School of Architecture

School of Engineering & Technology

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Knowledge Resource & Relay Centre (KRRC)

AIKTC/KRRC/SoA/ACKN/QUES/   /   **Date:** _____

School: __SoA-CBSGS__   **Branch:** __SoA__   **SEM:** ____III____

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			✓	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

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B.ARCH. SECOND YEAR- SEMESTER III
OCTOBER 2018 REGULAR/KT EXAM

Subject: **Architectural building construction and materials - iii**
Maximum Marks- 50
Date: 22/10/2018
　　　26

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 Answer the following in one sentence or correct the statement or fill in the blank. (any 6)

   (Q.1 & Q.2 is compulsory)　　　　　　　　　　　　　　　　　　　　　(marks - 12)

1.　　In Frame structure what is the reason of providing ground beam $2/3^{rd}$ of total depth below the existing G.L.
2.　　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.
3.　　State the reason why we provide PCC bed below the RCC footing?
4.　　What is the need of sunken slab in toilet?
5.　　What percentage of load does PCC bed take in Frame Structure
6.　　Sketch and explain cantilever Chajja.
7.　　Explain the difference between effective span and clear span with a neat sketch

Q.II Answer the following qusetion with appropiate sketches.(any 2)　　　　(marks - 20)

1. Draw Section of RCC staircase as per given data
First landing height from plinth top - 1950 mm, bottom steel bar - 12mm ⌀ 100 mm c/c, extra bent up bar 12mm ⌀ passing landing beam at L/5, plinth beam 230x 450mm, assume plinth top from G.L.

2. Draw a neat sketch (plan and section) of RCC Two way slab having clear span of 5m x 4m

3. Explain and draw a neat sketch of bifurcated staircase, segmental staircase and any other two type of staircases.

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Q.III Draft the following in suitable scale. (any 1)   (marks – 18)

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

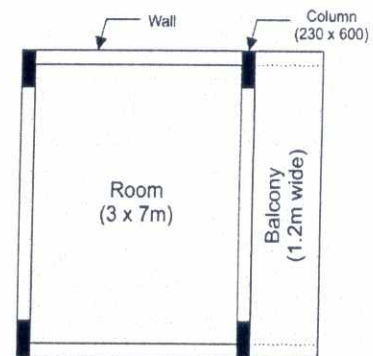| Footing Type	Excava-tion Size	P.C.C. Size	Footing Size	Footing Height	Reinforcement both direction	Column Reinforce-ment	8 mm Stirrups for column
Isolated column footing (230 x 750mm)	(2.05 x 2.80 x 2.15) in metre	(1.75 x 2.5) in metre	(1.5 x 1.9) in metre	0.75 m	Provide bottom and top layer bar with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

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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SECOND

B.ARCH. THIRD YEAR- SEMESTER 3 (OCTOBER 2018-19 REGULAR EXAM)

SUBJECT: THEORY AND DESIGN OF STRUCTURES III

Duration: 2 hours

TOTAL MARKS: 50

Date: 27/10/2018

Notes:

9) **Question No 1 is compulsory.**

10) **From question no 2, 3, 4 - Attempt any two questions.**

11) Assume $E = 2 \times 10^5$ MPa.

12) 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, solid circular and T section.

ii. What is Simple Bending Theory and write its assumptions.

iii. Explain the performances of of any three sections of beam in bending and shear stress, if area is kept same for all.

vi. Write procedure of cement testing in lab.

iv. Write the procedure of Bulking of Sand.

