SLR-Y – 1

Seat No.	

B.Arch. (Semester – I) Examination, 2015
(New) (CGPA Pattern)
THEORY OF STRUCTURE – I

Day and Date : Tuesday, 5-5-2015 Max. Marks : 70
Time : 10.00 a.m. to 1.00 p.m.

Instructions *: 1) Q.* ***1*** *and Q.* ***2*** *are* ***compulsory****.*
2) Solve ***any 3*** *questions from remaining.*

1. Select correct option for the following : **7**

I) The body which do not show deformation after application of forces is known as
   a) Static body b) Body in motion
   c) Plastic body d) None

II) Force is nothing but
   a) mass X velocity b) mass /velocity
   c) mass X acceleration d) mass/acceleration

III) Coplanar forces are those which acts on a
   a) Two plane b) Three plane
   c) One plane d) None

IV) Load shown below is known as

   a) Point load b) U.V.L.
   c) U.D.L. d) Concentrated load

V) Live load is the load which is
   a) static b) moving c) both d) none

VI) Dynamic is the branch of structure which deals with the bodies in
   a) rest condition b) motion c) both d) none

VII) The reaction at simply supported beam of span 6 m having U.D.L. of 10 KN/m will be
   a) 33 KN, 27 KN b) 20 KN, 20 KN
   c) 25 KN, 35 KN d) 30 KN, 30 KN

P.T.O.

2. A) Write a note on load bearing and framed structure. **6**

   B) Forces of 10, 20, 30, 40 KN respectively, act at one of the angular points of regular pentagon towards the other four angular points taken in order. Find the resultant in magnitude and reaction. **12**

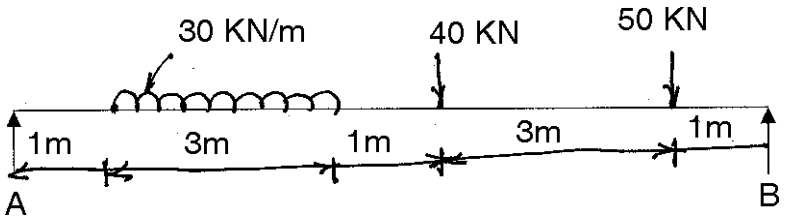
3. A) Explain in details law of parallelogram of forces. **5**

   B) Two wire AB and BC supports a load of 60 N the wire is fixed to roof at a point 'A' and to the wall at point 'C' angle AB with roof is 35° and angle of CB with wall 65°. Calculate tension in AB and BC. **10**

4. A) Write a note on type of loads considered in analysis of structure. **5**

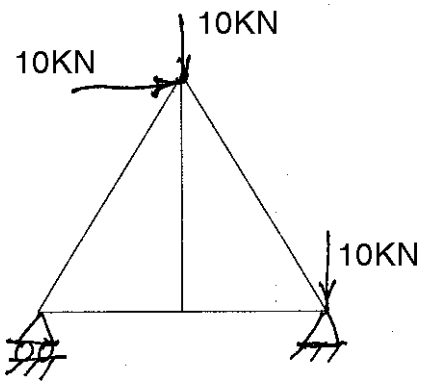
   B) A pull of 30 KN and push of 45 KN are acting at a point which makes an angle of 50° between them. Calculate resultant using law of parallelogram. **10**

5. Calculate support reaction. **15**



6. A) Write a note on classification of trusses based on number of members and joints. **5**

   B) Find support reaction for an equilateral triangular truss of 10 m span. **10**



SLR-Y – 10

Seat No.	

B.Arch. (Semester – II) Examination, 2015
THEORY OF STRUCTURE – II (Old)

Day and Date : Friday, 8-5-2015 Max. Marks : 80
Time : 10.00 a.m. to 1.00 p.m.

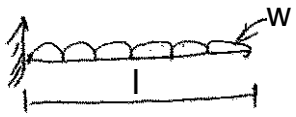
***Instructions** : 1) Q. **1** and **2** is **compulsory**.*
*2) Solve **(any 3)** from remaining question.*
*3) **Use** of scientific calculator is allowed.*
*4) Figures to the **right** indicates **full** marks.*

1. Select correct option for the following : **10**

a) Moment of inertia for a semi circular section about its axis is _____ d^4.

i) $\frac{\pi}{64}$ ii) $\frac{\pi}{32}$ iii) $\frac{\pi}{16}$ iv) $\frac{\pi}{28}$

b) If the material undergoes considerable deformation with rupture then it
i) Ductile
ii) Brittle
iii) Plastic
iv) Elastic

c) The maximum BM for 

i) $\frac{Wl^3}{2}$ ii) $\frac{Wl^3}{8}$ iii) $\frac{Wl^2}{2}$ iv) $\frac{Wl^2}{8}$

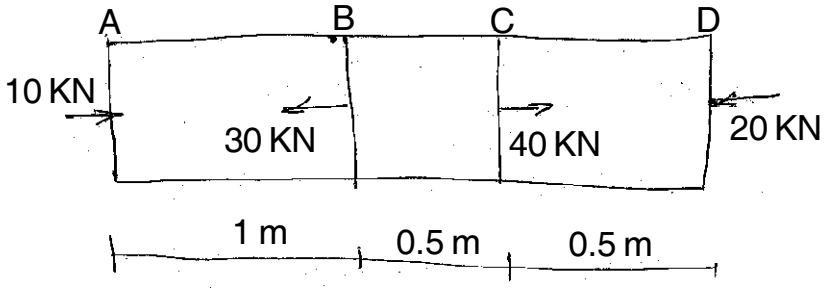
d) A point through which the whole weight of the body acts is called as
i) Moment
ii) Section modulus
iii) Moment of inertia
iv) Centre of gravity

e) 1 MPa = _____ N/mm^2.
i) 1 ii) 10^3 iii) 10^6 iv) 10^9

P.T.O.

2. Write a note on procedure for determing moment of inertia. Section modulus, and Radius of Gyration in detail. **10**

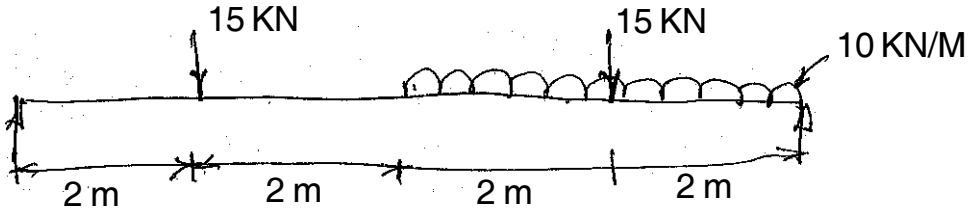
3. a) A Rod having diameter 50 mm is subjected to axial force as shown in sketch. Calculate change in length and stress at each section. If $\in = 2\times10^5$ Mpa. **12**



b) Write in detail note on stress-strain curve for mild steel. **8**

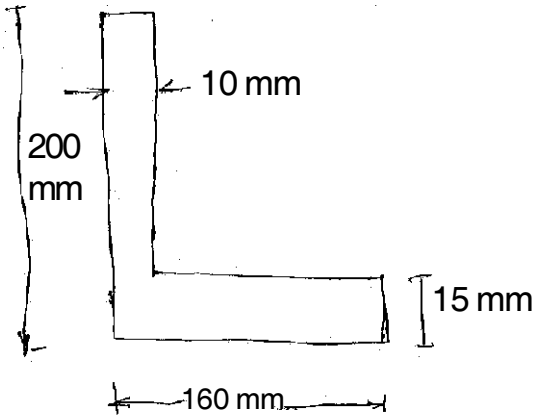
4. A metal rod of 30 mm ϕ and 2.5 m long is subjected to tensile force of 50 KN. Reduction in diameter is 0.005 mm and elongation in length is 2.5 mm. Calculate M, K, E and G. **20**

5. Draw SFD and BMD for following beam. **20**



Also find max BM.

6. Calculate moment of inertia at horizontal and vertical axis passing through centroid. **20**



Also find minimum radius of Gyration.

SLR-Y – 12

Seat No.	

B.Arch. (Semester – II) (Old) Examination, 2015
BUILDING CONSTRUCTION AND MATERIAL – II

Day and Date : Wednesday, 13-5-2015 Max. Marks : 50
Time : 10.00 a.m. to 1.00 p.m.

Instructions *: 1) Q. No.* ***1*** *and Q. No.* ***2*** *are* ***compulsory****.*
2) Solve ***any 3*** *from remaining.*
3) Make ***suitable*** *assumptions and appropriate scale* ***wherever*** *necessary.*

1. Fill in the blanks : **5**
   1) _____ is the lowermost or bottom horizontal part of a window frame.
   2) _____ is the clear horizontal distance between the supports.
   3) Wooden pieces placed horizontally on principal rafter to carry the common rafters are known as _____
   4) A thin pourable suspension of slaked lime in water is known as _____
   5) _____ sand is used mainly construction work.

2. Draw to scale, sectional elevation of any 4 types of sloping roof and show in detail the construction of roof covering with Mangalore tiles for any one type of roof. **15**

3. Describe the methods of slaking burnt lime. **10**

4. What are the properties of good sand and explain natural sources of sand ? **10**

5. Define the following terms : **10**
   a) Frame
   b) Jamb
   c) Reveal
   d) Holdfast
   e) Panel

6. How are arches classified ? Give a complete test of various types of arches. **10**

SLR-Y –13

Seat No.	

B.Arch. (Semester – III) Examination, 2015
ARCHITECTURAL GRAPHICS – III (New)

Day and Date : Tuesday, 5-5-2015 Max. Marks : 50

Time : 3.00 p.m. to 6.00 p.m.

***N.B.** : 1) **All** questions are **compulsory**.*

*2) Retain **all** construction lines.*

*3) Figures to the **right** indicate **full** marks.*

*4) **Five** marks are reserved for **neatness** and **good** drafting quality.*

*5) Make suitable assumptions **wherever** required.*

1. Draw the perspective view of the object by observing following points/conditions (Figure – A) :

   a) A plane makes angle as shown in the figure.

   b) The picture plane touches the object at point 'X'.

   c) The station point is 150 MM away from 'X'.

   d) The eye level is 150 MM above around level. **25**

2. Draw shade and shadow of the object in (Figure B) in plan and elevation considering the source of light is in conventional direction on the vertical and horizontal planes of the object. **20**

P.T.O.

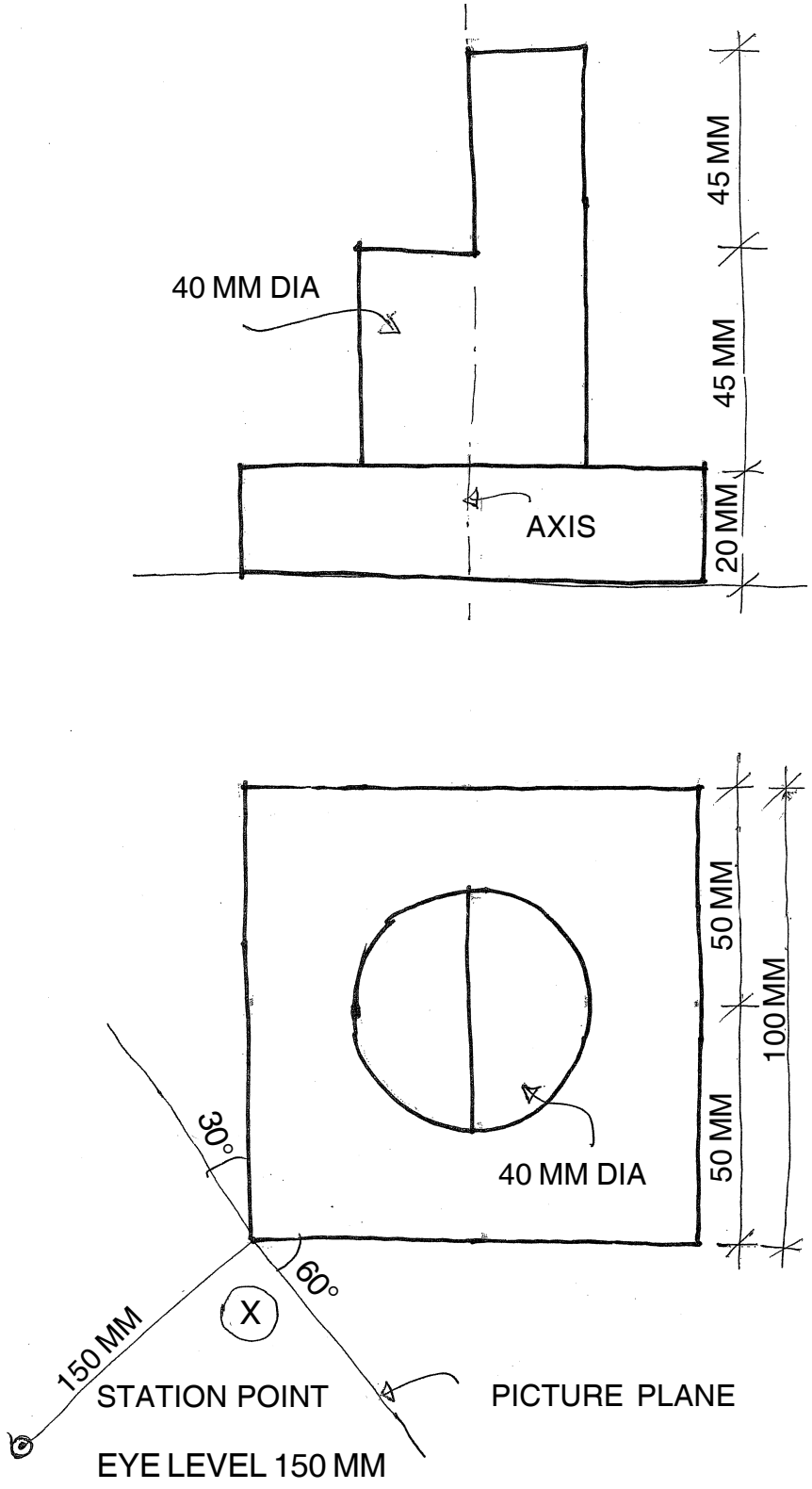
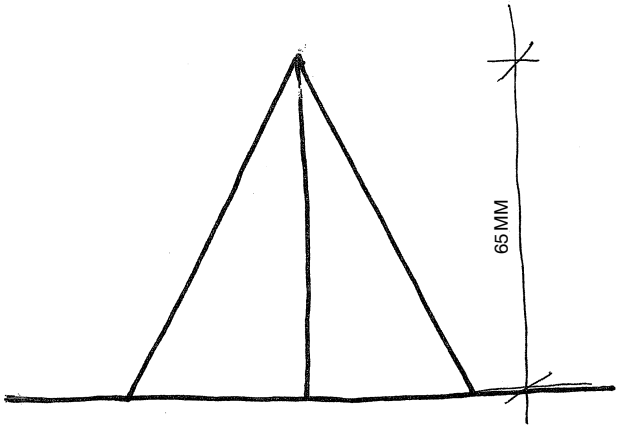
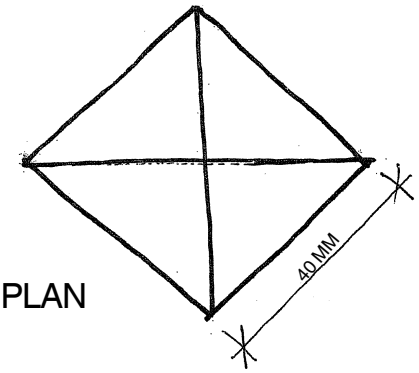

40 MM DIA
45 MM
45 MM
20 MM
AXIS
50 MM
100 MM
50 MM
40 MM DIA
30°
60°
X
150 MM
STATION POINT
PICTURE PLANE
EYE LEVEL 150 MM

Fig. (A)

1)

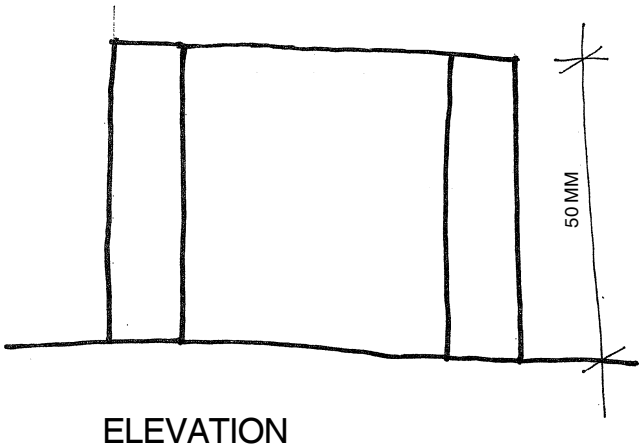


ELEVATION

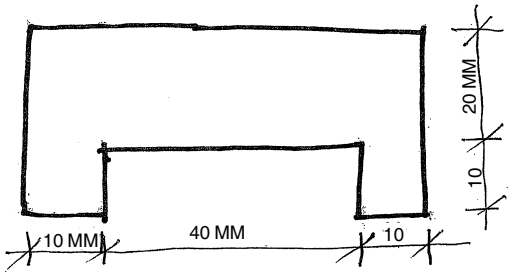


PLAN

2)



ELEVATION



PLAN

Fig. (B)

SLR-Y – 14

Seat No.	

B.Arch. (Semester – III) (New) Examination, 2015
BUILDING CONSTRUCTION AND MATERIAL – III

Day and Date : Thursday, 7-5-2015 Total Marks : 50
Time : 3.00 p.m. to 6.00 p.m.

1. Draw a RCC staircase for a residential building height – 3.0 m. Size of room is 3.2 m × 6.0 m. Draw key plan, section, elevation, handrail fixing details. **15**

2. Fill in the blanks : **5**
   1) Head is the _____ horizontal member of the door frame.
   2) _____ is the horizontal member of the door frame.
   3) _____ is the min. clear height from the tread to overhead construction.
   4) _____ is the platform provided between two flights.
   5) _____ is a series of steps without landing.

3. Write short note on : **15**
   1) Define tread, riser, step, nosing, baluster.
   2) Advantages and disadvantages of metal staircase.
   3) Different types of flooring material with its use.

4. Explain with neat sketch water proofing treatment for terrace. **15**

   OR

5. Explain properties, types and applications of paving material.

SLR-Y – 15

Seat No.	

