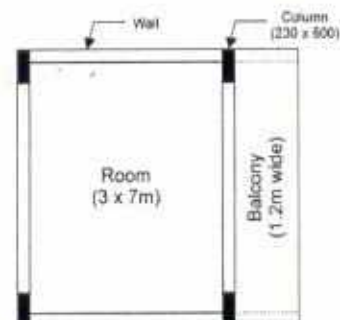
2. Draft neat and labelled plan, short and long section of one way slab bar diagram with cantilever balcony

Given dimension 3.46 x 7.46m effective span,

Column size 230 x 600 mm, all beam size 230 x 600 mm,

Balcony projected 1.2m as cantilever.

All Wall Thickness 230 mm



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Q.II Draft the following in suitable scale. (any 1)

(marks - 14)

1. A staircase in RCC is to be constructed to reach first floor level 3.6m from ground floor. Draw plan and section explaining reinforcement detail.
2. Draw plan and sections of a RCC two way slab having clear span of 4m X 5m

Q.III Answer the following questions. (any 8)

(marks - 16)

1. What percentage of load does PCC bed take in Frame Structure ?
a. 0 %
b. 100 %
c. 50 %
d. 75%
2. Which of the following is not a method of Curing of Concrete ?
a. Ponding with water
b. Covering of concrete with wet sands
c. Covering concrete with dry sands
d. Applying curing compounds
3. What is the weight of cement bag ?
a. 25 Kg
b. 50 Kg
c. 30 Kg
d. 20 Kg
4. For Ordinary Portland Cement, the Curing period is about _____.
a. 3 to 10 Days.
b. 14 to 21 Days.
c. 7 to 14 Days.
d. 21 to 28 Days.
5. In order to measure the workability of concrete mixture, Which test is most commonly used in the field ?
a. Bulking Test
b. Slump Test
c. Concrete block Test.
d. Water Cement Test.
6. The Specified Compressive Strength of M15 concrete mix at 28 days is _____ N/mm².
a. 15 N/mm².
b. 28 N/mm².
c. 7.5 N/mm².
d. 14 N/mm².
7. Explain with sketch whats are Winders in staircase ?
8. Explain curing of concrete?
9. State True or False and explain the answer, Concrete has high Tensile Strength?
10. In heavy floor beam, what is the name of bar provided between two layer bottom steel bars, what is the maximum diameter taken and justify the function of said bar ?

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SECOND YEAR B.ARCH - SEMESTER III (APRIL 2018-19 ATKT EXAM)

SUBJECT: THEORY AND DESIGN OF STRUCTURES III

Duration: 2 hours

TOTAL MARKS: 50

Date: 22/04/2019

Notes:

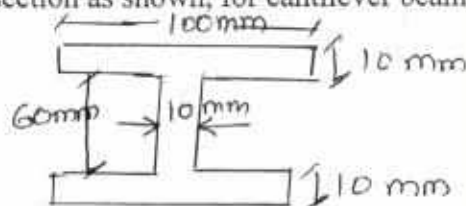
- 1) Question No 1 is compulsory.
- 2) From question no 2, 3, 4 - Attempt any two questions.
- 3) Assume $E = 2 \times 10^5$ MPa.
- 4) Use of non-programmable calculator is allowed.
- 5) Assume additional data and draw sketches wherever necessary, and specify the same.

Q1) Attempt any four

(20M)

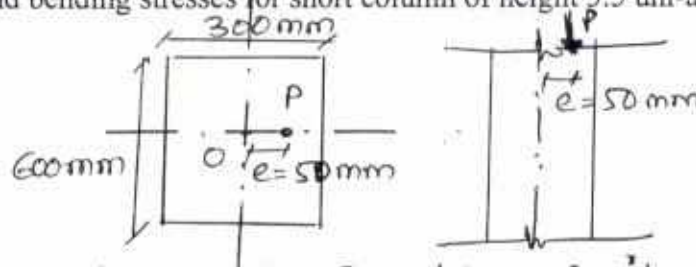
- i. What is shear stress and draw its profile for solid rectangular, I and T section.
- ii. Write simple bending theory and its assumptions.
- iii. Draw deflected profiles of simply supported, cantilever, overhang and continuous beam.
- iv. What is initial & final setting time, standard consistency and compressive strength of cement?
- v. Write down grades of concrete and steel. Also explain the curing process and lab testing.

Q2) Calculate bending stress of symmetrical I section as shown, for cantilever beam carrying udl of 6 kN/m over the span of 4.5 m. (15M)



Q3) Calculate deflection and slope for simply supported beam of 3.2 m span carrying point load of 15 kN at the centre of hollow rectangular section of 230 x 450 mm & thickness 25 mm. (15M)

Q4) Compute direct and bending stresses for short column of height 3.5 uni-axially eccentrically loaded as shown. (15M)



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SECOND YEAR B.ARCH- SEM III ATKTK EXAMINATION APRIL 2019

Subject: Architectural Building Services

Max Marks: 50

Date: 24/04/2019

Duration: 2 Hrs

Q.2 and Q.5 are compulsory, Attempt any 2 out of remaining.

Draw proportionate sketches wherever necessary. Write answers in pointers.

-
- Q.1. Write notes on following.(Any 2)
- a. Tapping a connection for water supply into Municipal water mains
 - b. Average daily water consumption
 - c. Bib tap and Pillar tap 10M
- Q.2. Draw neat section through underground and overhead water tank. 15M
- Q.3. Describe the water treatment process with necessary sketches. 10M
- Q.4. Explain with sketches - Isolating and regulating valves used in water supply system. 10M
- Q.5. Design a water supply system for a multistoried residential building with 80 users.
- A. Calculate Underground water tank capacity
 - B. Calculate Overhead water tank capacity
 - C. Write in brief about where the tanks should be located in the premises, with reasons. 15M
- Q.6. Describe the water treatment process with necessary sketches. 10M

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B.ARCH. SECOND YEAR - SEMESTER III (APRIL 2019 ATKT EXAM)

SUBJECT: Humanities

Duration: 2 hours

TOTAL MARKS: 50

Date: 25/04/2019

Notes:

- Answer any **Five questions**.
- Numbers on the right hand side indicate marks for each question.
- Support all answers with neat sketches.
- **Assume relative data as applicable.**

-
- Q1. Sketch Geographical stages of Spread of Islam (10 M)
- Q2. Sketch the layout of a mosque and explain its components. (10 M)
- Q3. Sketch basic layout of a Jewish Prayer house and label its interior elements. (10 M)
- Q4. Draw and write briefly on the following-(Any 2)
- a. Synagogues
 - b. Vatican City
 - c. Five Pillars Of Islam
 - d. Tabernacle
 - e. Chapel in Catacomb (10 M)
- Q5. Explain the important factors that have assisted spread of faith. Support answer with examples and sketches. (10 M)
- Q6. What were the major reasons of the establishment of Christianity as a Religion. (10 M)
- Q7. Briefly describe and sketch the evolution of church forms. (10 M)

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