ANJUMAN-I-ISLAM'S

KALSEKAR TECHNICAL CAMPUS, NEW PANVEL

School of Architecture

Approved & Recognised by: All India Council for Technical Education and Council of Architecture, New Delhi

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

FIRST YEAR B.ARCH- SEM II EXAMINATION APRIL 2016

Subject: Theory and Design of Structures II.   Max Marks: 50

Date: 11/04/2016   Duration: 2 hrs.

Note : 1) **Question no. 1 is compulsory**. Attempt any 3 from remaining four questions.

2) Figures to the right indicate full marks.

3) Assume suitable data wherever necessary, and state clearly the same.

4) Use of non-programmable scientific calculators is allowed.

Q 1] Attempt any 4.   [20]

a) Define - Stress, Strain, Modulus of Elasticity, Poisson's Ratio and Tensile Force.
b) Write a short note on Hooke's Law.
c) Explain Centroid and Centre of Gravity.
d) Give the S.I. units of- Shear Force, Bending Moment, Moment of Inertia, Young's Modulus and strain.
e) Explain what are Shear force diagrams (SFD) and Bending Moment Diagrams (BMD)

Q 2] a) Find the Centroid of the cross section ~~Recullent~~ shown in Fig 1.   [4]

b) Find the Moment of Inertia I_{xx} and I_{yy} of the fig shown in Fig 1.   [6]
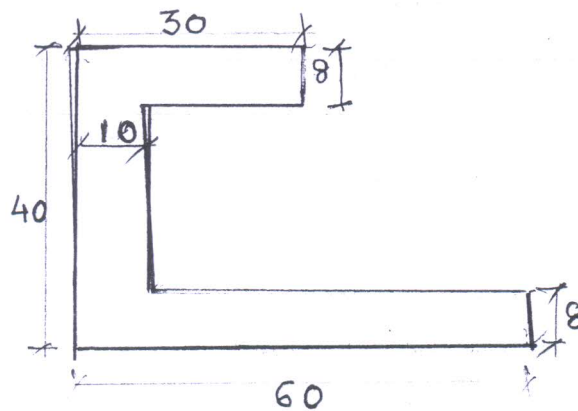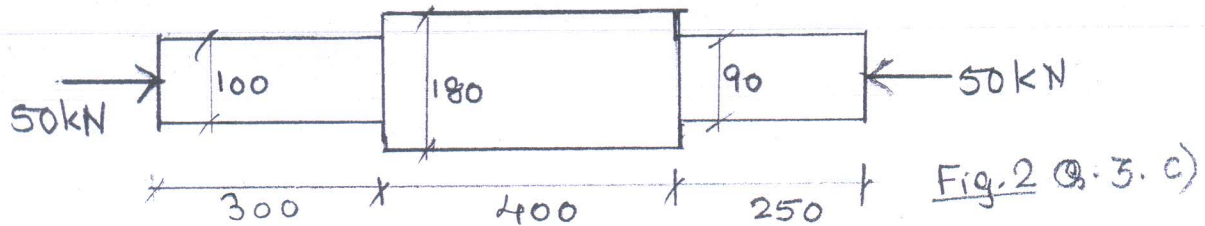

Fig. 1.
Q. 2 a) & b)   PTO

Q 3] a) Explain the Principle of Superposition [2]

b) Write the values of Modulus of Elasticty (E) of timber, steel & concrete. [3]

c) Find the Strain developed in the steel bar shown in Fig. 2 [5]

Fig.2 Q.3.c)

Q 4] Analyze the Beam shown in Fig 3. and draw SFD and BMD. [10]
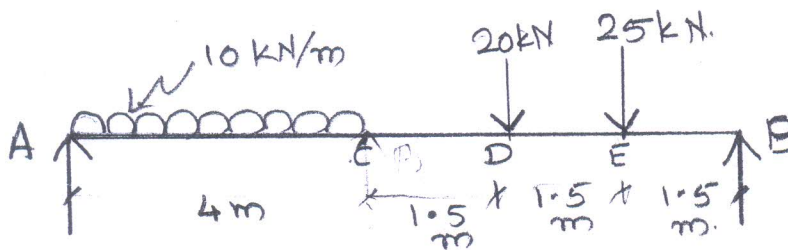

Fig 3 . Q . 4.

