



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,
Recognised by : Directorate of Technical Education, Govt. of Maharashtra, Affiliated to : University of Mumbai.

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

B.ARCH. SECOND YEAR- SEMESTER III (NOVEMBER 2016-17 REG EXAM)

SUBJECT: Architectural Building Construction

Duration: 2 hours

TOTAL MARKS: 50

Date 30/10/2017

Notes:

- Questions number 2 and 4 are compulsory ..
- Numbers on the right hand side indicate marks for each question.
- Support all answers with neat sketches.

Q.1 Define & sketch the following (Attempt any 1)

(10 MARKS)

A) Two way slab reinforcement details (two different methods plan / section) .

B) One way slab (two different methods plan / section) .

Q.2 Sketch (2-3) typical arrangements of ties (stirrups) and links for columns size (10 MARKS)

(i) 230 (W) X 450 (D)

(ii) 300 (W) X 600 (D)

Q.3 Daft a typical section through column from footing to the terrace level .

(20 MARKS)

Consider structure to be G+2 .

OR

Q.3 Design a R.C.C staircase connecting from ground floor to terrace level of G+2 storey structure. Minimum flight width has to be 1500mm.

- Draw plan and key section with Reinforcement details and nomenclature at 1:100 scale .

Q.4 Sketch junction between beam and column in R.C.C structures.

(10 MARKS)

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SECOND YEAR B. ARCH- SEMESTER III EXAMINATION NOVEMBER 2017

SUBJECT: Theory and Design of Structures III.

Duration: 2 hours

TOTAL MARKS: 50

Date: 31/10/2017

Notes:

- 1) Question no 1 is compulsory, attempt any 3 questions from the remaining 4 questions.
- 2) Figures to the right indicate full marks.
- 3) Assume suitable additional data, if necessary and state clearly the same.
- 4) Use of non- programmable scientific calculator is permitted.

Q.1. Attempt any 4.

[20]

- i) Write a note on the different grades of Concrete and Steel used in R.C.C.
- ii) Explain the need of composite sections for beams.
- iii) Why and where does steel come in R.C.C. sections. Explain in detail.
- iv) Explain Flexural formula and explain the terms used, with units.
- v) Define Initial setting time, Final setting time, Workability, Consistency and strength of concrete.

Q.2. A beam cross section shown below (fig. 1) is simply supported over a span of 4m and carries a load of 5kN/m. Find:

[10]

- i.) The stresses in extreme fibres;
- ii.) Stresses at the junction of flange and web;
- iii.) Compressive and tensile forces developed in the cross section

Q.3. a.) A simply supported beam, 5m long, carries a u.d.l. of 1.5kN/m. $EI = 60 \times 10^9 \text{ Nmm}^2$

Find slope at the ends and deflection at the centre.

[6]

b.) Find the slope and the deflection of the cantilever beam shown below (fig.2)

[4]

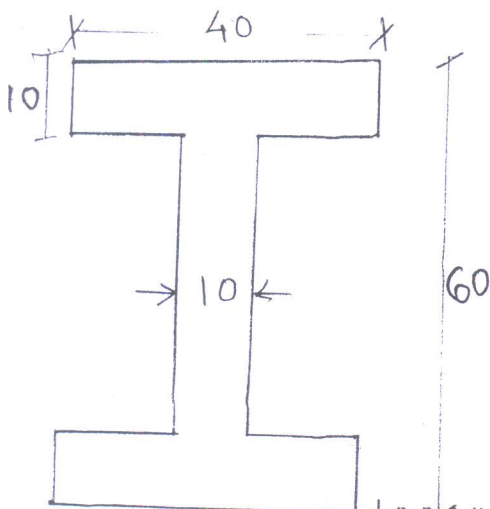


Fig. (1)
Q. 2

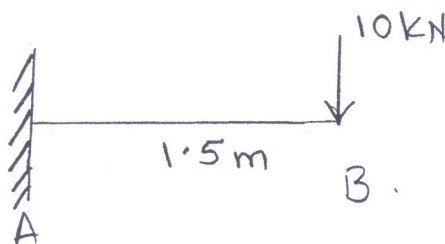


Fig. 2. Q. 3 b)
 $EI = 70 \times 10^9 \text{ Nmm}^2$

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Q.4. a.) Explain what is meant by Limit of Eccentricity. Find it for a circular section. [4]

b.) Find the stresses developed at the four corners of the masonry column shown below.(fig.3)