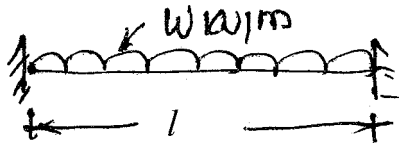
B. Arch. (Sem. – III) Examination, 2015
THEORY OF STRUCTURE – III (New)

Day and Date : Saturday, 9-5-2015 Max. Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

N. B. *: 1) Q.* ***1*** *and Q.* ***5*** *are* ***compulsory****.*
*2) Solve (****any 3****) questions from* ***remaining****.*
3) Assume suitable data ***wherever*** *necessary.*

1. Solve the following objectives : **8**

i) Fixed End Moment of Beam is _____



a) $\frac{-Wl^2}{12}$ b) $\frac{-Wl^3}{8}$ c) $\frac{-Wl^2}{8}$ d) N. A.

ii) Clay soil made of higher proportions of _____ particles.
a) Big b) Small c) Medium d) N. A.

iii) "The beam should be homogenous and isotropic" this assumption is
a) False b) True
c) May be False d) N. A.

iv) The shear stress formula is

a) $\tau = \frac{SA\bar{Y}}{bE}$ b) $\tau = \frac{SA\bar{Y}}{b}$ c) $\tau = \frac{SA\bar{Y}}{IB}$ d) None of above

2. The MI of beam 600 mm depth is 70×10^7 mm^4. Find the longest span over which a beam of this section, when simply supported could carry a UDL of 60 kN/m. The flange stress in the material is not exceed 100 N/mm^2. **16**

P.T.O.

3. A) Write the assumption of pure bending theory and formula. **8**

   B) Write a note on shear stresses indifferent section's (Beams). **8**

4. A) A rectangular c/s beam of size 300 × 500 mm is subjected to a shear force of 20 kN. Calculate maximum shear stress and shear stress at 150 mm above (NA). **10**

   B) Explain the concept of principal planes and principal stresses. **6**

5. Explain concept of soil pressures at rest, active and passive pressures. **8**

6. A) Explain the concept of fixed and continuous beam. **8**

   B) Define soil, what are different types of soil and their properties. **8**

7. A) Write a note on three hinged Arches Domes. **8**

   B) What are the fixed end moments of fixed beam of span l with.

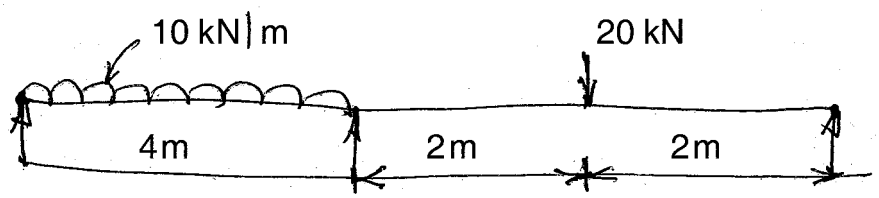
      i) Point load @ Centre

      ii) UDL on entire span

      iii) Couple at distance of 'a' from left end and 'b' from right end

      iv) Couple at centre of beam. **8**

8. Draw the SFD and BMD for continuous beam and shown in fig. **16**



SLR-Y – 16

Seat No.	

B.Arch. (Semester – III) Examination, 2015
HISTORY OF ARCHTECTURE – III (New)

Day and Date : Monday, 11-5-2015 Total Marks : 80

Time : 3.00 p.m. to 6.00 p.m.

***Instructions** : 1) Q. no. **1** is **compulsory**.*
*2) Answer **any 6** question from the remaining.*

1. Fill in the blanks : **8**
   a) Hoysala temples are _____ structures.
   b) Overall form of Dravidian Shikara is _____.
   c) _____ is integral part of Hindu temple.
   d) Gopurams are not _____.
   e) _____ temple is the largest Hindu temple.
   f) The 24^{th} Tirthankar of Jain religion is _____.
   g) _____ is the hall for dance.
   h) _____ style of arches used buttresses and vaults.

2. Explain in detail in sketches (**any 6**). **(6×12=72)**
   i) Write short notes with sketches (**any 3**)
      a) The tanks of South Indian temples.
      b) The clerestorey at Ranakpur temple.
      c) Star or stellar shaped temples of Hoysalas.
      d) The obelisk at Kailasnath temple.
      e) The Gopurams of South India.
   ii) Explain the magnificent Khandariya Mahadev temple at Khajuraho.
   iii) Explain the Minaxi Sundaram temple complex at Madurai.
   iv) Explain the architecture and gothic characters of the Westminister Abbey at London.
   v) Discuss the method of construction for Indo Aryan Shikaras.
   vi) Describe the characteristic feature of Jain temple architecture.
   vii) Draw a neat sketch of Saint Peter church at Rome.

_____

SLR-Y – 17

Seat No.	

B.Arch. (Semester – III) Examination, 2015
CLIMATOLOGY AND ENVIRONMENT – I (New)

Day and Date : Wednesday, 13-5-2015 Total. Marks : 80
Time : 3.00p.m. to 6.00 p.m.

Note : *1) Make suitable assumptions **wherever** necessary and mention in your answer book.*
*2) Figures to **right** indicates **full** marks.*
*3) **All** questions are **compulsory**.*

1. A) Fill in the blanks. **8**

1) _____ on 23.5 N latitude experienced longest day on earth.
a) 21-Jun. b) 21-Sep. c) 21-May d) 23-Mar.

2) Wind velocity is measured by _____
a) Pitot tube b) Wind gauge
c) Wind graph d) Bioclimatic chart

3) SI unit of radiation is _____
a) w/m^2 b) Btu
c) w/hr d) none of the above

4) Air tempt. (DBI) at day time veries between _____ degC in hot and dry climates.
a) 32 – 43 b) up to 27 c) 21 – 27 d) Nov. – 22

5) _____ is measured by Stevenson screen.
a) DBT b) WBT c) Radiation d) Humidity

6) Temperature is measured in _____
a) Degree Celsius b) BTU c) Watts d) Celsius

7) DBT is measured in _____
a) outdoor b) bottle
c) shade d) none of the above

8) _____ is due to heat transmission from body to air in contact with skin.
a) Evaporation b) Reflection
c) Convection d) None of the above

B) Answer in **one** sentence. **7**

1) What is Humidification ?
2) Stack effect.
3) Courtyard.
4) Conduction.
5) Cosine law.
6) What is radiation ?
7) What is cavity wall ?

2. A) Find WBT RH VP when AH-6 g/kg and DBT is 17° C using psychometric chart ? **8**

B) Explain any two bioclimatic strategy. **7**

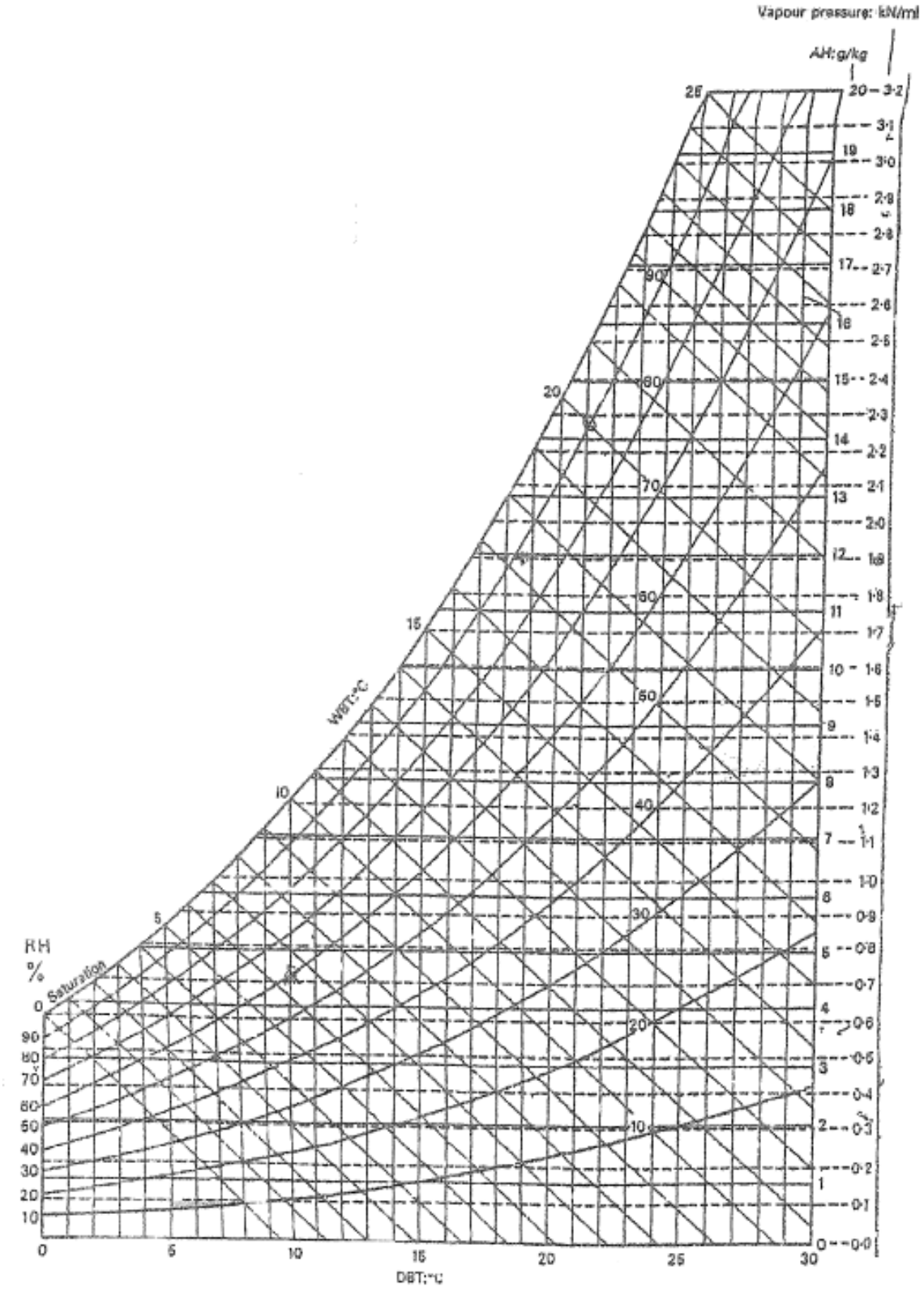
3. A) Explain urban Climate. **8**

B) Explain Warm and humid climate with its parameters. **7**

4. Explain Body's Heat Production and Body's Haet Losses. **15**

5. Write short note on **any 4**. **20**

1) Stevenson's screen.
2) Warm and Humid climate in short.
3) Body's heat loss.
4) Bio Climatic chart.
5) The Kata Thermometer.


Vapour pressure: kN/m²
AH: g/kg
WBT: °C
RH %
Saturation
DBT: °C

SLR-Y – 18

Seat No.	

B.Arch. (Semester – III) (New) Examination, 2015
BUILDING SERVICES – I

Day and Date : Friday, 15-5-2015 Total Marks : 80

Time : 3.00 p.m. to 6.00 p.m.

1. A) Fill in the blanks : **4**
   1) _____ is bent sanitary fitting.
   2) Smoke test is done for testing of _____
   3) _____ Pipe which carries discharge from urinals and wc.
   4) _____ is lower most level/surface of sewer.

   B) Answer in **one** sentence : **4**
   1) soil pipe
   2) bottle trap
   3) cowl
   4) refuse

2. With the help of neat sketch, describe the construction and function of W.C. **12**
3. Explain various types of refuse. Enlist methods of refuse disposal. **12**
4. Explain patterns sewage collection. **12**
5. Write short notes : **12**
   1) drop manhole
   2) bath tub
   3) P trap
6. Explain with neat sketch system of plumbing. **12**
7. Explain with neat sketches refuse disposal in mulistoreyed building. **12**

SLR-Y – 19

Seat No.	

B. Arch. (Semester – III) Examination, 2015
ARCHITECTURAL DESIGN – III (New)

Day and Date : Tuesday, 19-5-2015 Total Marks : 100
Time : 10.00 a.m. to 4.00 p.m.

Instructions : *1) The candidates are **required** to submit the concept and rough scheme and final presentation at the **end** of the day.*
*2) Assume suitable data **wherever** necessary.*

Food Court and Café at Solapur

A young entrepreneur and chef wants to set up his own café and food court called ZEST in the plush area of the city. The café would have a fresh ambience with indoor and outdoor sitting.

Brief :

1) Waiting Area and Lounge – 10 SQM
2) Indoor sitting for 40 people – 50 SQM
3) Outdoor sitting for 20 people – 30 SQM
4) Kitchen and store and serving counter – 30 SQM
5) Toilets as per requirement – 10 SQM
6) Parking for 2 – wheelers
7) Back entry for Kitchen for loading and unloading of vegetables/goods.

Drawing requirements and scheme of marking :

1) Design concept.	**10**
2) Site analysis.	**10**
3) Site plan, Floor plans and terrace/roof plan.	**30**
4) Two elevations.	**15**
5) Two Sections.	**15**
6) View.	**10**
7) Presentation.	**10**

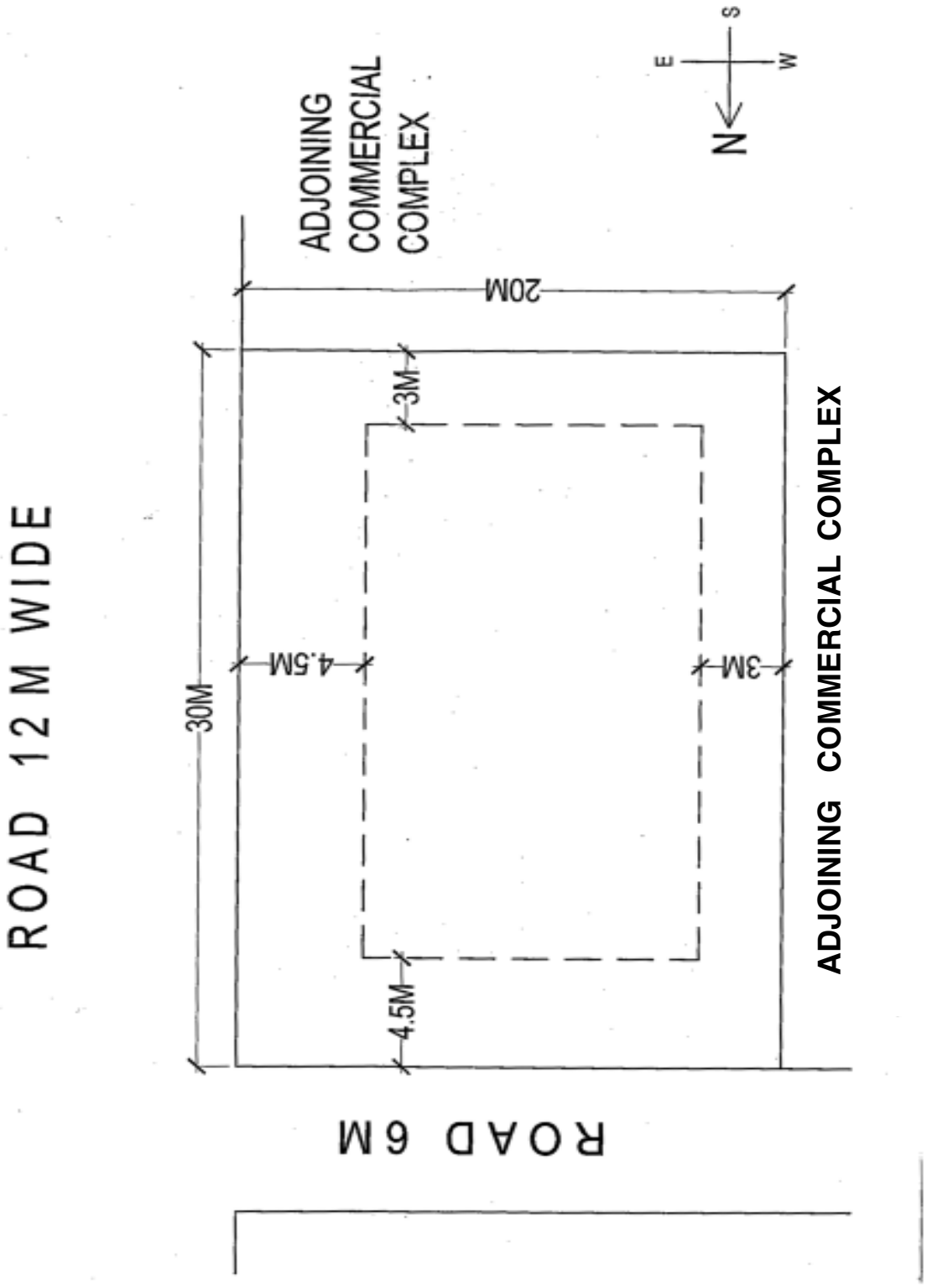
Note :

The drawing to be drawn at the following scales :

1) Site Plan – 1 : 100 scale
2) All Floor plan, Sections and Elevations – 1 : 50

P.T.O.

SLR-Y – 19


ADJOINING COMMERCIAL COMPLEX
S
E
W
N
20M
3M
4.5M
3M
30M
4.5M
ROAD 12 M WIDE
ADJOINING COMMERCIAL COMPLEX
ROAD 6M

SLR-Y – 2

Seat No.	

B.Arch. (Semester – I) Examination, 2015
HISTORY OF ARCHITECTURE – I
(CGPA Pattern) (New)

Day and Date : Thursday, 7-5-2015 Max. Marks : 70
Time : 10.00 a.m. to 1.00 p.m.

***Instructions** : 1) Figures to the **right** indicates **full** marks.*
*2) Q.No. **1** and Q.No. **2 compulsory**.*
*3) Solve **any four** questions from the remaining.*
*4) Draw **neat** sketches **wherever** necessary.*

1. Fill in the blanks : **7**
   1) Primary shelter for early man was _____
   2) Road pattern in Mohenjodaro city _____
   3) Name any one type of tomb structure in Egypt _____
   4) Etruscans were influenced by _____ peoples.
   5) Rooms in houses of Mohenjodaro were arranged around _____
   6) Agriculture was invented during _____ period.
   7) Vedic circular huts were provided with _____ roof.

2. Write short note on the following **(any 3)** : **15**
   1) Egyptian houses
   2) Lion gate
   3) City of Babylon
   4) Paleolithic period.

3. Sketch temple of Khons at Karnak and highlight its design features. **12**

4. Sketch the plan of palace of Sargon at Khorshabad and explain the same in detail. **12**

5. What are characteristic features of Indus valley civilisation ? Explain the same in detail. **12**

6. Draw neat sketch of the temple of Juno Sospito and explain the same in detail. **12**

7. Sketch and explain pre historic settlement of Catal Huyuk in Anatolia. **12**

SLR- Y – 20

Seat No.	

B.Arch. (Semester – III) Examination, 2015
ARCHITECTURAL GRAPHICS – III (Old)

Day and Date : Tuesday, 5-5-2015 Max. Marks : 50
Time : 3.00 p.m. to 6.00 p.m.

N. B. *: 1)* ***All*** *questions are* ***compulsory****.*
2) Retain ***all*** *construction* ***lines****.*
3) Figures to the ***right*** *indicates* ***full*** *marks.*
4) ***Five*** *marks are reserved for* ***neatness*** *and* ***good*** *drafting quality.*
5) Make suitable assumptions ***wherever*** *required.*

1. Draw the perspective view of the object by observing following points/ conditions (Figure – A). **25**

   a) A plane makes angle as shown in the figure.

   b) The picture plane touches the object at point 'X'.

