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.
☐ SCHOOL OF ENGINEERING & TECHNOLOGY
☐ SCHOOL OF PHARMACY
☑ SCHOOL OF ARCHITECTURE

FIRST YEAR B. ARCH- SEMESTER IIEXAMINATION April 2018 (Reg.)

SUBJECT: Theory and Design of Structures II. Duration: 2 hours

TOTAL MARKS: 50 Date: 17/4/2018

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]**

a) State and Expalin Hooke's Law.

b) Explain Flexural Formula.

c) Expain SFD and BMD, give the relation between the two.

d) Explain Centre of Gravity and Moment of Inertia. Write their Units.Draw and locate CG of circle and Rectangle.

e) Explain how to find Centre of Gravity of Asymmetric figures.

Q.2. a) Analyze the Beam shown in Fig.1, Draw SFD and BMD. [4]

b) Analyze the Beam shown in FIg.2. Draw its SFD and BMD. [6]

Q.3. a) Define Stress, Strain, Modulus of Elasticity, write their units. [4]

b) Find the total Elongation of the Steel rod shown in Fig.3 [3]

c) Explain with sketches the different types of Stresses. [3]

Q.4 a) Analyze the Beam shown in Fig.4. Draw SFD and BMD. [6]

b) Draw deflected profiles for the Beams Shown below. Fig. 5 [4]

Q.5. a) Find the Centre of Gravity of Fig 6. [4]

b) Find the Moment of Inertia of Fig 6. [6]

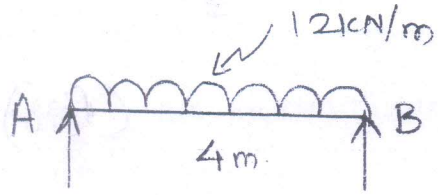

Fig. 1. Q. 2. a)

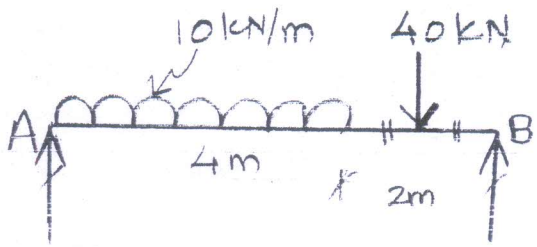

Fig. 2. Q. 2. b)

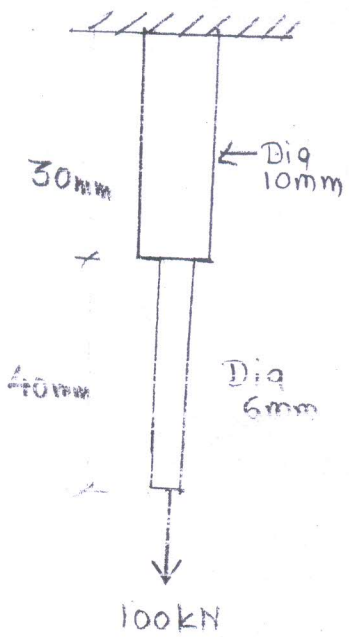

Fig. 3. Q. 3. b)

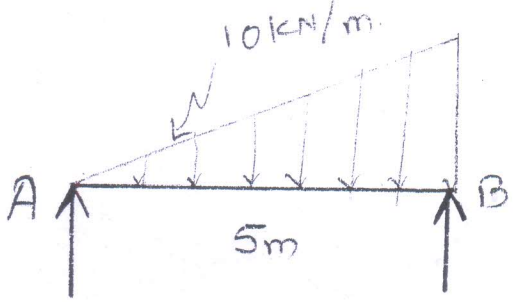

Fig. 4. Q. 4. a)

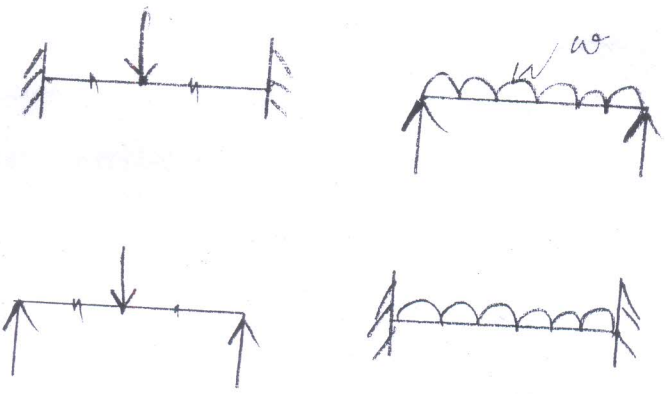

Fig. 5. Q. 4. b)

