



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*

SEM-I FYB.ARCH ATKT EXAMINATION APRIL- 2015 (REVISED COURSE)

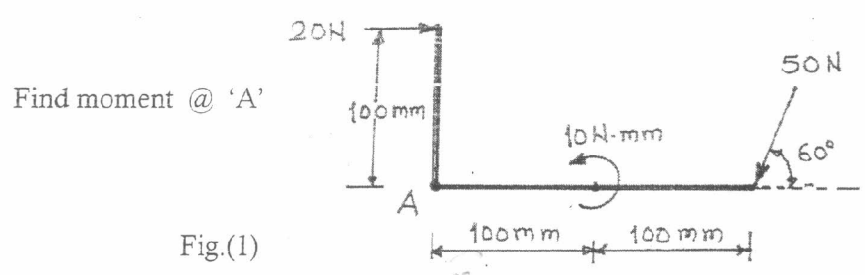
Subject: Theory & Design of Structures-I
Date: 27 / 04 / 2015

Max. Marks: 50
Duration: 2 Hrs.

INSTRUCTIONS :

- Q. NO. 1 is compulsory.
- Attempt any TWO questions out of remaining THREE questions.
- Use suitable data if necessary.
- Numbers in parenthesis are right to indicate full marks.

- Q.NO.1) a) Define Resolution of a force and Moment of a force with neat sketch. [06]
- b) Write down the S.I. units for the following physical quantities with their symbols : [06]
- i) Force, ii) Volume, iii) Velocity, iv) Area , v) Mass & vi) Time
- c) Find the moment for the structure as shown in figure (1) [06]



- Q.NO.2) Forces of 2,3,4,5 and 6 N respectively act at one of the angular points of a regular hexagon towards the other five angular points taken in order. Find the resultant of the system. [16]
- Q.NO.3) A beam ABCDE is supported at B and E, 4 m apart with overhang AB 1.5 m. BC = 1 m, CD = 1 m and DE = 2 m. There is a UDL of 15 kN/m over CE, an anti-clockwise Couple of 20 kN-m at D and downward load of 30 kN at A. Find support reactions. [16]
- Q.NO.4) Replace the system to : [16]
- A single force.
 - A single force and couple at 'A'
 - A single force and couple at 'B'.