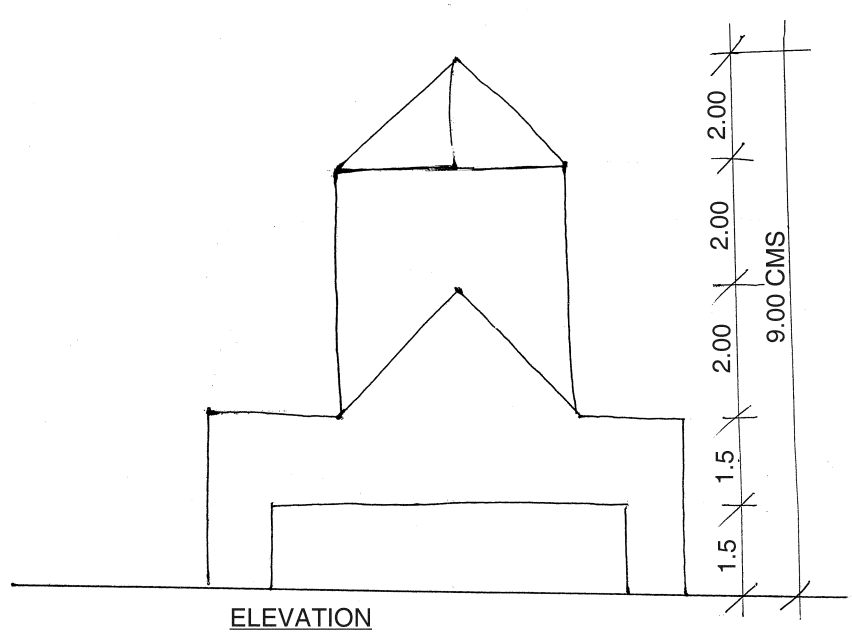
   c) The station point is 15.00 cm. away from 'x'.

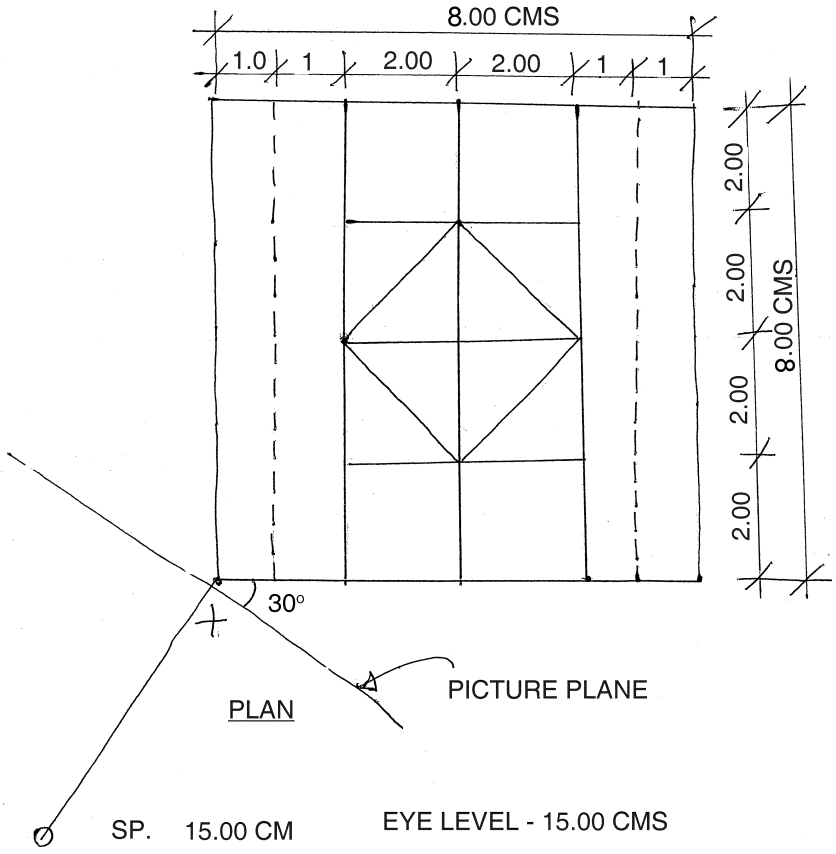
   d) The eye level is 15.00 cm. above ground level.

2. Draw shade and shadow of the object in (Figure – B) in plan and elevation considering the source of light is in conventional direction on the vertical and horizontal planes of the object. **20**

P.T.O.

Figure – A


2.00
2.00
2.00
1.5
1.5
9.00 CMS
ELEVATION


8.00 CMS
1.0
1
2.00
2.00
1
1
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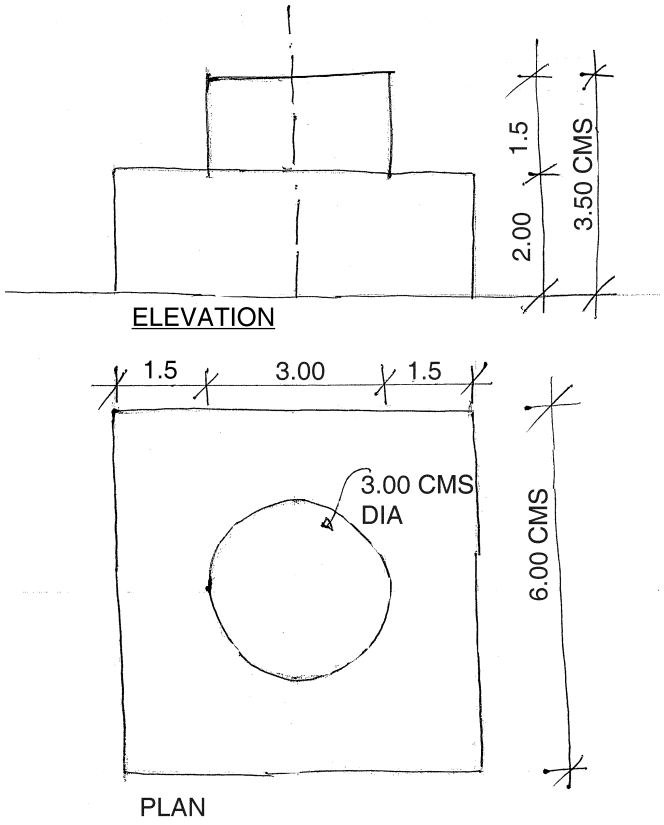
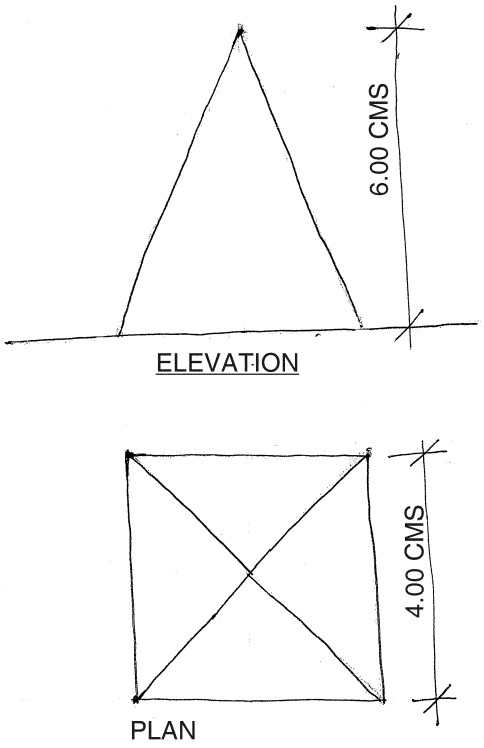
8.00 CMS
30°
PICTURE PLANE
PLAN
SP. 15.00 CM
EYE LEVEL - 15.00 CMS

Figure – B

1.


1.5
2.00
3.50 CMS
ELEVATION
1.5
3.00
1.5
3.00 CMS
DIA
6.00 CMS
PLAN

2.


6.00 CMS
ELEVATION
4.00 CMS
PLAN

SLR-Y – 21

Seat No.	

B.Arch. (Semester – III) Examination, 2015
BUILDING CONSTRUCTION AND MATERIAL – III (Old)

Day and Date : Thursday, 7-5-2015 Max. Marks : 50
Time : 3.00 p.m. to 6.00 p.m.

***Instructions** : 1) Make **suitable** assumption and appropriate scale **wherever** necessary and **mention clearly** in your answer book.*
*2) Draw **neat** sketches.*

I. Fill in the blanks : **(1×5=5)**

1) The final setting time is about _____ for ordinary cement.
2) For plastering work, the proportion of lime mortar shall be _____
3) _____ flooring material should be used for floors in X-ray room.
4) Under surface of stair is known as _____
5) Combination of both load bearing as well as framed structure is known as _____

II. Provide and design a staircase to a residential building. The height of the building is 3.2 m and the size of the room is 6.0 m × 12.0 m. Draw Key plan, plan, Elev., section and Handrail fixing details. **15**

III. Discuss at length the manufacturing process of ordinary cement. **15**

OR

How is lime mortar prepared ? **15**

IV. Write short notes on **any 5** : **(3×5=15)**

i) Characteristics of load bearing structures.
ii) Special mortar
iii) Quick setting cements
iv) Double joist timber
v) Types of staircase
vi) Natural flooring.

_____

SLR-Y – 24

Seat No.	

B.Arch. (Semester – III) Examination, 2015
CLIMATOLOGY AND ENVIRONMENT – I (Old)

Day and Date : Wednesday, 13-5-2015 Max. Marks : 50
Time : 3.00 p.m. to 5.00 p.m.

***Note** : 1) Question No. **1, 2, 5** are **compulsory**.*
*2) Solve **any one** out of Q. **3** and Q. **4**.*

1. A) Fill in the blanks : **5**

1) SI unit of radiation is _____

a) w/m^2 b) Btu

c) w/hr d) none of the above

2) _____ is measured by Stevenson screen.

a) DBT b) WBT

c) Radiation d) Humidity

3) Temperature is measured in _____

a) Degree Celsius b) BTU

c) Watts d) Celsius

4) DBT is measured in _____

a) Outdoor b) Bottle

c) Shade d) None of the above

5) _____ is due to heat transmission from body to air in contact with skin.

a) Evaporation b) Reflection

c) Convection d) None of the above

P.T.O.

B) Answer in **one** sentence : **5**

1) What is DBT ?

2) Courtyard.

3) What is radiation ?

4) Cosine Law.

5) Transmittance.

2. Find WBT RH VP when AH-12 g/kg and DBT is 23°C using psychometric chart. **5**

3. A) Explain urban climate. **8**

B) Explain warm and humid climate with its parameters. **7**

4. Explain Body's Heat Production and Body's Heat Losses. **15**

5. Write short note on **any 4** : **20**

1) Humidity.

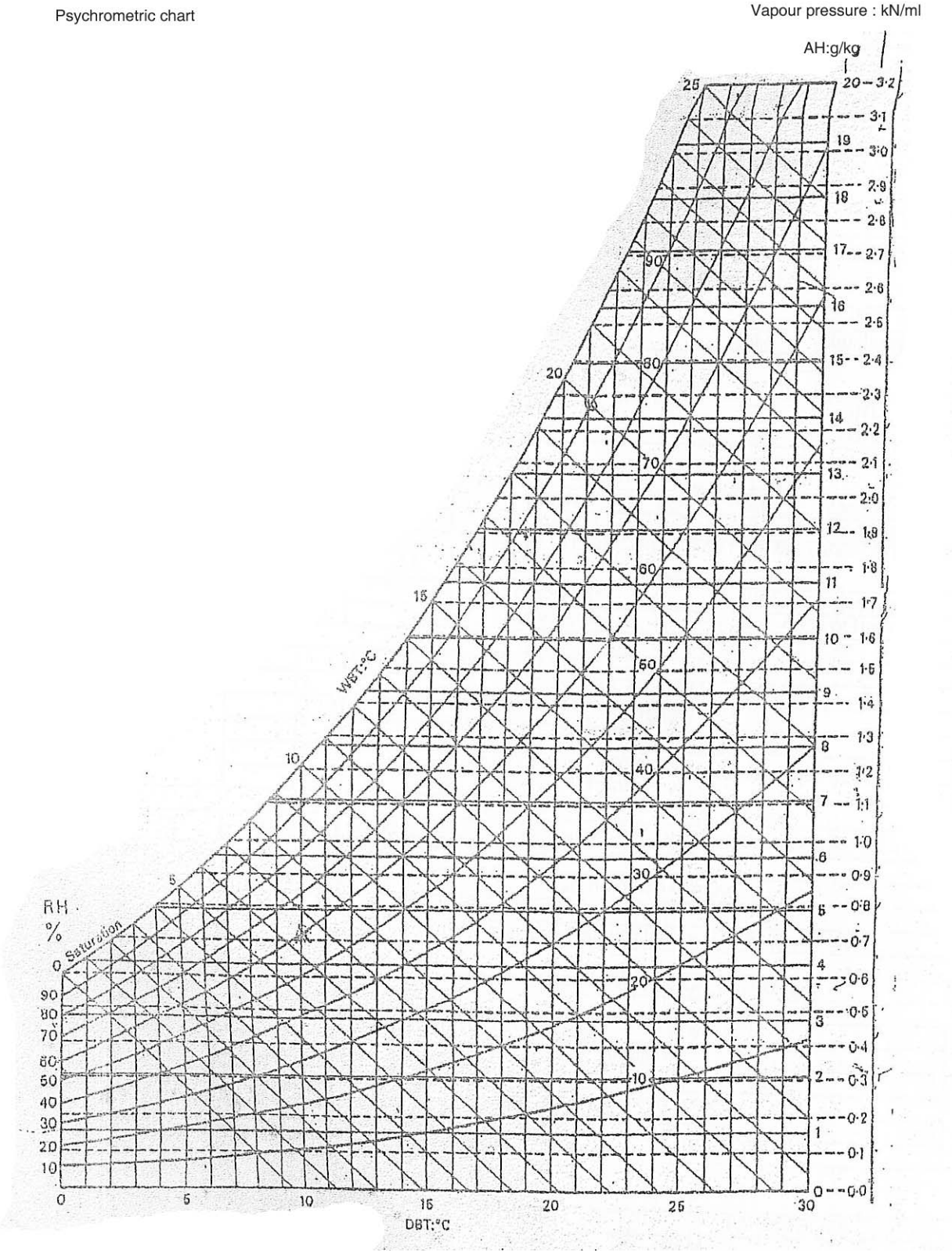
2) How to derive bioclimatic strategies ?

3) The Stevenson Screen.

4) The Kata thermometer.

5) Composite climate.

Psychrometric chart



SLR-Y – 26

Seat No.	

B.Arch. (Semester – III) Examination, 2015
ARCHITECTURAL DESIGN – III (Old)

Day and Date : Tuesday, 19-5-2015 Total Marks : 100
Time : 10.00 a.m. to 4.00 p.m.

***Instructions** : 1) The candidates are required to **submit** the concept and **rough scheme** and final Presentation at the **end** of the day.*
*2) **Assume** suitable data **wherever** necessary.*

Drawing requirement and scheme of marking :

1. Design concept. **10**
2. Site analysis. **10**
3. Site plan, floor plans, terrace plan. **35**
4. 2 elevations. **15**
5. 2 sections. **15**
6. Views/sketches. **5**
7. Presentation. **10**

Note :

Site plan – 1 : 100 scale

All floor plans, sections and elevations – 1 : 50 scale

Brief :

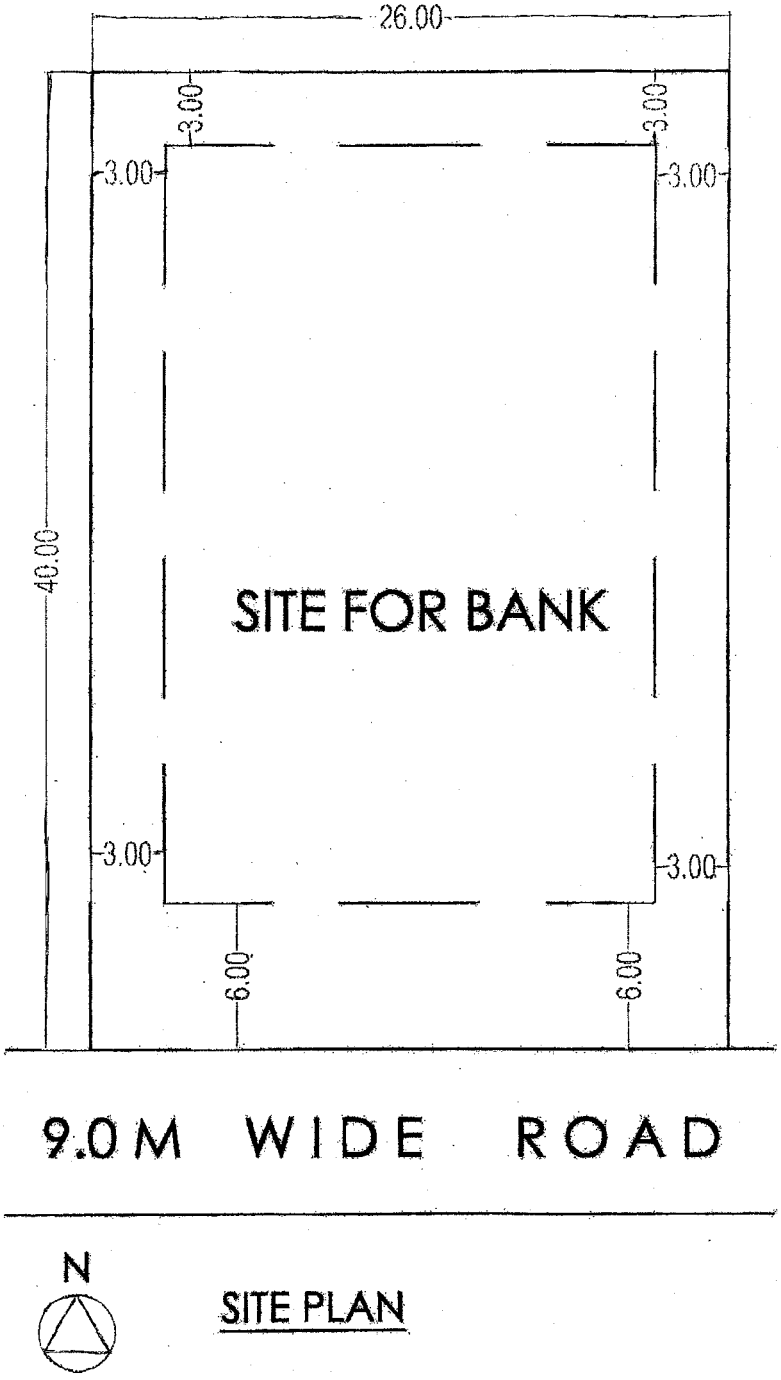
Bank's branch office

A Co-operative bank desires to construct their branch office at Jaisalmer so design the bank with following architectural requirement.

a) Entrance – as per requirement
b) Branch Manager's cabin – 12 Sq. M.
c) A banking hall and waiting, 4 counters, 2 cashiers, 4 supporting counters, Printing Section, Server – 110 Sq.M.
d) Store room – 10 Sq. M
e) Staff room – 10 Sq. M.
f) A.T.M. – 10 Sq. M.
g) Toilets – as per norms
h) Parking – as per norms.

