



ANJUMAN-I-ISLAM'S

AKTC KALSEKAR TECHNICAL CAMPUS

INNOVATIVE TEACHING - EXUBERANT LEARNING

School of Architecture

School of Engineering & Technology

School of Pharmacy

Knowledge Resource & Relay Centre (KRRC)

AIKTC/KRRC/SoA/ACKN/QUES/ /

Date: _____

School: SoA-CBSGS Branch: SoA

SEM: IV

To,
Exam Controller,
AIKTC, New Panvel.

Dear Sir/Madam,

Received with thanks the following ^{KT} **Semester/Periodic** question papers from your exam cell:

Sr. No.	Subject Name	Subject Code	Format		No. of Copies
			SC	HC	
1	Architectural Building Construction			✓	02
2	Theory and Design of Structures				
3	Architectural Building Services				
4	Humanities				
5	Architectural Representation & Detailing				

Note: SC – Softcopy, HC - Hardcopy

(Shaheen Ansari)
Librarian, AIKTC



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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

SECOND YEAR B.ARCH- SEM IV EXAMINATION OCT 2018

Subject: Architectural Building Construction

Max Marks: 50

Date: 30/10/2018

Duration: 3 Hrs

NOTES:

Question no. 2 is compulsory, attempt any 2 questions out of remaining.

Assume suitable data. Draw neat and proportionate sketches wherever necessary.

- Q.1. Draw plan of mezzanine floor 2400 high from plinth level. 20
- 2 nos. channel for column 100 x 450 x 12 mm
200mm thick wall.
Joist 150 x 200 x 10mm placed at 450 c/c. on the column, with the help of M.S plate at top and bottom of the column.
6mm M.S. plate above and finished floor with any material.
- Prepare a plan of mezzanine floor with given information below.
Span 9.00m.
Effective span 9.23m.
Resting on 4 nos. of columns
Columns - 2 nos. of C channels (100 x 450mm)
Beam 220 x 150mm resting on top of the base plate of size 230 x 450 x 12mm.
Intermediate M.S. joist 450mm c/c, above which provide M.S. plate of size 450 x 3000 x 4mm.
Also provide carpet as finishing material.
- Q.2. Fill in the blank OR correct the sentence OR give answer in one line with justification (Any 10) 10
- a. All steel members are to be painted with suitable _____ whenever exposed.
 - b. Draw the sketch of equal and unequal angle indicating flange, fillets and web.
 - c. Steel structure is generally fireproof. Say right or wrong with justification.
 - d. Why Industries are generally constructed in steel structures?
 - e. In a factory building, steel trusses are placed 4.0M. c/c. Clear span of the truss is 9.0M. Find the effective span of thickness of the wall is 230mm.
 - f. Facia is fixed to the end of the rafter. Say right or wrong.
 - g. In sloping roof, the end triangular wall is called as _____ end.
 - h. Ridge is the apex of the roof truss. Say right or wrong.
 - i. Where are the stiffeners are used generally? Explain its function.
 - j. Which are two types of steel structures?
 - k. Draw the sketch of junction at purlin, cleat, 12mm bolts and roofing material.
 - l. Give the size of the M.S joist used in mezzanine floor with centre to centre dimension in mm to be provided above M.S. plate.



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- Q.3. Show elevation of connection of M.S. beam and M.S. column with given data below. 20
Column - ISMB 250 x 450
Beam - 160 x 400
Seat angle 100 x 75 x 8
Stiffening angle - 90 x 90 x 8
Set angle - 160 x 400 for beam.
- Q.4.A Explain in brief where and why steel grillage foundation is used. 10
- Q.4.B Show connection of equal angle purlin of suitable size with principal rafter (2 nos.)
75 x 75 x 10mm with M.S. cleat (75 x 75 x 8) with gusset plate (350 x 250 x 10m)
by using strut of 50 x 50 x 6mm. 10
- Q.5.A Draw a large proportionate elevation of bottom chord of the steel truss by using 2 nos.
of equal angle (75 x 75 x 8), strut (50 x 50 x 6) with gusset plate (300 x 300 x 10). 10
- Q.5.B Draw sectional elevation of steel grillage foundation (suitable scale) considering
data below. 10
Excavation - 3000(L) x 3000(B) x 1200 (D)
P.C.C in 1:3:6 - 2700(L) x 2700(B) x 150 (D)
Concreting above P.C.C - 2550(L) x 2550(B) x 1050 (D) upto ground level.
250mm above P.C.C top, provide M.S joist as lower ties (9 nos.) 150(W) x 200(D)
which are in concreting.
ISMB 150(W) x 300(D) as upper ties (3 nos.) in concreting.
Angle tie 50 x 50 x 6mm running end to end.
Spacing bar as per required length end to end for lower as well as upper ties.
Base plate 1200 x 1200 x 18mm above upper ties (3 nos.).
Channel section as column above (Assume suitable size).
Above ground level, take 450mm concrete otla with granite stone finishing for sitting
(1500 x 1500) on Railway platform.