Q 5] a) Draw the Deflected profiles of the Beams shown in Fig .4 [4]

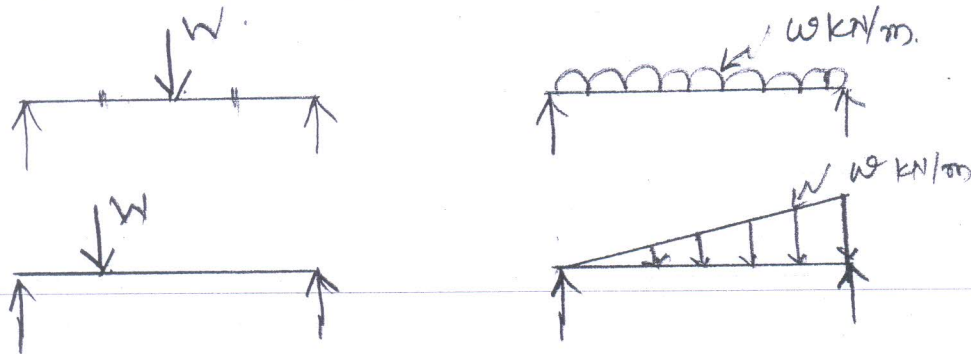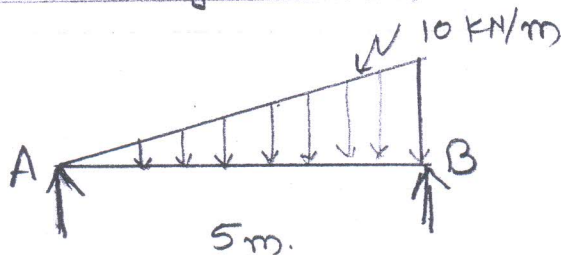b) Analyze the Beam shown in Fig 5 and draw SFD and BMD [6]

Fig.4 Q.5.a)

Fig.5 Q.5.b)

Symbol of Secularism
& National Integration

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SEM-II
HUMANITIES.
2015-16
April

FIRST YEAR B.ARCH- SEM II EXAMINATION ~~NOV~~ APR 2016

Subject: Humanities
Max Marks: 50
Date: 11/04/2016   Duration: 2 Hrs

ANSWER ALL QUESTIONS THROUGH INFO-GRAPHICS AND WRITE WHERE REQUIRED.
ANSWER ANY FIVE.
EACH QUESTION CARRIES 10 MARKS

1.   The image below talks about a story.
Weave your story around the image. The story could be a poem or a   comic strip or a story board.
The story shall look at any of the following keywords
Urban clutter, transformation, adapt, clusters, makeshift, chaos, temporal


2.   How did language evolve? How has his nomadic life, the pursuit of power, resources, and wealth influenced language? But what about writing? Why did man feel the need to write? Create a hypothetical situation along a river and explain.

3. From the early cave paintings to the modern art, how has art influenced man and his nature. The journey of man through time with art as an expression, an impression,

4. Amun and Schindler both had the power to change, but their understanding of power was different. Write a review on the movie drawing focus on the protagonist.

5. Its WWII, and you are a Jew.the only way is to hide, what changes would you do to your house to create the perfect hiding spot. Elaborate on your ideas and sketch them.

6. Design a chair, drawing inspiration from the School of Bauhaus and their ideology.

7.

"The Taliban thought it had destroyed one of the world's wonders, the monumental Buddha statues of the Bamiyan Valley.But the Buddhas shine again in the towering cutouts in the mountainside where they stood for centuries. They are back, thanks to 3-D light projection. And they look great. "

What are your views on this ?