P.T.O.

SLR-Y – 26



SITE PLAN

SLR-Y – 27

Seat No.	

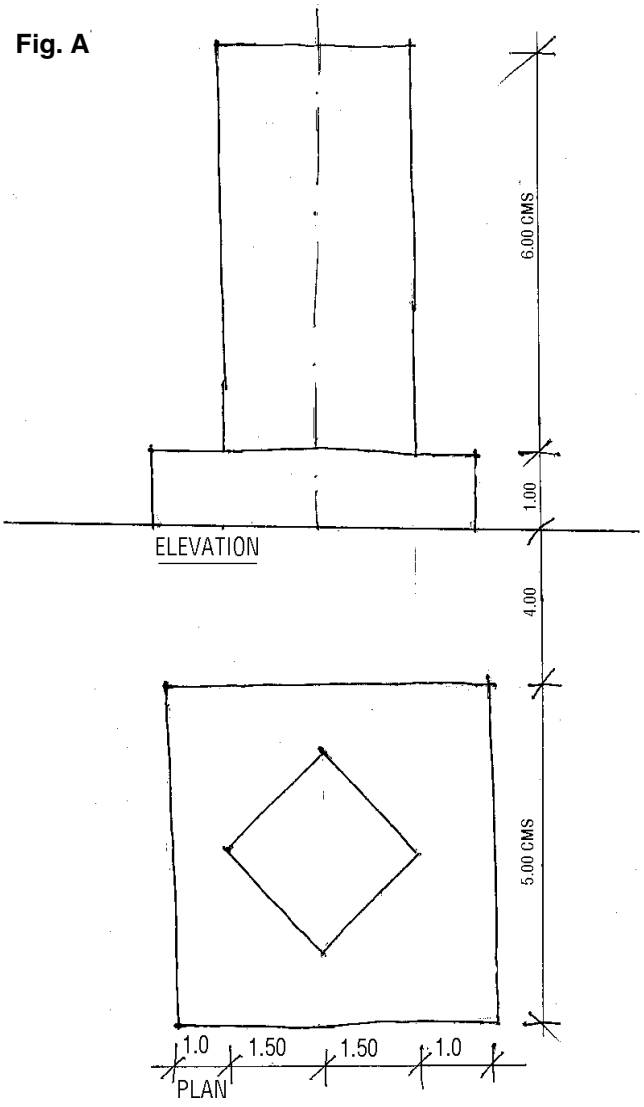
B. Arch. (Semester – IV) Examination, 2015
(New)
ARCHITECTURAL GRAPHICS – IV

Day and Date : Wednesday, 6-5-2015 Max. Marks : 50
Time : 3.00 p.m. to 6.00 p.m.

Instructions: *1)* ***All*** *questions are* ***compulsory****.*
2) Retain ***all*** *construction lines.*
3) Figures to the ***right*** *indicate* ***full*** *marks.*
4) ***Five*** *marks are* ***reserved*** *for neatness and good drafting quality.*
5) Make suitable assumptions ***wherever*** *required.*

1. Draw shades and shadows of the Dia. A in plan and elevation considering the source of light is in conventional direction on the vertical and horizontal planes of the object. **10**

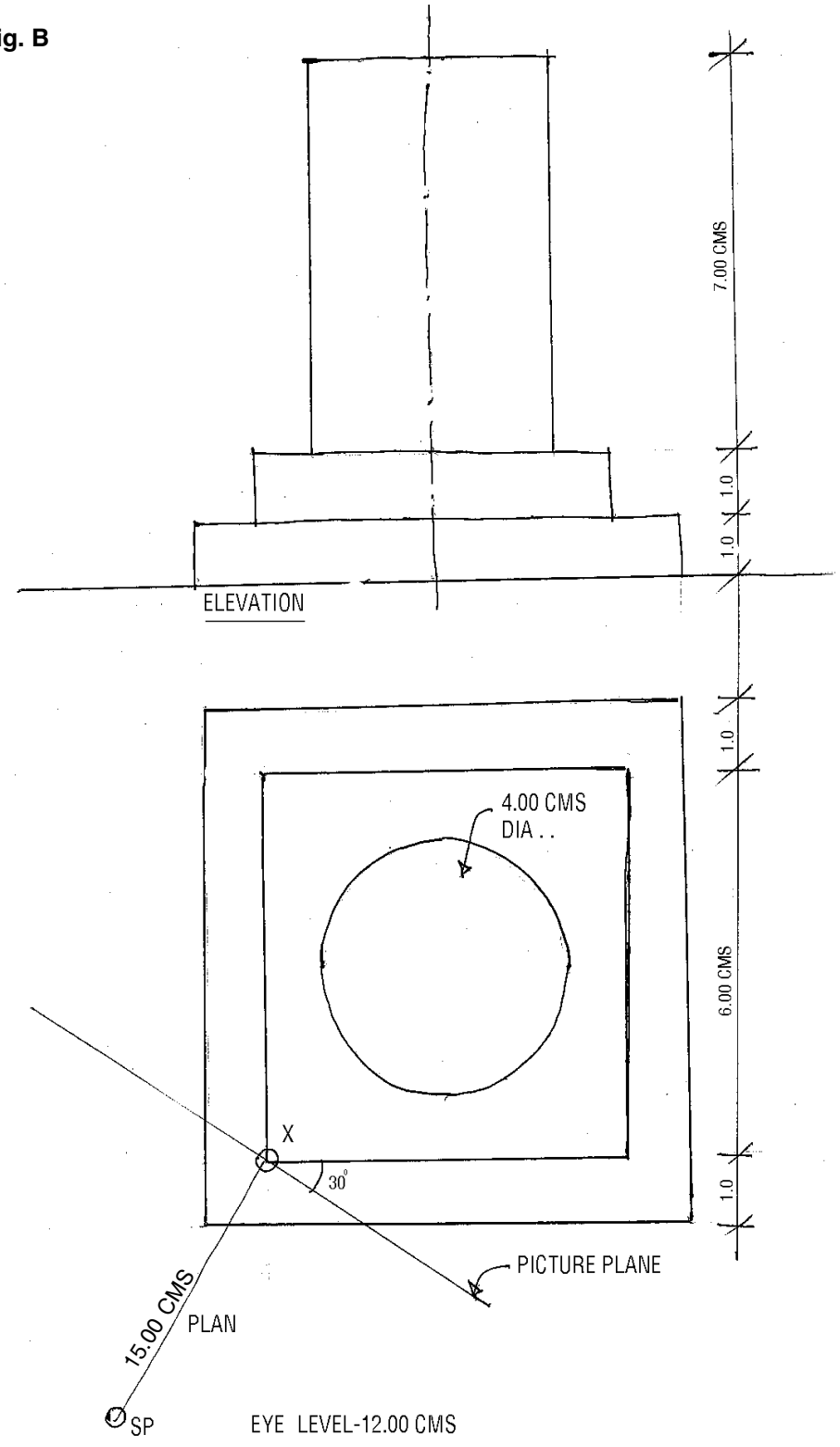
Fig. A



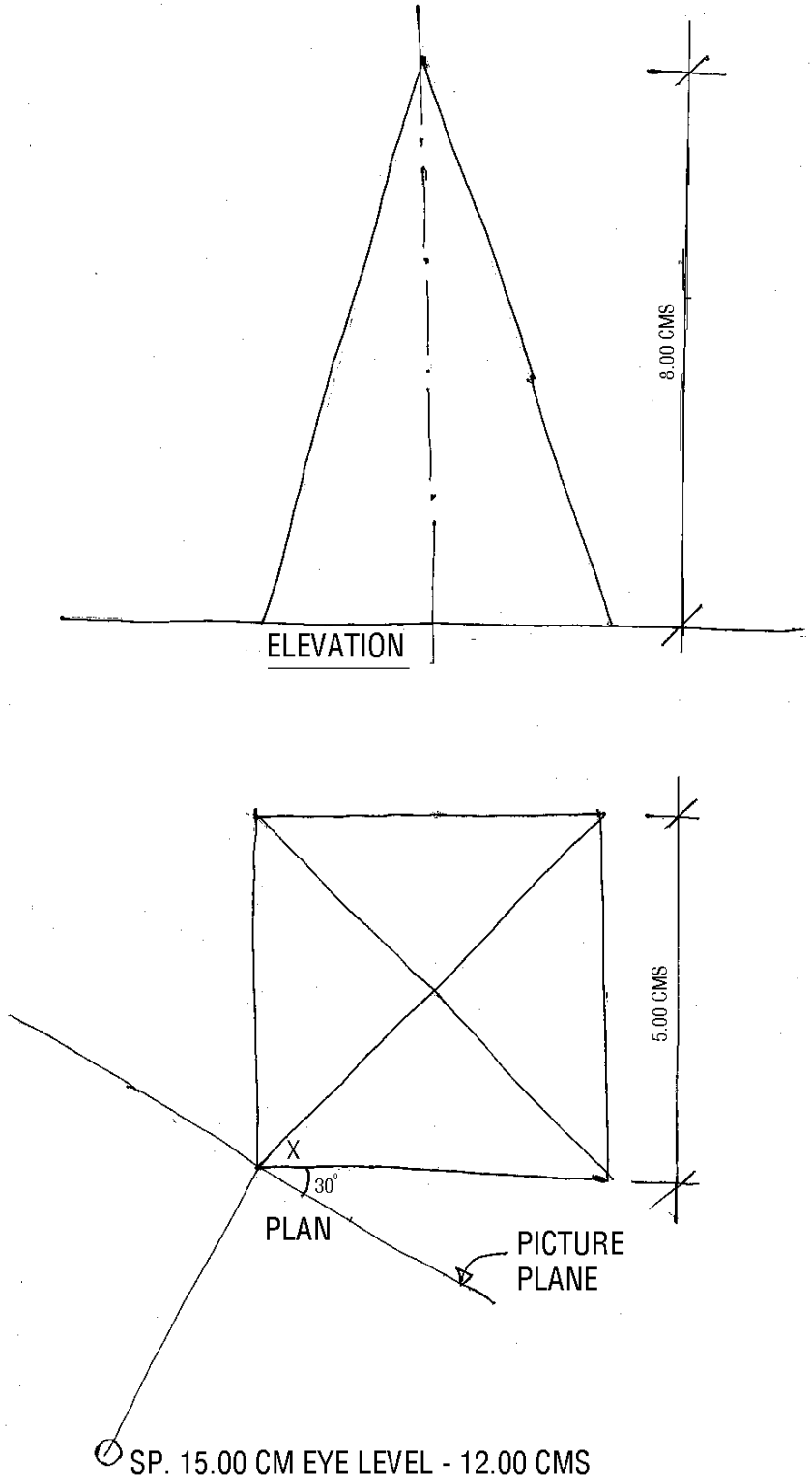
P.T.O.

2. Draw perspective view of the given object by observing points in Dia. B.
   a) A plane makes an angle as shown in figure.
   b) The picture plane touches the object.
   c) Station point is 15.00 cms away from the 'X'.
   d) The eye level is 12.00 cms above ground level.

Fig. B



3. Dia. C shows plan and elevation of the object as shown in figure. Draw perspective Sciography view observing the following points. **20**
   a) Picture plane passes through 'X'.
   b) Station point is 15.00 cm away from picture plane.
   c) Eye level is 12.00 cm away and above ground level and draw shades and shadows in perspective view.



SLR-Y – 28

Seat No.	

B.Arch. (Semester – IV) (New) Examination, 2015
BUILDING CONSTRUCTION AND MATERIAL – IV

Day and Date : Friday, 8-5-2015 Max. Marks : 50
Time : 3.00 p.m. to 6.00 p.m.

***Instructions** : 1) **Assume** suitable data **wherever** necessary.*
*2) Draw **neat** sketches.*

1. Fill in the blanks : **5**
   a) Rusting of MS windows, doors can be protected by _____
   b) Final setting time for ordinary cement is _____
   c) The proportion of concrete mix used for RCC column is _____
   d) In wrought iron, the carbon content does not exceed _____
   e) For two way slab, the ratio of length to breadth is more than _____

2. Design and specify the type of slab required for a room of size 3.0 m × 5.0 m. Draw plan, section with reinforcement details. **15**

3. Solve **any three** questions : **(10 marks each)**
   a) What are the advantages of MS windows over timber windows ?
   b) Describe the field tests for cement.
   c) What are the materials used in preparing concrete ? How are the materials mixed ?
   d) Explain the properties of wrought iron.
   e) Explain the properties of cast iron.

_____

SLR-Y – 29

Seat No.	

B.Arch. (Semester – IV) Examination, 2015
THEORY OF STRUCTURE – IV (New)

Day and Date : Tuesday, 12-5-2015 Total Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

Instructions** : 1) **Use** of Scientific calculator is **allowed.

*2) Q. No. **1** and Q. No. **5** are **compulsory**. From remaining questions solve **any two** from **each** Section.*

*3) Figures to the **right i**ndicates **full** marks.*

*4) **Assume** suitable data if necessary.*

SECTION – I

1. Select the correct option for the following : **8**

1) The effective length of the column of both end hinged is

a) Leff = l b) Leff = $2l$

c) Leff = $l/2$ d) Leff = $3l$

2) The maximum slope for the cantilever beam point load at free end is

a) $WL^2/2EL$ b) $WL^2 / 3EL$

c) $WL^3/6EL$ d) $WL^2/4EL$

3) For working stress method, permissible or working stress is given by

a) Ultimate stress/factor of safety

b) Ultimate stress/Partial factor of safety

c) Ultimate stress/(1.2 × factor of safety)

d) None of above

4) The core of the square column section is at

a) 1/6 × breadth b) 1/2 × breadth

c) 1/6 × length d) None of above

2. a) Explain the assumptions made in the Eulers Column theory. **8**

b) A column 3.5 m long is 300 mm in diameter. One end of the column is hinged and other end fixed. Find the crippling load of the column if $E = 2.1 \times 10^5$ N/mm^2. **8**

3. a) Write a note on NO Tension condition of the for retaining walls. **8**

b) Explain axial, uniaxial and biaxial concept of the column and stress diagrams. **8**

4. a) What is mean by retaining wall and explain its types. **6**

b) A solid circular column of diameter 200 mm carries vertical load of 60KN at outer edge. Calculate maximum and minimum stress and also the additional load for no tensile stress condition. **10**

SECTION – II

5. Explain the concept of working and limit state methods. **8**

6. Derive the expression for the maximum deflection and maximum slope equation for cantilever beam with UDL all over. **16**

7. a) Explain the relation between Loading, Bending moment, Shear force, slope and deflection. **10**

b) Write a note on Masonry structures and their properties. **6**

8. a) Explain all the support conditions of the columns and effective length of the columns. **6**

b) Explain core of the standard sections and no tensile stress conditions. **10**

SLR-Y – 3

Seat No.	

B.Arch. (Semester – I) Examination, 2015
THEORY OF STRUCTURE – I (Old)

Day and Date : Tuesday, 5-5-2015 Total Marks : 80
Time : 10.00 a.m. to 1.00 p.m.

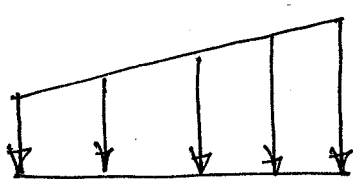
Instructions *: 1)* ***Use*** *of scientific calculator is* ***allowed****.*
2) Q. No. ***1*** *and Q. No.* ***2*** *are* ***compulsory****. Solve* ***any four*** *from remaining.*
3) Figures to the ***right*** *indicate* ***full*** *marks.*
4) ***Assume*** *suitable data* ***if necessary****.*

1. Select the correct option for the following : **8**

1) 1 GN force is equal to

a) 10^9 b) 10^4 c) 10^6 d) 10^3

2) The load which shown below is



a) UDL b) Concentrated load
c) UVL d) None of above

3) Following type of beam is

a) Simply Supported Beam b) Fixed beam
c) Overhanging beam d) Cantilever beam

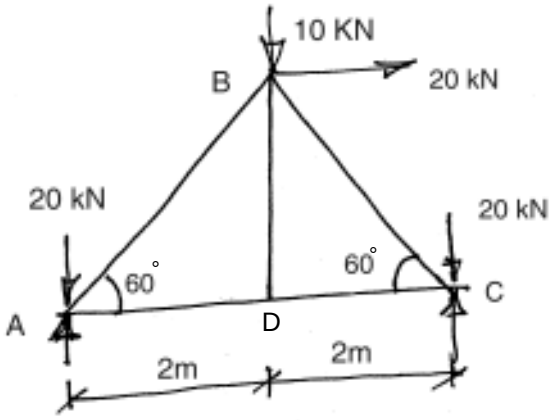
4) When line of action of two or more force is one same line they are _____ forces.

a) Collinear forces b) Non-Collinear forces
c) Non-current force d) Coplanar forces

2. a) Write a note on types of loads in detail. **4**

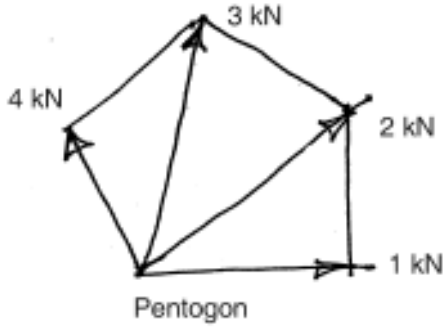
b) Explain the term resolution of forces. **4**

3. a) A truss of is subjected to loading as shown in sketch. Calculate reaction at support. **10**



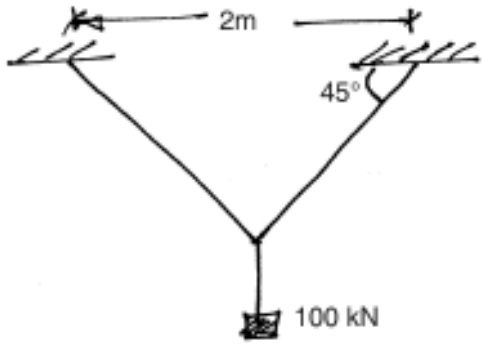
b) Explain in detail conditions of equilibrium in detail. **6**

4. a) Find the resultant of the following forces. **10**



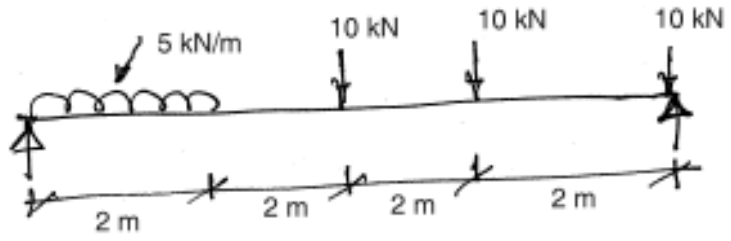
b) Explain in detail graphical method for trusses. **6**

5. a) Calculate tension in the wire ropes as shown in fig. **10**



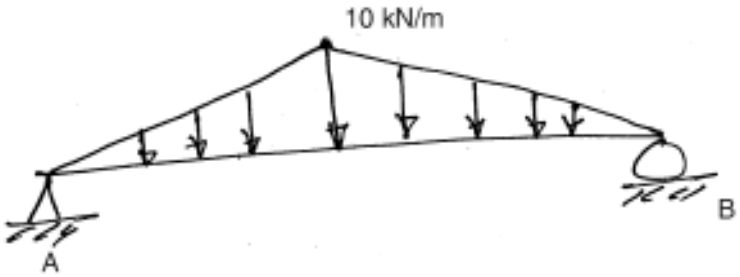
b) Distinguish between load bearing and RCC structure. **6**

6. a) Calculate support reaction : **10**



b) Explain perfect and imperfect frame and Redundant frame. **6**

7. a) Calculate support reaction : **10**



b) Define force, resultant force and equilibrant force. **6**

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SLR-Y – 30

Seat No.	

