Symbol of Secularism
& National Integration

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 III

SEM-III   S.Y.B.ARC   HEXAMINATION

Theory & Design of Structures 3   Max. Marks: 50
Date: /04/15   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.1

a) Write the procedure for Bulking of sand.   (05)

b) Write down the grades of concrete and steel used in RCC.   (05)

c) Write down the procedure for Initial and final setting time of cement.   (08)

Q.2

a) A beam 230 mm wide, 450 mm deep is simply supported over a span of 6 m is subjected to udl of 10 kN/m . Calculate the maximum bending stress induced in the beam.   (08)

b) A Beam of uniform section is simply supported over a span of 3 m. If the point load at a mid-span is 50 KN. Calculate the maximum deflection and maximum slope in terms of EI.   (08)

Q.3

a) A rectangular section having width 250 mm and 450 mm deep is subjected to shear force of 100 KN. Determine maximum shear stress induced in the beam.   (08)

b) A rectangular column 200 mm wide and 300 mm thick carries a load of 300 KN at an eccentricity of 100 mm in the plane bisecting the thickness. Find Maximum stress and minimum stress induced in the beam.   (08)

Q.4

a) A hollow circular steel column having external diameter 200 mm and internal diameter 100 mm carries an eccentric load of 100 KN acting at an eccentricity of 50 mm. Find maximum stress and minimum stress.   (08)

b) Write down the procedure to find compressive strength of cement   (08)