8. Draw a your college campus (as shown in your prospectus) in the following styles.
i) Cubism
ii)surrealism
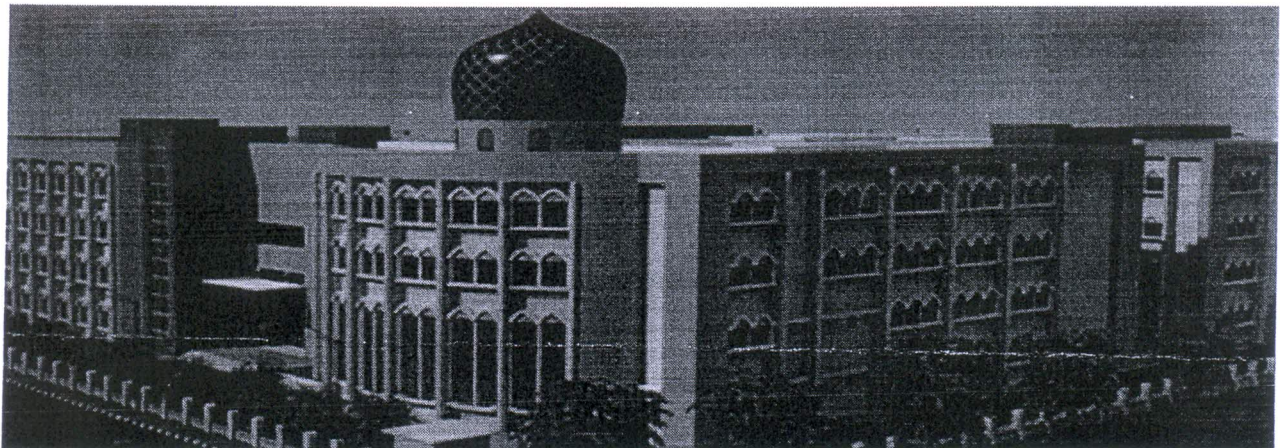
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FIRST YEAR B.ARCH- SEM II EXAMINATION APRIL 2016

Subject: Architectural Building Construction and Materials
Max Marks: 70

Date: 16/04/2016   Duration: 3 Hrs

Notes:

- **All questions are compulsory.**
- **Numbers on the right hand side indicate marks.**
- **Draw neat and proportionate sketches wherever required.**

Q1. Draw any 5 types of timber joinery details: {10}

Q2. a) Draft a plan and isometric view of 1 and half brick thick L junction.   {06}

OR

Q2. b) Draft a plan and elevation of 1 and half brick thick T junction in an English Bond wall.

Q2. c) Draw an Elevation and section of a
coursed rubble masonry compound wall 1.8 m high   {04}

Q3. What are Cavity walls? Explain the importance of cavity walls in temperature and sound control.   {05}

Q4. Draw Sketches of the following: (Any 2)   {10}
a. Florentine arch (1.8 m span)
b. Section and elevation of Ashlar stone masonry
c. Plan and isometric of L junction in 1 brick thick wall
d. Section and elevation of uncoursed stone masonry

Q5. Answer any one of the following (a or b)   {08}

    a) What are tensile structures? Sketch the commonly found shapes in tensile structures.

    State any 4 examples of tensile structures / elements found in nature

<p align="center">OR</p>

b) Explain the process of construction of a brick arch.

Define the following elements of an arch

  i.   Voussior

  ii.   Abutment

  iii. Intrados

  iv. Keystone

Q6. Answer any one of the following (a or b)   {04}

a) What is cladding. Mention the merits and demerits of cladding

<p align="center">OR</p>

b) What is the difference between dry and wet methods of cladding installation. Explain them.

Q7.a) Explain how arches are stable under a vertical load. Draft the elevation of a circular arch

(1.5m span) and a semicircular arch (2m span) showing all the elements of the arch.   {15}

<p align="center">OR</p>

Q7.b) Design a partition wall in the area highlighted in figure 1

Q8. Answer any one of the following (a or b)   {05}

  a. What is the difference between a load bearing and a frame structure?.

<p align="center">OR</p>

  b. Explain the meaning and importance of a DPC, drip mould and plinth protection

Q9. Sketch section AA as shown in figure 1 (Consider tread= 300mm and riser= 150mm)   {03}

Screened Porch

Family Room
17/4 x 17/8

Living Room
12/0 x 17/6

Front Porch

A   A

3 M

Breakfast
9/8 x 11/4

Kitchen
17/4 x 11/4

Dining Room
13/0 x 11/0