B.Arch. (Semester – IV) (New) Examination, 2015
HISTORY OF ARCHITECTURE – IV

Day and Date : Thursday, 14-5-2015 Total Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

Instructions *: 1) Question No.* ***1*** *is* ***compulsory****.*
2) Solve ***any 6*** *questions from the remaining.*
3) Draw ***neat*** *sketches* ***wherever*** *necessary.*

1. Fill in the blanks : **8**
   1) The holy book of Islam is _____
   2) Buland Darwaza was built by _____
   3) The founder of Khilji Dynasty was _____
   4) The first Mosque built in India _____
   5) Mughal dome called as _____ dome.
   6) Vertical elements in Islamic architecture _____
   7) The architect of Rashtrapati Bhawan _____
   8) Calling for prayer in Islam is termed as _____

2. Write short notes on **any 3** : **12**
   A) Liwan
   B) Squinches and Pendentives
   C) Rauza
   D) Domes used in Islamic architecture.

3. Write in detail with neat sketch parts of typical Indian Mosque. **12**

4. Explain in detail with neat sketch – Tomb of Iltutmish. **12**

5. Sketch and explain any two buildings in Fatehpur Sikri. **12**

6. Explain with suitable example architectural characters of Bijapur province. **12**

7. Draw plan, elevation, section and write a note on Tajmahal. **12**

8. Write detail note on Rashtrapati Bhawan, Delhi. **12**

_____

SLR-Y – 31

Seat No.	

B.Arch. (Semester – IV) (New) Examination, 2015
CLIMATOLOGY AND ENVIRONMENT – II (New)

Day and Date : Saturday, 16-5-2015 Max. Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

***Instructions**: 1) Make suitable assumptions wherever necessary and mention in your answer book.*
*2) Figures to **right** indicates **full** marks.*
*3) **All** questions are **compulsory**.*

1. A) Fill in the blanks : **8**

1) Human perception of light ranges between _____ nm.
a) 380-780 b) 450-1500 c) 500-1000 d) None of above

2) Radiation is measured in _____
a) % b) watts/sqm c) degC d) None of above

3) U value is reciprocal of _____
a) W b) R c) K d) None of above

4) _____ is the only strategy in warm and humid climate.
a) Ventilation b) Cooling c) Humidification d) None of above

5) Addition of moisture in air _____ temperature.
a) Decrease b) Neutral c) Increase d) No change

6) _____ is heat flow rate through unit area of body.
a) Resistance b) Conductance c) Diffusion d) No change

7) _____ city experiences warm and humid climate.
a) Mumbai b) Delhi c) Pune d) Ionavala

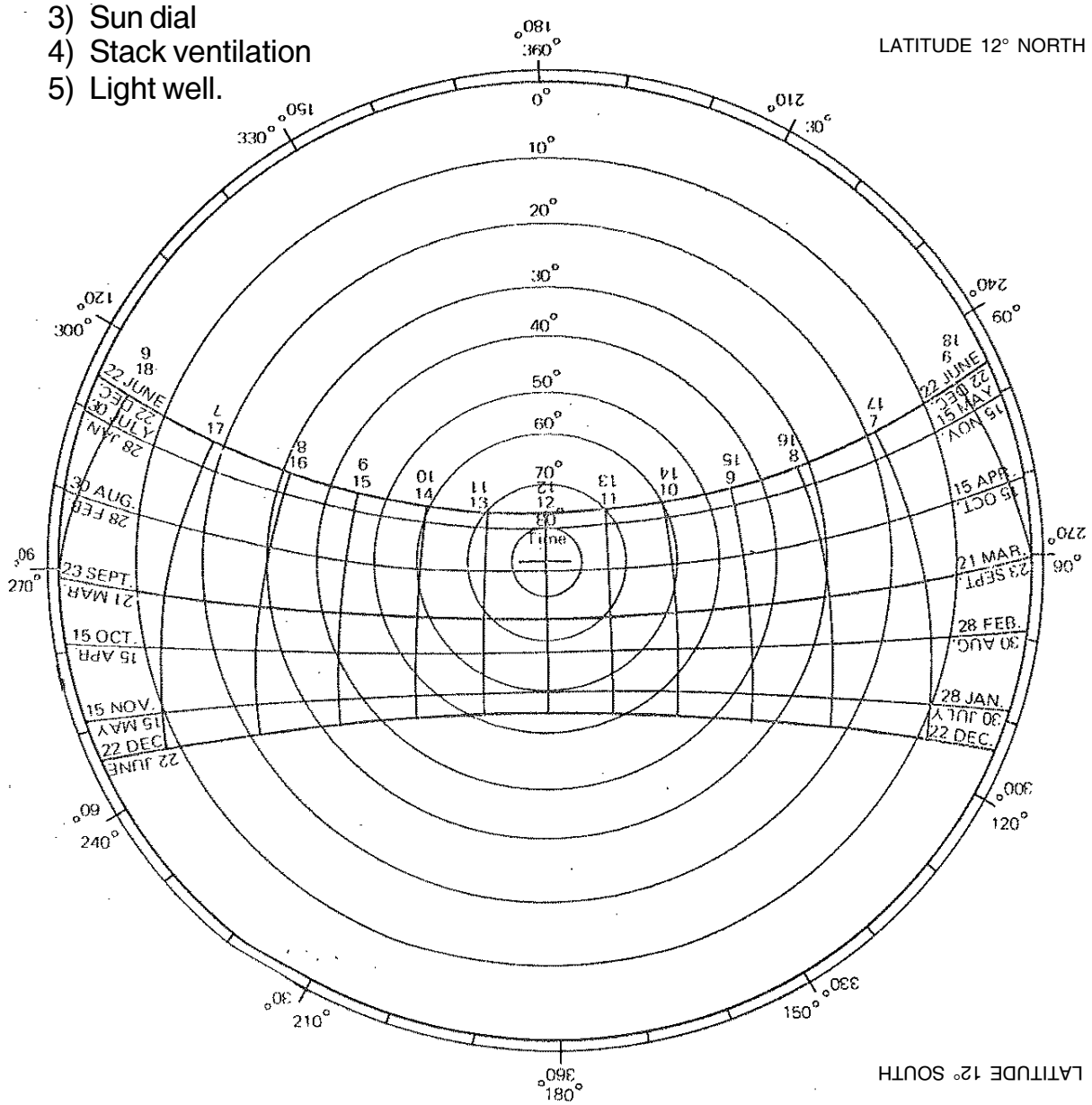
8) Difference between day and night temp gives _____
a) Time b) DBT c) Diurnal range d) Percentage

B) Answer in **one** sentence : **7**

1) Humidification
2) Azimuth angle
3) Land wind
4) Egg crete device
5) Transmittance
6) Daylight factor
7) Principal Hues.

P.T.O.

2. A) Find out Horizontal and Vertical shadow angle for 12° North latitude on : 21 June at 6 p.m. and 21 Sept. 9 a.m. along with sketches. **8**
   B) Find solar altitude and azimuth angle for given chart at 4 p.m. on 21st March and 11 a.m. on 21st Feb. for 12° North latitude. **7**
3. A) Give correct sketches of any two bio climatic strategies. **8**
   B) Explain cold and cloudy climate and sketch any three strategies at site scale along with sketches. **7**
4. Explain how building form and orientation affect human comfort inside the building. **15**
5. Write short note on **any 4** : **20**
   1) Composite climate
   2) Internal heat gain
   3) Sun dial
   4) Stack ventilation
   5) Light well.



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SLR-Y – 32

Seat No.	

B.Arch. (Semester – IV) (New) Examination, 2015
BUILDING SERVICES – II

Day and Date : Monday, 18-5-2015 Total Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

***Instructions** : 1) Question No. **1** is **compulsory**. Solve **any 6** questions from **remaining**.*
*2) Draw **neat** sketches **wherever** necessary.*

1. a) Fill in the blanks. **4**

1) Recommended pH range for treated drinking water is _____
a) 1 – 2 b) 7 – 8 c) 15 – 18

2) _____ is not a surface water source.
a) lake b) elevated reservoirs c) rivers

3) Taste and Odour is _____ type of test for analysis of water.
a) Physical b) Chemical c) Bacteriological

4) _____ is added in Aeration method of water filtration.
a) Oxygen b) Magnesium c) Zink

b) Explain in **one** sentence. **4**

1) Wholesome water.
2) Per capita.
3) Meter.
4) Aquifers.

2. Write a short note on **any 3** : **12**

1) Fire hydrant.
2) Air valve.
3) Artesian well.
4) Solar water heater.

P.T.O.

3. Explain in detail any two type of distribution system for water supply. **12**

4. Explain different types of impurities present in water. **12**

5. Explain with neat sketches, “Types of water Intakes”. **12**

6. Explain dead end method and circular method of layout of distribution pipe. **12**

7. Design a overhead water tank for 50 persons. Draw neat sketches with all necessary connections. **12**

8. Explain different types of pipes used for distribution of water. **12**

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SLR-Y – 33

Seat No.	

B.Arch. (Semester – IV) Examination, 2015
ARCHITECTURAL GRAPHICS – IV (Old)

Day and Date : Wednesday, 6-5-2015 Total Marks : 50
Time : 3.00 p.m. to 6.00 p.m.

Instructions *: 1)* ***All*** *the questions are* ***compulsory****.*
2) Retain ***all*** *construction lines.*
3) Figures to ***right*** *indicates* ***full*** *marks.*
4) ***Five*** *marks are reserved for* ***neatness*** *and* ***good drafting****.*
5) ***Make*** *suitable assumptions* ***wherever*** *necessary.*

1. Draw shades and shadows of the objects in fig. "A" in plan and front elevation considering the conventional direction of light source. **10**

2. Draw perspective view of the given objects observing the following points in fig. "B" : **15**

   a) The picture plane making 30 angle at 'X'.

   b) The station point is 15.00 cm away from the 'X'.

   c) The eye level is 12.00 cm above ground level.

3. Draw the perspective view of the object with sciography as in fig. "A" with following points : **20**

   a) The picture plane is touching the object at "X" and making 60 angle at "X".

   b) The station point 15.00 cm away from "X".

   c) The eye level is 9.00 cm above ground level."

   OR

   Draw the isometric view of the object with shade and shadow of the fig. A.

P.T.O.

SLR-Y – 33

Fig. "A"

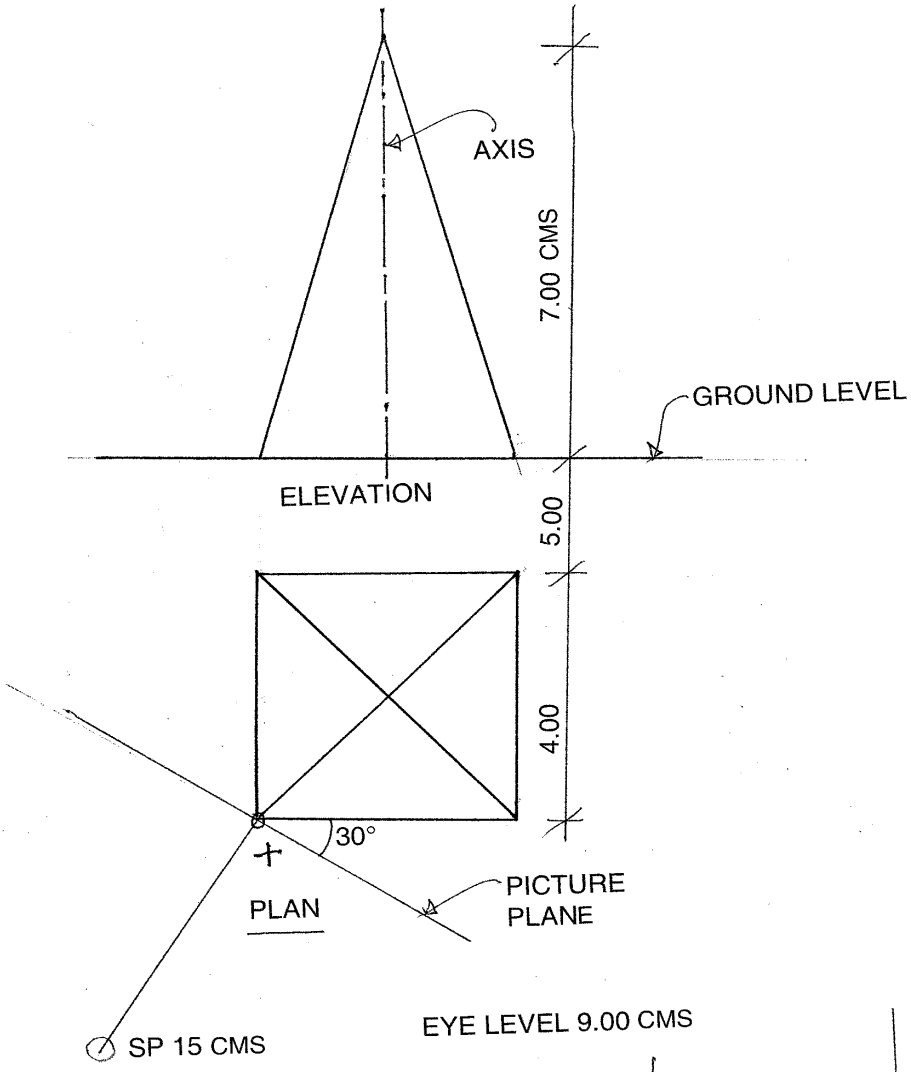
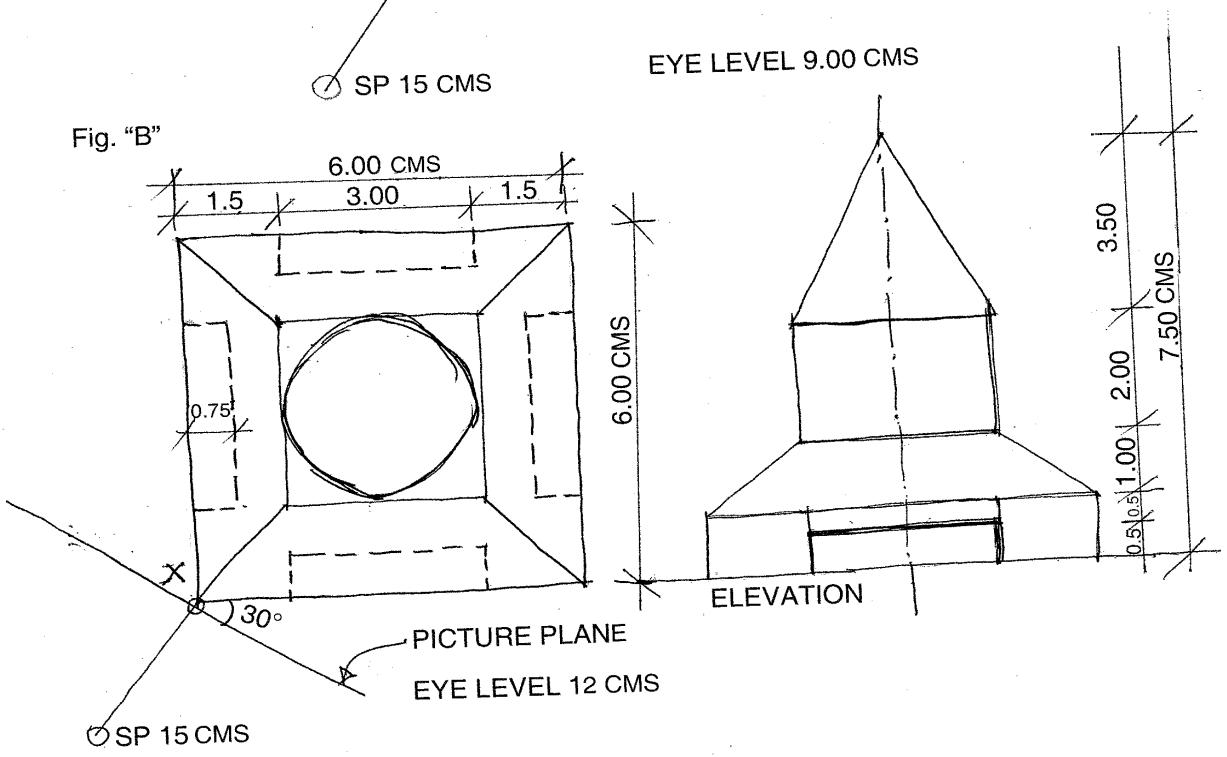


Fig. "B"



SLR- Y – 34

Seat No.	

B.Arch. (Semester – IV) (Old) Examination, 2015
BUILDING CONSTRUCTION AND MATERIALS – IV

Day and Date : Friday, 8-5-2015 Total Marks : 50
Time : 3.00 p.m. to 6.00 p.m.

Instructions *: 1)* ***Draw*** *neat sketches* ***wherever*** *necessary.*
2) ***Assume*** *suitable data* ***wherever*** *necessary.*

1. Fill in the blanks : **5**
   a) In cement concrete proportion of 1:3:6, 1-cement, 3-aggregate, 6 _____
   b) Timber used for engineering purposes is obtained from _____ types of trees.
   c) _____ is the area enclosed between the rails in a door/window.
   d) A common footing provided for 2 or more columns is known as _____ footing.
   e) The temporary casing used for supporting when concrete is placed is known as _____

2. Provide and specify the type of timber truss used for a span of 7.0 m × 20.0 m room. Draw plan, sectional elevation and details to an appropriate scale. **15**

3. What is meant by curing of concrete ? What are its purposes ? **10**

4. What is meant by seasoning of timber ? What are its objectives ? **10**

5. Write short note on **(any two)** : **10**
   a) Expansion joint
   b) Retaining wall
   c) Difference between transom and mullion.

_____

SLR-Y – 35

Seat No.	

B.Arch. (Semester – IV) Examination, 2015
THEORY OF STRUCTURE – IV (Old)

Day and Date : Tuesday, 12-5-2015 Max. Marks : 100
Time : 3.00 p.m. to 6.00 p.m.