Q2) Calculate bending stress of symmetrical I section as shown, in fig (a) (15M)
for simply supported beam carrying udl of 4 kN/m over the span of 5 m.
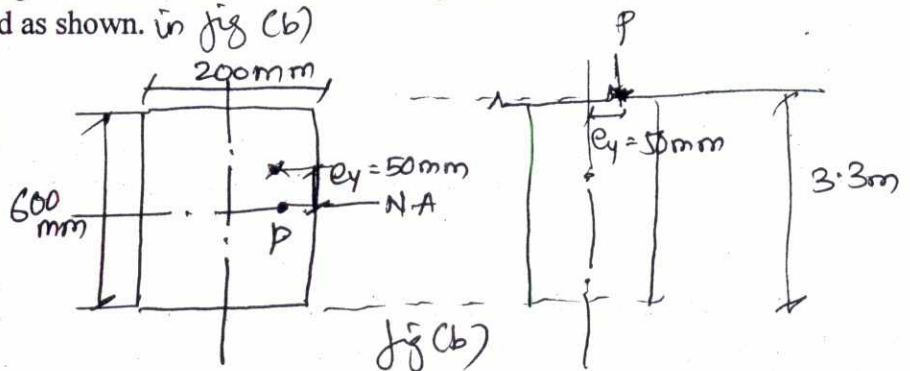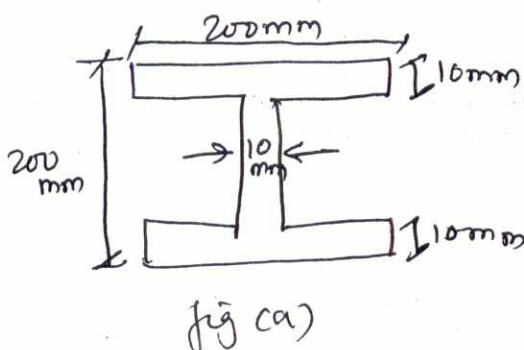
Q3) Calculate deflection and slope for cantilever beam of 3.5 m span carrying point load of 5 kN at the free end of solid rectangular section of 200 x 500 mm. (15M)

Q4) Compute direct and bending stresses for short column of height 3.3 m (15M)
uni-axially eccentric loaded as shown. in fig (b)

fig (a)

fig (b)

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B.ARCH. SECOND YEAR- SEMESTER-3, OCTOBER 2018

SUBJECT: Arch. Building Services

Duration: 2 hours

TOTAL MARKS: 50

Date: 29/10/2018

- Question no.1 & 5 are compulsory, attempt any 2 from remaining.
- Numbers on the right hand side indicate marks.
- Draw neat and proportionate sketches wherever required.

Q1. **Write Notes on following:** {20}

a. Draw a labelled section through wash basin with bottle trap showing water seal.

b. Elaborate "Average daily water consumption"

c. Bib tap and Pillar tap

d. Explain the function of a trap in sanitary systems.

Q2. a. Explain with sketches the secondary process of water treatment.

b. Draw & explain assembly of pipes near water mains, to tap a connection from it. {10}

Q3. What are different isolating and regulating valves used in water supply systems? {10}

Q4. Explain Underground and Overhead water tank with sketches. {10}

Q5. Design a water supply system for a multistoried residential building with 80 users. {10}

A. Calculate Underground water tank capacity and its size

B. Calculate Overhead water tank capacity and its size

C. Write in brief about where the tanks should be located in the premises, with reasons.

Innovative Teaching Exuberant learning

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B.ARCH. FIFTH YEAR- SEMESTER III (OCTOBER 2018-19 REGULAR EXAM)

SUBJECT: Humanities

Duration: 2 hours

TOTAL MARKS: 50

Date: 25/10/2018

Notes:

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

Q1. Write briefly on Judaism in India. (10 M)

Q2. Draw and describe in detail any Mosque. (10 M)

Q3. Sketch basic layout of a Church and compare it with a Roman Basilica. (10 M)

Q4. Draw the stages of evolution of a Mosque Forms. (10 M)

Q5. Draw and describe in detail any Mosque. (10 M)

Q6. Draw at least 3 important Elements of Mosque. (10 M)

Q7. Write briefly on the linkages between Islam, Christianity and Judaism. What are the
major reasons of Conflict? (10 M)