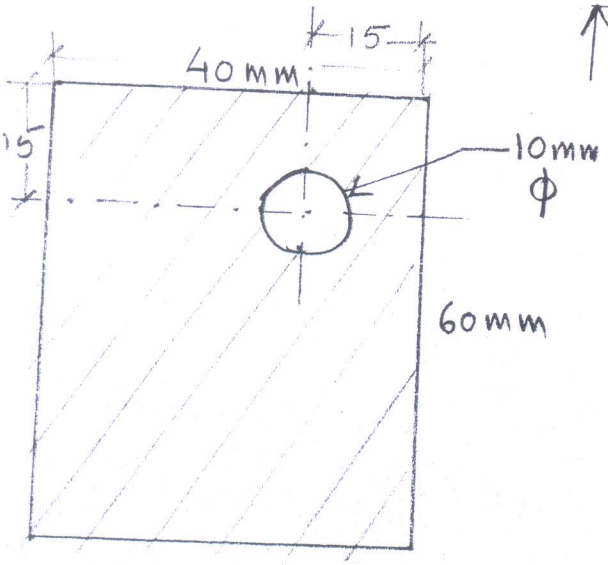

Fig. 6 Q. 5 a), b)

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B.ARCH. FIRST YEAR - SEMESTER II (APRIL 2018)

SUBJECT: **ARCHITECTURAL BUILDING CONSTRUCTION** Duration: **3 hours**

TOTAL MARKS: **70** Date: **18/04/2018**

Notes:

- All questions are compulsory .
- Numbers on the right hand side indicate marks for each question.
- Support all answers with neat and labelled sketches.

1. **Draft** an **Equilateral Arch** OR **Segmental Arch. Span- 10 m** at **Scale of 1:10**.....**10 marks.**
   Explain in terms of
   I. Possible **Materials.**
   II. **Components** of Arches.
2. What are **Lintels?** Explain **Components** and **Types** of Lintels .....**05 marks.**
3. Explain in detail **the construction** of an Arch with Any 1 example.....**05 marks.**
4. What is **Specification**? Explain **the necessity** of Specifications.....**05 marks.**
5. Explain in detail on **how to write** the Specifications?.....**05 marks.**
6. Explain with sketches on **how to choose a material palette** for a building which is to be designed in
   Assam OR **Goa** OR **Jaipur**
   With respect to
   1. Properties
   2. Climate
   3. Advantages
   4. Disadvantages.....**10 marks.**
7. **Define** and **Explain** with examples what are **Envelopes and Cladding** in architectural context to a building.....**05 marks.**
8. Explain with help of sketches
   Random Rubble Masonry and its types and Ashlar Rubble Masonry.....**05 marks.**
   OR
   Define and explain the **difference between Cement and Concrete?**
   What is **Curing?**.....**05marks.**
9. What are **Load Bearing Structures and Framed Structures?**
   Write the **Advantages and Disadvantages** for the same.....**10 marks.**

10. **Explain** the following **Materials with Properties, Advantages and Disadvantages**
    1. Timber
    2. Stone
    3. Mud
    4. R.C.C.
    5. Steel .....**10 marks.**

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FIRST YEAR B.ARCH - SEM II EXAMINATION APRIL2018

Subject - Humanities
Max Marks - 50
Date -19/04/2018 Duration - 2hrs.

Read questions carefully and write down with neat drawn sketches or infographics wherever necessary.
Proper sketches will carry more weightage of marks.
Answer according to the marks alloted.
Question 1 and question 4 are compulsory to attend.

Q.1 What was the most important contribution of Romans which helped to create innovative architectural forms? Draw and explain these forms.

OR

Write a note on any three of the following

a) Mastaba
b) Pyramid
c) The great sphinx of Chephren
d) Ziggurat of Ur
e) Sumerian period

15 Marks

Q.2 (Attempt any three from the following)

30 marks

A. Explain Cosmic model - Vastu Purusha mandala, explain mythology.

B. Write briefly on the general nature of city states of Ancient Greece.

C. Write short notes on

a. Stonehenge
b. Molodova

D. Align from entry till center following components of structure - Garbgriha, Mandapa, Antarala, Mahamandapa, and Ardhamandapa. Draw appropriate sketches.

E. What are classification of Ancient town? Elaborate on any one. Draw neat sketches.

Q.3 Draw neat sketch of any two of the following

5 marks

a) Corinthian order
b) Ionic order
c) Doric order