Instructions *: 1)* ***Use*** *of scientific calculator is* ***allowed****.*
2) Q. ***1*** *and Q.* ***5*** *are* ***compulsory*** *from the remaining questions solve* ***any two*** *from* ***each*** *Section* ***I*** *and* ***II****.*
3) Figures to the ***right*** *indicates* ***full*** *marks.*

1. Select correct option for the following : **10**

a) The effective length of the column of cantilever is l =

i) 2l ii) $\frac{l}{2}$ iii) $\frac{l}{\sqrt{2}}$ iv) $\frac{3}{4}l$

b) The specific gravity has unit is

i) kN/m^3 ii) Unitless iii) kN/m^2 iv) kN/m

c) The Euler's formula for calculating of cripping load is P =

i) $\frac{\pi^2 l^2}{\varepsilon l}$ ii) $\frac{\pi^2 \varepsilon l}{l^2}$ iii) $\frac{\pi^2 \varepsilon l^2}{l^2}$ iv) $\frac{\varepsilon l^2}{\pi^2 l}$

d) In case of masonry dam the stability condition of safety against sliding should be

i) $\mu W < p$ ii) $\mu W = P$ iii) $\mu W > P$ iv) $\mu W \leq P$

e) The crushing stress for wood material is fc =

i) $50\ N/mm^2$ ii) $250\ N/mm^2$ iii) $550\ N/mm^2$ iv) $320\ N/mm^2$

SECTION – I

2. a) State and explain assumption made in Euler's column theory. **8**

b) A solid steel rectangular section 100 × 30 mm is used as column with both end hinged. What is maximum safe height that column can have if safe load is 10 kN and FOS is 3, $E = 2 \times 10^5$ MPa ? **12**

3. A Hollow cylinderical cast iron column is 4m long both being fixed. Design a column to carry an axial load of 250kN. Use Rankines formula and adopt a FOS 5. The internal dia may be taken as 0.8 times the external diameter.

$6 = 550\ N/mm^2$ and $\alpha = \frac{1}{1600}$. **20**

P.T.O.

4. a) Design the foundation for a masonry pillar of 450 mm × 450 mm c/s and 3500 mm high subjected to an axial load of 500 kN. Assume SBC of soil as 250 kN/m^2, density of masonry is 20kN/m^3. Angle of response of soil 26°. **14**

   b) What factor influence the design thickness of load bearing wall ? Explain in brief. **6**

SECTION – II

5. Write in detail Rankine's theory for Earth Pressure. **10**

6. a) A compacted soil sample with bulk density of 1.99 m/cm^3 have a water content of 18%. Calculate dry density, degree of saturation and air content. Assume G = 2.55. **12**

   b) Define :
   Voids ratio, porosity, degree of sanitation and bulk density. **8**

7. a) Write a note on stability conditions for retaining wall. **7**

   b) Write a note on Atterberg limit. **8**

   c) Explain in detail force acting on Dam Section with neat sketch. **5**

8. A Dam section is 8m high the max^m depth of water impounded being 7.0m, the top width of the section is 1.4m, the wt. of masonry is 25 kN/m^3 while the wt. of water is 10 kN/m^3. Find the minimum bottom width required coefficient of friction between masonry dam and soil is 0.6, the water face of the dam is vertical. **20**

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SLR-Y – 36

Seat No.	

B.Arch. (Semester IV) Examination, 2015
HISTORY OF ARCHITECTURE – IV (Old)

Day and Date : Thursday, 14-5-2015 Max. Marks : 100

Time : 3.00 p.m. to 6.00 p.m.

N.B *: 1) Q.No.**1** is **compulsory**.*
*2) Draw neat sketches **wherever** necessary.*
*3) Answer **any two** questions from Q.No. **2**, **3**, **4** and **any two** from Q.No. **5**, **6**, **7**.*

1. Fill in the blanks. **10**

   1) Taj Mahal is typical example of _____ Architecture.
   2) Architect of Rashtrapati Bhawan is _____
   3) The construction of 'Qutb Minor at Delhi was completed by _____
   4) Series of Arches supported on columns or piers are termed as _____
   5) The Architect of 'Chatrapati Shivaji Terminus' in Mumbai _____
   6) Golgumbaz is located in the state of _____
   7) Slender towers rising above the Mosque termed as _____
   8) The Architect of "Jama Masjid" at Gulbarga was _____
   9) Humayun's tomb is located in _____
   10) Fortress city of Tughalaquabad was built by _____

2. Write short notes on the following (**any five**). **25**

   a) Raja Birbals House
   b) Architectural characters of IndoIslamic Architecture
   c) 'Raj Path' New Delhi
   d) Islamic Domes
   e) Moti Masjid
   f) Panchmahal

P.T.O.

3. a) Explain with neat sketch “Jama Masjid” at Gulbarga. **15**

   b) Explain with neat sketch Diwane-am and Diwane Khass in Fatehpur Sikri. **10**

4. a) Explain in detail with any one example Architectural characters of Bijapur Province. **15**

   b) Write detail note on ‘ Red Fort’ Delhi. **10**

5. a) Draw neat sketch and write detailed note on “Akabar’s tomb” at Sikandara. **10**

   b) Explain salient features of British Colonial Architecture in India. **10**

6. a) Write detailed note on “City of Tughalaquabad. **10**

   b) Explain with neat sketch ‘Rashtrapati Bhawan” New Delhi. **10**

7. What are the features of ‘Moghal Gardens’ in India ? Explain with neat sketch ‘Shalimar Bagh’. **20**

SLR-Y – 37

Seat No.	

B.Arch. (Semester – IV) Examination, 2015
CLIMATOLOGY AND ENVIRONMENT – II (Old)

Day and Date : Saturday, 16-5-2015 Max. Marks : 50
Time : 3.00 p.m. to 5.00 p.m.

***Instructions** : 1) Q. No. **1, 2, 5** are **compulsory**.*
*2) Solve **any one** out of Q. **3** and Q. **4**.*

1. A) Fill in the blanks :
   1) Radiation is measured in _____
      a) % b) watts/sqm
      c) degC d) none of above
   2) Ratio of outdoor and indoor illumination is _____
      a) day light factor b) K factor
      c) percentage d) natural light
   3) Addition of moisture in air _____ temperature.
      a) decrease b) neutral
      c) increase d) no change
   4) Stack effect refers to
      a) cross ventilation b) window
      c) courtyard d) duct
   5) Humidity is measured in
      a) decC b) °C c) % d) Watts **5**

   B) Answer in **one** sentence :
   1) Sea bruze
   2) Azimuth angle
   3) Humidity
   4) Daylight factor
   5) Humidification. **5**

2. Find solar altitude and azimuth angle for given chart at 3 pm on 30th July and 11am on 15th oct. for 4° North latitude. **5**

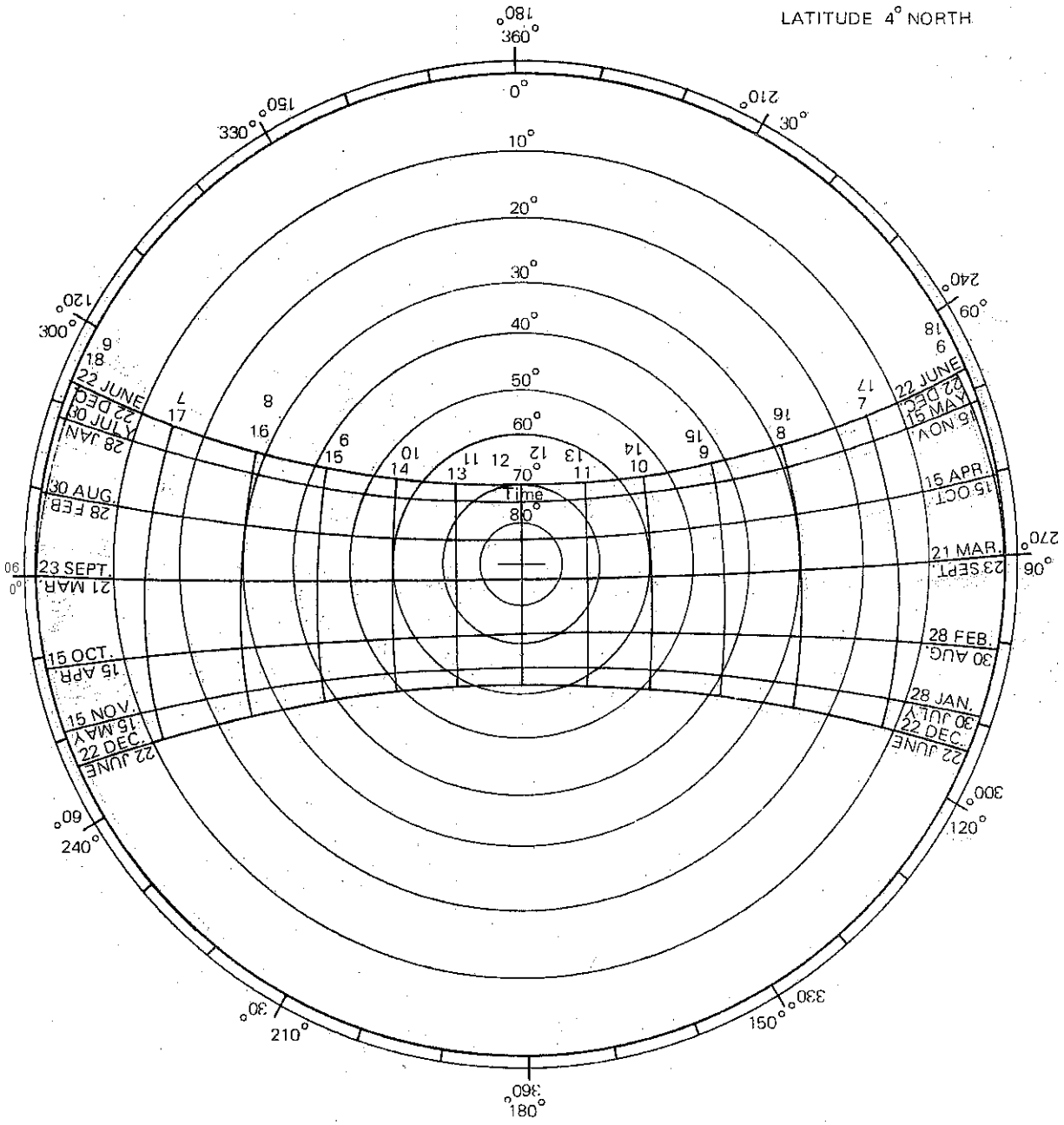
3. A) Find out horizontal and vertical shadow angle for 4° North latitude on : 21st March at 4 pm and 22nd dec. 10 am. **8**

   B) Write note on azimuth and altitude angle with sketch of sun path diagramme. **7**

P.T.O.

4. Explain designing in Hot and Dry climate with sketches. **15**

5. Write short note on **any 4** :
   1) Vertical shading device.
   2) Psycometric chart.
   3) Evaporative cooling tower.
   4) Day lighting in hot and dry climate.
   5) The munsell system of colours. **20**



SLR-Y – 38

Seat No.	

B.Arch. (Semester – IV) Examination, 2015
BUILDING SERVICES – II (Old)

Day and Date : Monday, 18-5-2015 Max. Marks : 50
Time : 3.00 p.m. to 5.00 p.m.

N.B. *: 1)* ***All*** *questions are* ***compulsory****.*
2) Draw sketches ***wherever*** *necessary.*

1. MCQ/ select the most appropriate option : **5**

1) _____ valves allows water to flow in one direction and prevent it from flowing in reverse direction.

a) Check valves b) Hydrants c) Air Relief valve

2) Standard Temp. for domestic use of water is _____

a) 1 – 3°C b) 10 – 15°C c) 25 – 30°C

3) _____ is a step needed in water filtration process.

a) Flocculation b) Spigot joint c) Solar pannels

4) _____ is a type of pump.

a) Meter b) Alum c) Rotary

5) _____ is a machinery used for boiling water.

a) Centrifugal pump b) Water fountain c) Geysers

2. Answer in single sentence : **5**

a) Water meter

b) Water softening

c) Chlorination

d) Per capita demand

e) Disinfection of water.

P.T.O.

3. Explain with neat sketches **(any 3**) : **15**

   a) Water treatment plant

   b) Standards of water quality

   c) Rotary pump

   d) Fire hydrant.

4. Explain types of joints used for water supply. **15**

5. Explain impurities in water. **10**

OR

5. Explain with sketch : **10**

   a) Pressure Relief valve

   b) Check valve.

SLR-Y – 39

Seat No.	

B.Arch. (Semester – V) Examination, 2015
BUILDING CONSTRUCTION AND MATERIALS – V

Day and Date : Tuesday, 5-5-2015 Total Marks : 50
Time : 10.00 a.m. to 1.00 p.m.

***Instructions**: 1) Make suitable assumptions **wherever** necessary and mention in your answer book.*
*2) Figures to **right** indicates **full** marks.*
*3) **All** questions are **compulsory**.*

1. Fill in the blanks :
   1) Cast iron contains _____ % carbon.
   2) _____ is purest form of steel.
   3) Vinyl resin is used in _____ glass.
   4) Aluminium melts at about _____ degree Celsius.
   5) Brasses and Bronzes are _____ alloys. **5**

2. Draw and design plan section elevation and two details of revolving door for 5 star hotel assuming opening size as per your design. Also give specifications and sizes of material. **15**

3. Explain pile foundation and give sketches of any 4 type. **15**

4. Write short note on **any 3** :
   1) Give sketches and details of North light truss.
   2) Give properties and uses of lead.
   3) Give uses of glass in building industry.
   4) Give properties and uses of aluminium. **15**

_____

SLR-Y – 4

Seat No.	

B.Arch. (Semester – I) Examination, 2015
HISTORY OF ARCHITECTURE – I (Old)

Day and Date : Thursday, 7-5-2015 Total Marks : 80

Time : 10.00 a.m. to 1.00 p.m.

Instructions *: 1) Figures to* ***right*** *indicates* ***full*** *marks.*
2) Q. No. ***1*** *is* ***compulsory****.*
3) Solve ***any six*** *questions from the remaining.*
4) Draw ***neat*** *sketches* ***wherever*** *necessary.*

1. Fill in the blanks : **8**

   1) Primary shelter for early man was _____

   2) Road pattern in Mohenjodaro city _____

   3) Name any one type of tomb structure in Egypt _____

   4) Etruscans were influenced by _____ peoples.

   5) _____ was great audience hall in palace of Persepolis.

   6) Agriculture was invented during _____ period.

   7) Vedic circular huts were provided with _____ roof.

   8) Egyptians used _____ stone to built pyramids.

2. Write short notes on the following (**any 3**) : **12**

   1) Kings chamber

   2) Lion gate

   3) City of Babylon

   4) Paleothic period.

P.T.O.

3. Sketch temple of khons at karnak and highlight its design features. **12**

4. Sketch the plan of palace of sargon at khorshabad and explain the same in detail. **12**

5. What are characteristic features of Indus valley civilisation ? Explain the same in detail. **12**

6. Draw neat sketch of the temple of Juno Sospita and explain the same in detail. **12**

7. Sketch and explain pre historic settlement of Catal Huyuk in Anatolia. **12**

8. Sketch and explain Vedic village. **12**

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SLR-Y – 40

Seat No.	

B.Arch. (Semester – V) Examination, 2015
THEORY OF STRUCTURES – V

Day and Date : Thursday, 7-5-2015 Total Marks : 80

Time : 10.00 a.m. to 1.00 p.m

***Instructions** : 1) Q. **1** is **compulsory**.*
*2) IS 456 and 800 is **allowed**.*
*3) Use of calculator is **allowed**.*
*4) Solve **any 4** Que. from remaining.*

1. Multiple Choice Questions : **10**

   1) The modular ratio is given by
      a) $m = 280/3\sigma cbc$ b) $m = 280/5\sigma cbc$ c) $m = 280/2\sigma cbc$
   2) The development length of bar Ld is
      a) $Ld = \phi\ \sigma s/4\zeta bd$ b) $Ld = fy.\ \sigma s/4\zeta bd$ c) $Ld = 3\sigma s/2\zeta bd$
   3) In case of fixed beam, the deflection at its centre is
      a) max b) zero c) is very much reduced
   4) Lever arm is given by
      a) [d – n/2] b) [d – n/3] c) [d – n/4]
   5) Stress in given by
      a) area / BM b) load / area c) strain / load

2. a) What is meant by under reinforced, balanced and over balanced sections ? **8**

   b) A sec of R.C.C. beam 300 × 700 mm is reinforced with (4 – 25) mm ϕ bars placed 30 mm from the bottom of the beam. The beam is subjected to a B.M of 130 KN.M. Find the stresses set up in con and steel if m = 18.66. **10**

3. a) Write a note of workability of concrete. **9**

   b) State the assumptions made in limit state of collapse in flexure. **8**

P.T.O.

4. a) Write a note on grades of con and design mix concrete. **8**

   b) Explain how do you calculate the strength of rivet. **9**

5. a) What are the types of riveted joints ? **8**

   b) Draws SFD and BMD for a singly supported beam with a pt load at center and UDL throughout the span. **9**

6. a) What are the assumptions made in R.C.C. theory ? **8**

   b) Design tension and compression member for a load carrying capacity of 150 KN. **9**

7. a) Select a suitable 'H' sec for a col. carrying a load of 350 KN and end mmts of 45 KN.M each @ the major anis. The effective length of the col. is 6m. Assume cm = 0.6. **11**

   b) What do you mean by bond and development length ? **7**

SLR-Y – 41

Seat No.	

B. Arch. (Semester – V) Examination, 2015
HISTORY OF ARCHITECTURE – V

Day and Date : Saturday, 9-5-2015 Max. Marks : 80
Time : 10.00 a.m. to 1.00 p.m.

N.B. *: i) Figures to the **right** indicate **full** marks.*
*ii) Question numbers should be **clearly** written in the answer books.*
*iii) Draw **neat** sketches **wherever** necessary.*

1. Fill in the blanks : **5**
   1) The Guggenheim museum at New York is designed by _____
   2) _____ introduced the concept of modular based on the proportions of the human body.
   3) Jacques Derrida, the French philosopher introduced the concept of _____
   4) Walter Gropius started the BAUHAUS design school at _____
   5) Any one building material used in modern architecture _____

2. Answer in **one** sentence : **(3×1=3)**
   i) The city of Bilbao is famous for which building.
   ii) Name the architect who wrote the book complexity and contradiction in architecture.
   iii) The woman to have received the Pritzker prize is

3. Explain in brief with sketches (if applicable) **(3×6=18)**
   i) Explain in brief the idea of deconstructionism.
   ii) Explain in brief the Chicago school of arts and crafts.
   iii) The materials and type of construction used for the Falling Water house by Frank Lloyd Wright.

P.T.O.