When, a load of 800kN is placed at the point P. [6]

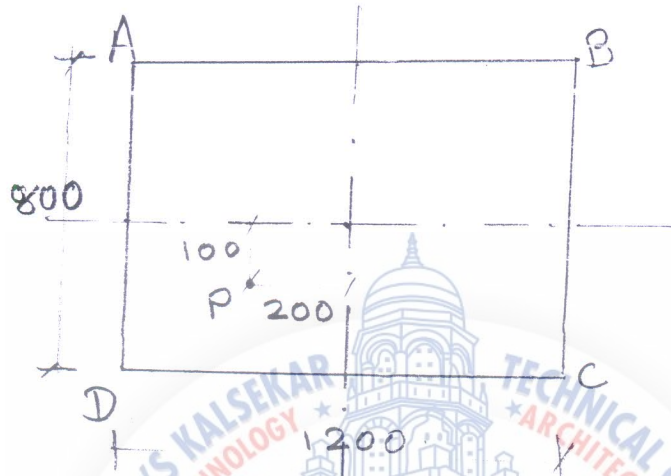


Fig. 3 @ 4.b)

Q.5. a.) Draw detailed cross section and longitudinal section of an R.C.C. beam. [5]

b.) Draw detailed cross sections along both the directions of a two way slab. [5]





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B.ARCH. SECOND YEAR- SEMESTER III (NOVEMBER 2016-17 REGULAR EXAM)

SUBJECT: Humanities

Duration: 2 hours

TOTAL MARKS: 50

Date: 02/11/2017

Notes:

- Answer **five** questions from the given **seven** options.
- Numbers on the right hand side indicate marks for each question.
- Support all answers with neat sketches.

- Q1. Draw the 3 important Spaces of Prayer in Islam (10 M)
- Q2 Draw the three important type of Mosque plans. (10 M)
- Q3. Write the story behind formation of St. Peter's Basilica. (10 M)
- Q4. Draw and write briefly on the following- (Any 2) (10 M)
- a. Ark of the Covenant
 - b. Church of the Holy Sepulcher
 - c. Prophet's Mosque
 - d. Wailing wall
 - e. Ka'bah
- Q5. Briefly describe Caravaggio and Rembrandt painting of event "Sacrifice of Isaac. (10 M)
- Q6. Draw at least 5 important Elements of Mosque. (10 M)
- Q7. Write briefly about three sister religions. (10 M)



B.ARCH. SECOND YEAR- SEMESTER III, NOV-DEC 2017

SUBJECT: Arch. Building Services

Duration: 2 hours

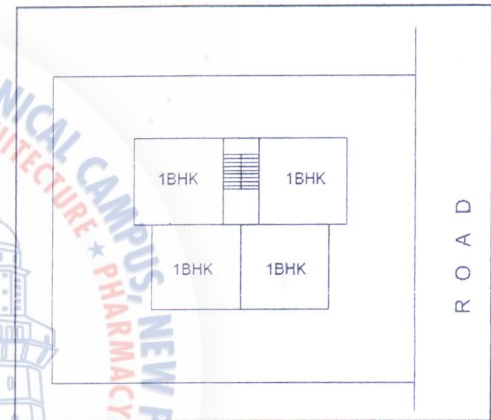
TOTAL MARKS: 50

Date: 01/11/2017

- 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. Design a water supply system for a "Stilt + 7" floor residential building with four numbers of 1BHK flats on each floor. {15}

- Calculate Underground water tank capacity
- Calculate Overhead water tank capacity
- Mark the location of Underground and Overhead water tanks and necessary connections



Q2. Write short Notes on any two: {10}

- Water Supply Connections from water mains till Underground Water Tank
- Average daily water consumption
- Grey water and black water

Q3. Describe the water treatment process with necessary sketches. {10}

Q4. Explain various types of valves used in water supply systems. {10}

Q5. Explain Underground and Overhead water tank with sketches. {15}