4. Write short notes **(any 6)** : **(6×4=24)**

   i) The Art Noveau movement.

   ii) Plain in brief the use of materials and its influence in modern architecture.

   iii) Sketch plan and elevation only of the Kanchanjunga apartments by Charles Correa.

   iv) The concept of the modular and name an example of a building based on it.

   v) Furniture design by Mies Van der Rohe.

   vi) Prairie house by Frank Lloyd Wright.

   vii) Explain in brief the Fagus shoe factory.

5. Explain in detail with sketches (**any two**) : **(2×15=30)**

   i) Write a note on the works and philosophy architect Frank Lloyd Wright with an example of her building of your choice..

   ii) Explain the work of architect Laurie Baker with an example of one of his buildings.

   iii) Explain the work and philosophy of architect Zaha Hadid with one example of her works.

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SLR-Y – 42

Seat No.	

B.Arch. (Semester – V) Examination, 2015
BUILDING SERVICES – III

Day and Date : Monday, 11-5-2015 Max. Marks : 80
Time : 10.00 a.m. to 1.00 p.m.

***Instructions** : 1) Q. No. **1** is **compulsory**.*
*2) Solve **any six** from the **remaining**.*

1. Fill in the blanks : **8**
   1) _____ is stated as the opposition to flow of current.
   2) _____ filament is used in Incandescent bulb.
   3) The usual temp. difference between inside and outside should not be more _____ than °C.
   4) In order to make air free from bacteria, dust etc _____ are used in Air Conditioning.
   5) Top clearance of min. _____ m must be kept in lifts with machine room.
   6) _____ volts is obtained from single phase supply.
   7) _____ are provided at all street crossings for fire extinguishing.
   8) As a general norm each circuit shall not have more than _____ watts.
2. Write short notes **(any 3)** : **12**
   1) Neon lamps
   2) Wind effect in natural system of ventilation
   3) Counter weight of lift
   4) Ionization detectors.
3. Sketch and explain voltage across wire in three phase. **12**
4. Explain methods of mechanical ventilation in common use (other than air conditioning). **12**
5. Draw section through lift and explain its 4 parts. **12**
6. a) Explain filters used in Air conditioning. **6**
   b) Earthing for safety. **6**
7. Explain central air conditioning plant with sketch. **12**
8. Explain working of escalator and draw arrangement of different types. **12**

_____

SLR-Y – 43

Seat No.	

B.Arch. (Semester – V) Examination, 2015
ARCHITECTURAL DESIGN – V
Theory of Design (Intro. to Landscape)

Day and Date : Friday, 22-5-2015 Total Marks : 100
Time : 10.00 a.m. to 4.00 p.m.

Day and Date : Saturday, 23-5-2015
Time : 10.00 a.m. to 4.00 p.m.

Instructions *:*

- *The candidates are required to remain in the Examination Hall continuously for **six** hours. food to be arranged by Supervisor.*
- *The candidates should be allowed to do coloring work till the **last minute** and paper should be collected after they are dry while students may leave the Examination Hall after the time is over.*
- *All students shall submit their concept sheets on tracing paper at the **end of the first day**.*
- *The above said drawing **shall not be returned** to them next day.*
- *Any serious deviation from the original scheme is **not permitted**.*
- ***All** other **rough/fair sheets** shall be given back to the candidate along with the paper on the second day for continuing the work.*
- ***Assume** suitable data and scale **wherever** necessary.*

Art Gallery

Solapur Municipal Corporation has called for an architectural competition for an art gallery proposed in Jule Solapur. The site is donated by a leading industrial house. The Gallery intends to encourage young talent and also bring serious works of art to the connoisseurs (art lovers).

The following is the design brief :

- Entrance foyer 40 sqm
- Exhibition room-2 100 sqm each

P.T.O.

- Studio-both for work as well as demonstration/workshops 75 sqm
- Audio-Visual room 150 sqm
- Sculpture court with amphitheatre seating for 80 persons
- Curators office with attached toilet 20 sqm
- Administration office 20 sqm
- Store 10 sqm
- Workshop 25 sqm

- Toilets :

  Gents' Toilets

WC	2 nos
Urinals	8 nos
Washbasins	2 nos

  Ladies' Toilets

WC	4 nos
Washbasins	2 nos

- Artist's accommodation – 2 units

Living cum studio	18 sqm
Kitchenette and dining	12 sqm
Bedroom with attached toilet	16 sqm

- Cafe – serving coffee and snacks

Seating for 25 persons (can be semi-covered)	38 sqm
Serving counter cum work area	10 sqm

- Parking

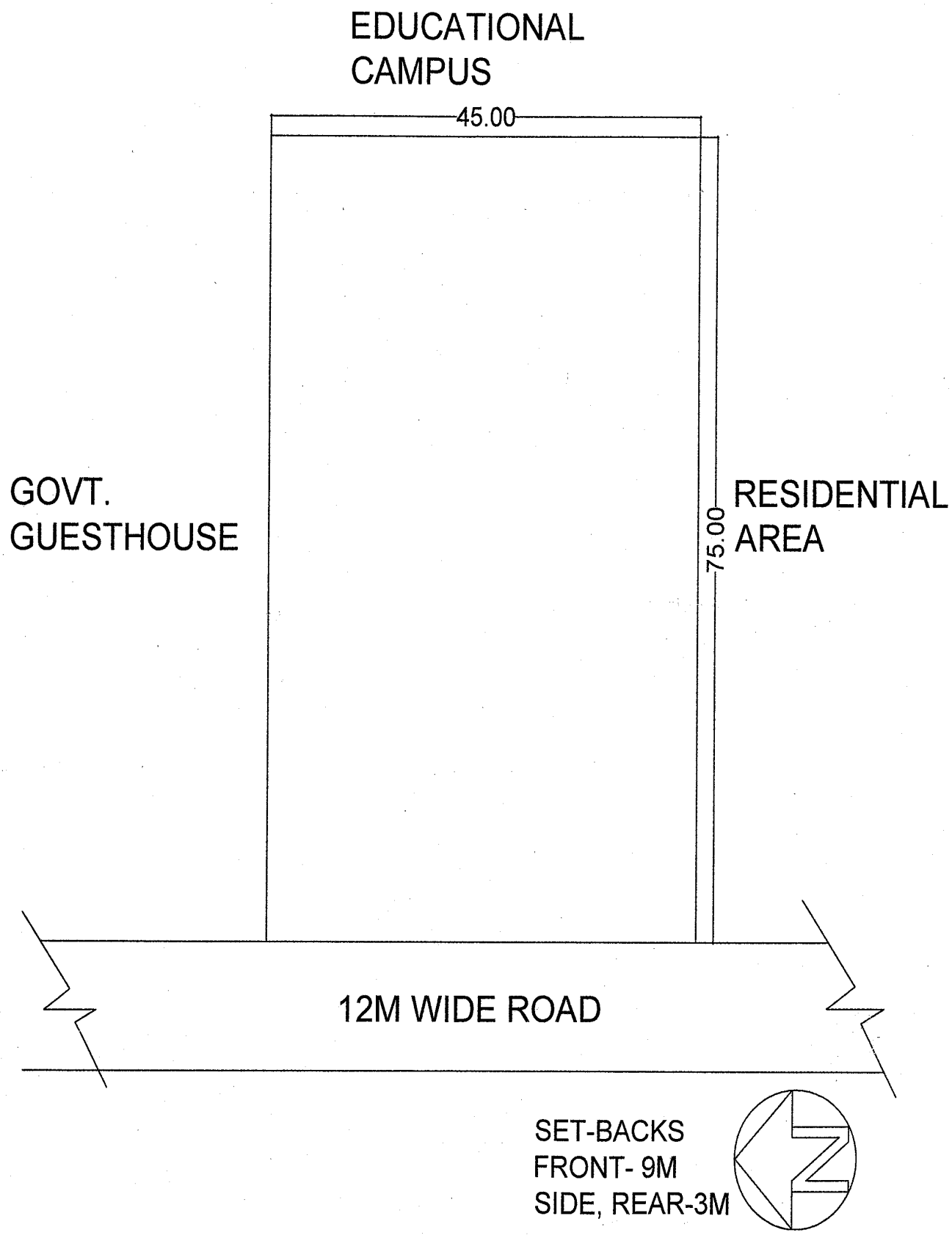
  4-wheelers-12 nos

  2-wheelers-30 nos

Staircases, connecting corridors to be provided as required.

Drawings required :

- Concept **10**
- Site plan, Site analysis, Site section (1 : 500) **20**
- All floor plans **30**
- Elevations - 2 **15**
- Sections through staircase and toilet-2 **15**
- View **10**


EDUCATIONAL
CAMPUS
45.00
GOVT.
GUESTHOUSE
75.00
RESIDENTIAL
AREA
12M WIDE ROAD
SET-BACKS
FRONT- 9M
SIDE, REAR-3M

SLR-Y – 44

Seat No.	

B.Arch. (Semester – VI) Examination, 2015
BUILDING CONSTRUCTION AND MATERIALS – VI

Day and Date : Wednesday, 6-5-2015 Max. Marks : 50

Time : 10.00 a.m. to 1.00 p.m.

Instructions: *1) Make suitable assumptions **wherever** necessary and mention it in your answer books.*

*2) Figures to **right** indicate **full** marks.*

1. Fill in the blanks : **5**

   a) PVC means _____

   b) Types of plastics are _____ and thermosetting plastic.

   c) _____ oil is used as solvent in oil varnishes.

   d) Solution of resins prepared in alcohol, oil or turpentine is _____

   e) Colour of the asbestos is _____

2. Design a basement for the departmental store of size 6.00 $\times$ 8.00. Provide water proffing treatment by any one method for it. Draw plan, section to a suitable scale. Draw any two details to a suitable scale. **15**

3. Write short notes (**any 3**) : **15**

   a) Cement paint

   b) Market forms of steel

   c) Curtain wall

   d) Ferrocement

4. Enumerate general properties and uses of ceramics. **15**

   OR

4. What are the different pre cast building components ? **15**

SLR-Y – 45

Seat No.	

B.Arch. (Semester – VI) Examination, 2015
THEORY OF STRUCTURE – VI

Day and Date : Friday, 8-5-2015 Total Marks : 80
Time : 10.00 a.m. to 1.00 p.m.

***Instructions** : 1) **Use** of scientific calculator is **allowed**.*
*2) Q. No. **1** and **2** are **compulsory**. From **remaining** questions solve **any four**.*
*3) Figures to the **right** indicates **full** marks.*
*4) Assume suitable data **if necessary**.*

1. Select the correct option for the following : **8**

   1) Minimum number of bars required in circular column
      a) 6 bars b) 4 bars c) 8 bars d) None

   2) In one way action of the footing, the critical section of the shear shall be at
      a) d/4 b) d c) d/8 d) d/2

   3) Minimum cover to column is
      a) 20 mm b) 25 mm c) 40 mm d) None of above

   4) In under reinforced section, _____
      a) Xu < Xmax b) Xu = Xmax c) Xu > Xmax d) None of above

2. a) Explain the concept of the trusses and their types. **4**
   b) Explain the concept limit state method. **4**

3. Design one way slab of 6m × 2.5 m clear spans. Take floor finish load 1.5 KN/m^2, M20 concrete and Fe415 steel. **16**

4. A simply supported beam of the length 4 m carriers UDL of load 20 KN/m. Analyze and design beam. Take M20 concrete and Fe415 steel. **16**

5. Design a rectangular column of 4.5 m unsupported length, restrained in position and direction at both ends, to carry an axial load of 1200 KN. Use M20 concrete and Fe415 steel. **16**

6. Design footing for axial load of 500 KN, SBC = 150 KN/m^2 and use M20 concrete and Fe415 steel. **16**

7. Write design steps for : **16**
   1) Short column
   2) Footing.

SLR-Y – 46

Seat No.	

B.Arch. (Semester – VI) Examination, 2015
BUILDING SERVICES – IV

Day and Date : Tuesday, 12-5-2015 Total Marks : 80
Time : 10.00 a.m. to 1.00 p.m.

Instructions : *1) Question No. **1** is **compulsory**.*
*2) Solve **any six** questions from the **remaining**.*
*3) Draw **neat** sketches **wherever** necessary.*
*4) Figures to the **right** indicate **full** marks.*

1. Fill in the blanks : **8**

   1) When decomposition of organic matter takes place in presence of oxygen it is known as _____ process.

   2) The particible waste termed as _____

   3) B.O.D. indicates _____

   4) The process of setting suspended particle is known as _____

   5) Hospital waste is burnt in _____

   6) When decomposition of organic matter take place in presence of oxygen it is termed as _____ process.

   7) In sewage treatment plant Grit is removed in _____

   8) Waste water from bathroom and kitchens termed as

2. Write short notes on **any 3** : **12**

   1) Unaerobic process

   2) C.O.D. and its significance

   3) Solid waste

   4) Vermiculture.

P.T.O.

3. Discuss importance of reduce, reuse and recycling of waste. Give examples for the same. **12**

4. What is mean digestion of sludge ? Why is it necessary ? Explain sludge digestion tank with neat sketch. **12**

5. What is mean by disposal of sewage by dillution ? What are the conditions favorable for it ? **12**

6. Draw neat sketch of typical septic tank and explain its component parts. **12**

7. State the importance and necessity of rural sanitation. **12**

8. State the various of pollution and its effects on environment. **12**

SLR-Y – 47

Seat No.	

B. Arch. (Semester – VI) Examination, 2015
ACOUSTICS

Day and Date : Thursday, 14-5-2015 Max. Marks : 80
Time : 10.00 a.m. to 1.00 p.m.

***Instructions** : 1) Questions No. **1** is **compulsory**.*
*2) Solve **any three** out of remaining*
*3) Make suitable assumptions **wherever** necessary.*

1. A) Fill in the blanks.

1) _____ shape auditorium is ideal design.

a) Fan b) Round c) Elongated d) Ellipse

2) Echo is produced due to _____ phenomenon.

a) transmission b) difraction c) reflection d) none of above

3) _____ is used in optical model test to study sound behaviour.

a) sound source b) light source c) liquid source d) none of above

4) The time taken by sound to diminish is called_____

a) reverbaration time b) dead time

c) none of the above d) flutter **4**

B) Calculate total absorption required and design a theatre for capacity of 700 people consider volume 3.5 m^3/person and Rt = 1.5; use following absorption coefficient; give conceptual section and plan.

1) pop – 0.26
2) plaster – 0.004
3) glass wool – 0.15
4) occupied seat – 0.42
5) unoccupied seat – 0.18
6) curtain – 0.12. **31**

P.T.O.

2. A) Explain sound reflection and sound diffraction. **15**

   B) Explain with sketches two acoustical material with installation. **8**

3. Explain reverberation of sound and sabine's formula. **7**

4. Give design principles of auditorium. **15**

5. Write short note on **any 3**.

   1) Control of airborn sound

   2) Optical model test

   3) Propagation of sound

   4) Explain in short; Noise and its type. **15**

SLR-Y – 48

Seat No.	

B.Arch. (Semester – VI) Examination, 2015
URBAN AND REGIONAL PLANNING – I

Day and Date : Saturday, 16-5-2015 Total Marks : 80
Time : 10.00 a.m. to 1.00 p.m.

Instruction: *Q. No.* ***1*** *is* ***compulsory.***

I. Fill in the blanks. **8**

a) Sir Ebenezer Howard proposed the concept of _____

b) Le-Corbuisier was the town planner for _____ city.

c) Density of population is _____

d) Kerb is the boundary between pavement and _____

e) In use zoning, the area normally provided for industrial zone is _____

f) Pataliputra was laid on _____ pattern.

g) F.S.I. is the ratio of _____

h) Chandigarh City is divided in _____ sectors.

II. Answer **any 6** from remaining question. **(6×12 = 72)**

1) Explain with example the concentric spread type growth of town.

2) Explain the concept of "Survey Before Plan" laid by Sir Pattrick Geddes.

3) Explain in detail how the growth of town is influenced by industrial revolution.

4) Explain the principles and advantages of zoning.

5) How can the formation of slum be prevented ?

6) Mention the disadvantages of traffic congestion and state the measures adopted to avoid it.

7) Write short notes on **(any 3)**.
   1) Vertical growth.
   2) Height zoning.
   3) Row houses and apartments.
   4) Radial street system.

_____

SLR-Y – 49

Seat No.	

B.Arch. (Semester – VI) Examination, 2015
ESTIMATING SPECIFICATION AND COSTING – I

Day and Date : Monday, 18-5-2015 Max. Marks : 80
Time : 10.00 a.m. to 1.00 p.m.

N. B. : *1)* ***All*** *questions are* ***compulsory****.*
2) Non programmable calculator is ***allowed****.*

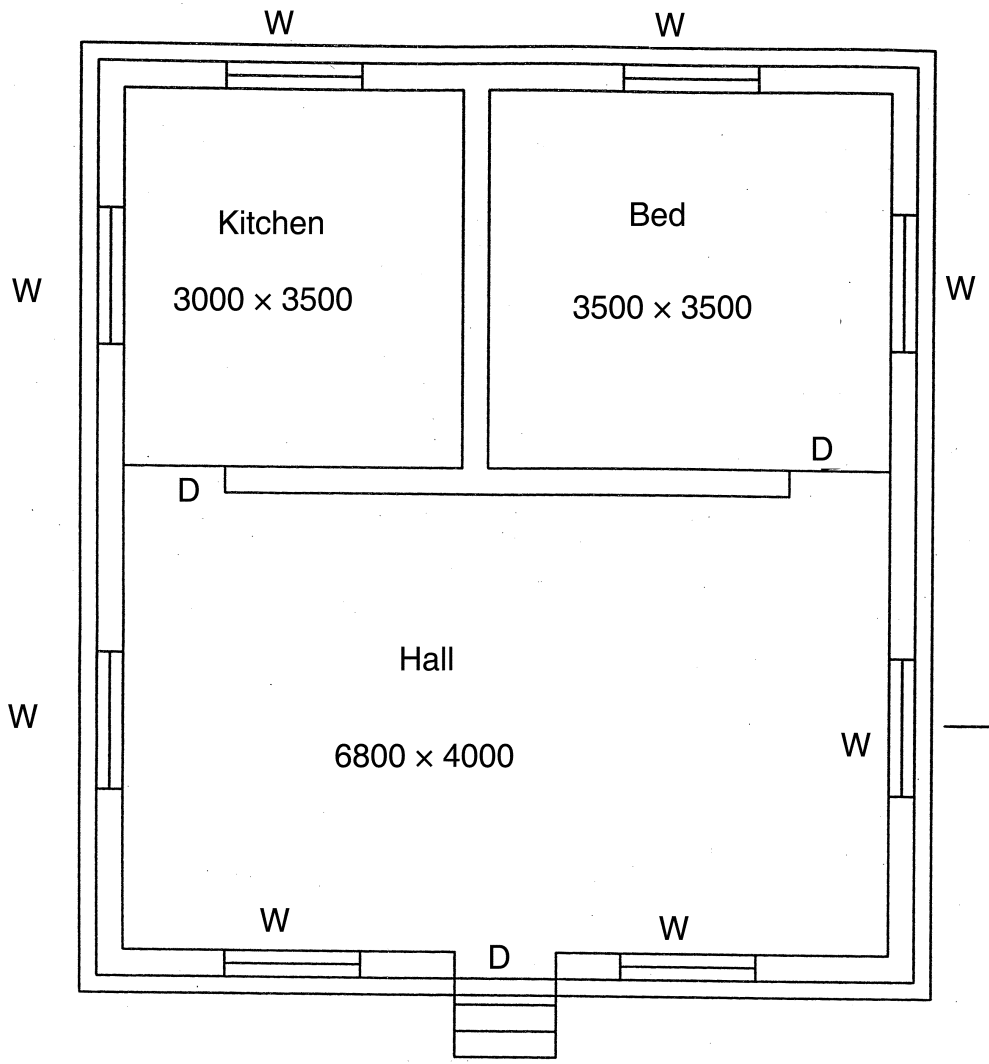
1. From the given figure no. 1 calculate the following items for the single Storeyed residential building with no. of rooms (Load bearing type structure) and prepare measurement sheet. **45**
   a) Excavation in foundation
   b) Plinth filling
   c) PCC for foundation
   d) Masonry work in plinth
   e) RCC Slab.

2. Prepare Abstract sheet for above residential building with no. of rooms (Load bearing type structure). **15**
   a) Excavation in foundation = Rs. 300/cum
   b) Plinth filling = Rs. 750/cum
   c) PCC for foundation = Rs. 3,300/cum
   d) Masonry work in plinth = Rs. 4,400/cum
   e) RCC Slab = Rs. 6,500/cum.

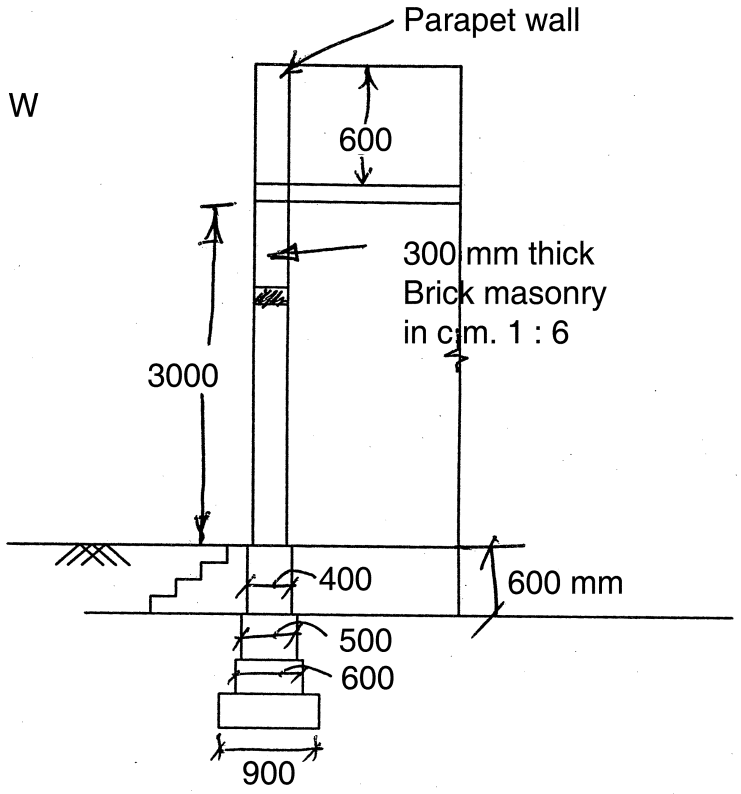
3. Prepare Rate analysis for the following items (**any two**) : **10**
   a) Brick masonry work
   b) Internal Plaster work
   c) RCC Column.

4. Mention the units for the following items : **10**
   a) Flooring
   b) R. R. Masonry
   c) Plastering for pointing
   d) Damp proof course
   e) R. C. Sunshade (Specified width and thickness).

P.T.O.



ALL DIMENSIONS ARE IN "MM"



Ref :

D = 1000 × 2000 mm
W = 1200 × 1500 mm

SLR-Y – 50

Seat No.	

B.Arch. (Semester – VII) Examination, 2015
ENVIRONMENTAL DESIGN

Day and Date : Tuesday, 5-5-2015 Total Marks : 100

Time : 3.00 p.m. to 6.00 p.m.

***Instructions** : 1) Please assume suitable **wherever** necessary.*
*2) Draw sketches **where** necessary.*
*3) Solve **any 5** questions from the given **7**.*
*4) **Each** question carries **20** marks.*

1. Explain the role of Architect in environmental design. Explain how settlements influence environment.

2. Explain what is F.S.I. ? Sketch two alternatives of building plans for a plot of 300 sq mts (use of building as per your choice).

3. Propose a landscape design for a open space in a residential society for all age groups. Draw relevant sketch plan, section and details. Refer fig-A.

4. What is meant by neighbourhood ? How would you plan for a neighbourhood of 15000 people ?

5. Explain the immediate surroundings of your place of residence (radius-500 m) with the help of sketches.

6. Describe any 2 methods of Eco-friendly construction of buildings.

7. With the help of neat sketches describe types of housing you have seen in your city.

P.T.O.

SLR-Y – 50

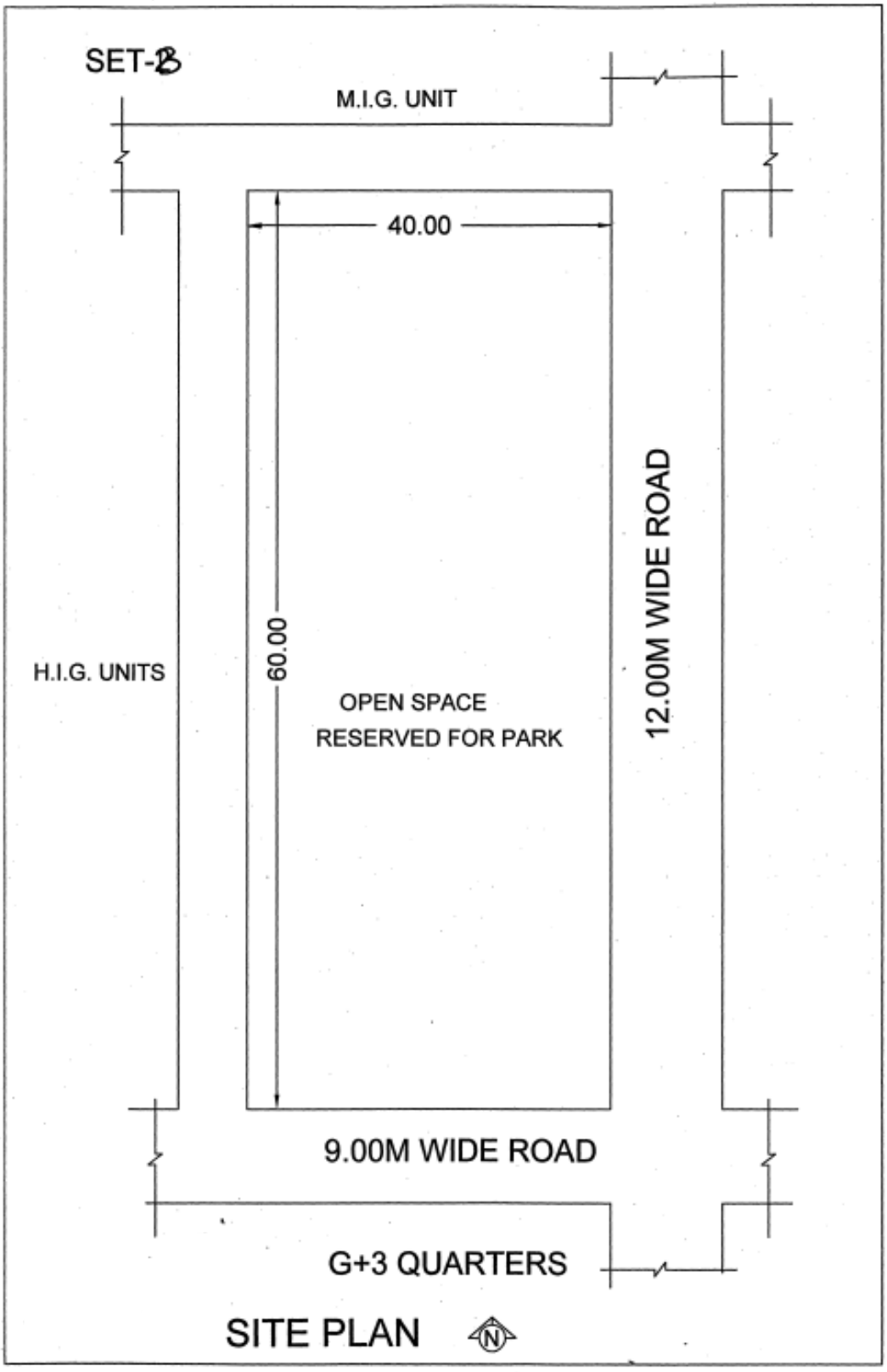

SET-B
M.I.G. UNIT
40.00
60.00
H.I.G. UNITS
OPEN SPACE
RESERVED FOR PARK
12.00M WIDE ROAD
9.00M WIDE ROAD
G+3 QUARTERS
SITE PLAN
N

Fig. A

SLR-Y – 51

Seat No.	

B.Arch. (Semester – VII) Examination, 2015
BUILDING CONSTRUCTION AND MATERIAL – VII

Day and Date : Thursday, 7-5-2015 Total Marks : 50
Time : 3.00 p.m. to 6.00 p.m.

I. Fill in the blanks : **5**

a) The recommended size of lift for 6 persons is _____

b) Portal frame works on the principle of _____ like arch and vault.

c) The proportion of concrete used in underpinning is _____

d) In _____ steel or tendons are stressed and laid before concrete is poured.

e) The pitch is _____ in case of escalator.

II. With the help of neat sketches show the constructional measures adopted for earthquake resistant structures. **15**

III. 1) Name the various materials used for false ceiling and explain the method of installation of P.O.P. as a false ceiling material. **15**

OR

2) a) Write in brief the use of mastic sealants in building construction. **8**

b) Write in brief the use of epoxy material in building construction. **7**

IV. Write short notes on (**any 3**) : **15**

a) Gantry girder

b) Underpinning

c) Shell roofs

d) Geodesic dome

e) Cold storage.

_____

SLR-Y – 52

Seat No.	

B.Arch. (Semester – VII) Examination, 2015
THEORY OF STRUCTURE – VII

Day and Date : Saturday, 9-5-2015 Max. Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

Instructions *: 1)* ***Use*** *of scientific calculator and* ***IS-456-2000*** *is allowed.*
2) Q. ***1*** *and Q.* ***5*** *are* ***compulsory****. Solve* ***any 2*** *questions from the remaining question from Section* ***I*** *and* ***II****.*
3) Figures to the ***right*** *indicates* ***full*** *marks.*

SECTION – I

1. Choose the correct option for following : **8**

   i) Raft foundation is _____

   a) Very costly b) Used for low SBC
   c) Suitable for block cotton soil d) All the above

   ii) Middle strip and column strip are part of

   a) Flat slab b) Two-way slab
   c) Grid slab d) None of above

   iii) Partial frames are made of

   a) Concrete only b) Steel only
   c) Concrete and steel d) None of above

   iv) Minimum number of bar's for circular piles are

   a) 4 b) 10
   c) 12 d) None

2. A) Explain in detail flat slab. **8**
   B) Differentiate between rigid frame and partial frame. **8**

3. A) Explain IS provisions for under reamed piles. **8**
   B) Write the design steps for rectangular tank. **8**

P.T.O.

4. Design a circular water tank with flexible connection at base of capacity 5,00,000 litres. **16**

   Take following data :

   1) Height of tank 4.5 m
   2) Free board 200 mm
   3) Take M20 and Fe415 steel tank is resting on ground and open at top.

SECTION – II

5. Write a short note on : **8**

   A) Gantries and Cranes

   B) Forces involved in earth-quake.

6. A) Write a note on prestressed concrete and types in detail. **8**

   B) Write a note on shell's, space frames and silos. **8**

7. A) Explain the concept of design for earthquake proof construction. **8**

   B) Explain different loads on structural members of RCC building. **8**

8. Calculate stresses at top and bottom of following beam which is acted by point load 10 KN at centre. Span of simply supported beam is 6 m, prestressing force P = 1500 KN acting at distance of 200 mm below neutral axis. Section of beam is 400×800 mm. **16**

———————

SLR-Y – 53

Seat No.	

B. Arch. (Semester – VII) Examination, 2015
ADVANCED ESTIMATING SPECIFICATION AND COSTING – II

Day and Date : Monday, 11-5-2015 Max. Marks : 80

Time : 3.00 p.m. to 6.00 p.m.

***Instructions** : 1) Q. **1** to Q. **5** are **compulsory**.*

*2) **All** questions are to be solved.*

*3) **Calculators** are allowed to use.*

*4) Assume any **suitable data** if necessary.*

1. a) From the given Sketch, Calculate the quantities of following items. **30**

   i) Footings

   ii) Brick Masonry in superstructure

   iii) Flooring

   iv) Internal plasts.

   b) Prepare abstract sheet of above items using the following rates. **10**

   i) Rootings – Rs. 7,000/m^3

   ii) BBM – Rs. 2,500/m^3

   iii) Flooring – Rs. 500/m^2

   iv) Internal Plasts – Rs. 300/m^2

2. Write short notes on various types of estimates and its uses etc. **10**

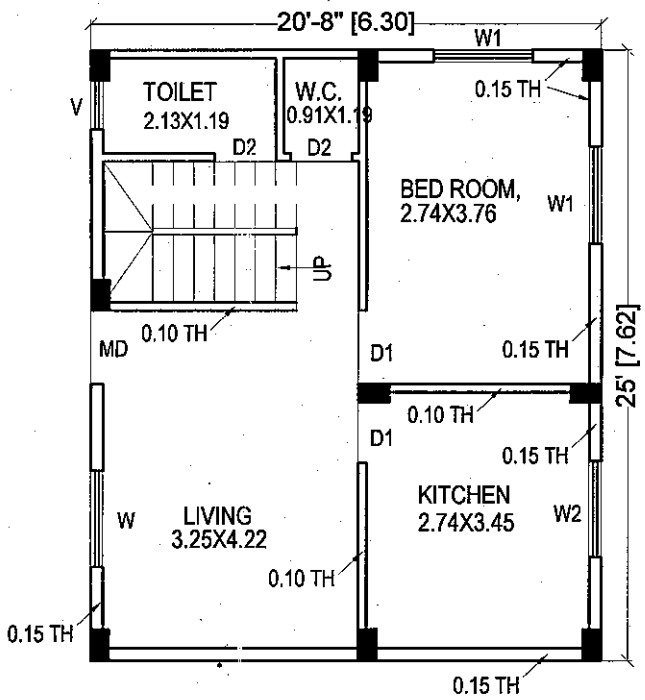
3. Prepare or write detailed specification on 1:1½:3 R.cc. item. **10**

4. Prepare/write various types of valuations its purposes etc. **10**

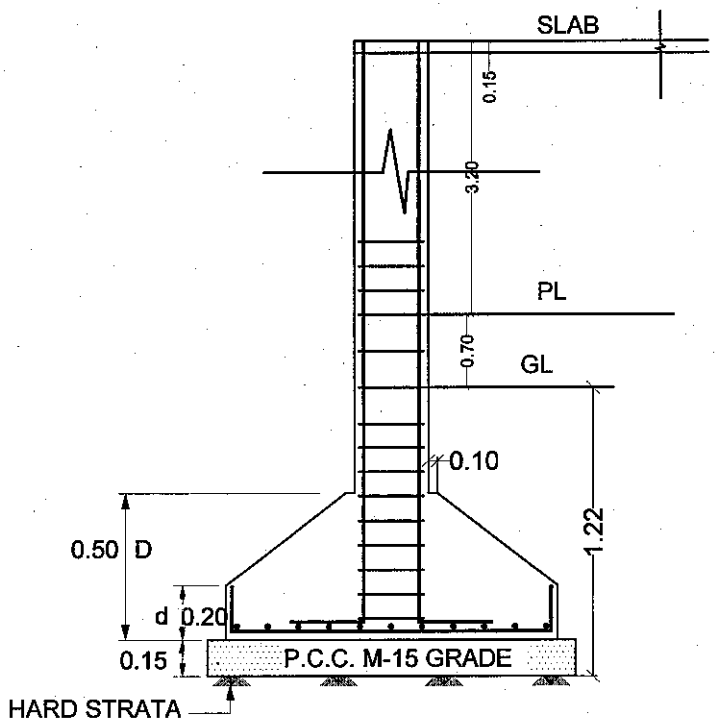
5. Write various types of Contracts, its uses and conditions of contract. **10**

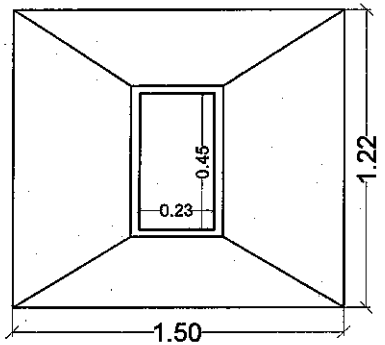
P.T.O.

SLR-Y – 53



DOOR & WINDOWS SCHEDULE		
TYPE	SIZE	DISCRIPTION
MD	1.20 X2.40	M.S. SHUTTER
D1	0.91 X2.10	THICK WOOD
D2	0.75 X 2.10	THICK WOOD
W1	1.83 X 1.22	STEEL WINDOW
W2	1.10 X 0.75	STEEL WINDOW
V	0.60 X 0.60	STEEL VENTI





TYPICAL SECTION OF COLUMN & FOOTING

SLR-Y – 54

Seat No.	

B.Arch. (Semester – VII) Examination, 2015
ADVANCED ARCHITECTURAL DESIGN – VII

Day and Date : Tuesday, 19-5-2015 Max. Marks : 150
Wednesday, 20-5-2015
Thursday, 21-5-2015
Time : 10.00 a.m. to 4.00 p.m.

Instructions *: 1) The Candidates are* ***required*** *to submit the concept, rough scheme, final presentation dwgs. on the* ***end*** *of the day.*
2) ***Assume*** *suitable data* ***wherever*** *necessary.*

CORPORATE OFFICE AT PUNE

An esteemed group of telecommunication company desires to have a corporate office building at Pune to provide the best image of company and easy transaction.

ARCHITECTURAL PROGRAMME :

1) Entrance lobby	–	100 sq. m.
2) Office area (distributed in all floors)	–	1000 sq. m.
3) Cafeteria	–	250 sq. m.
4) Seminar/Meeting halls 2 nos. i.e. (125 × 2)	–	250 sq. m.
5) Conference Hall	–	250 sq. m.
6) Entrance lobby, security cabin		
Parking for Staff and visitors and toilet	–	Adequate

DRAWING REQUIREMENTS :

1) Concept (not to scale)	**15**
2) Site plan (1 : 200)	**25**
3) All floor plans (1 : 100)	**50**

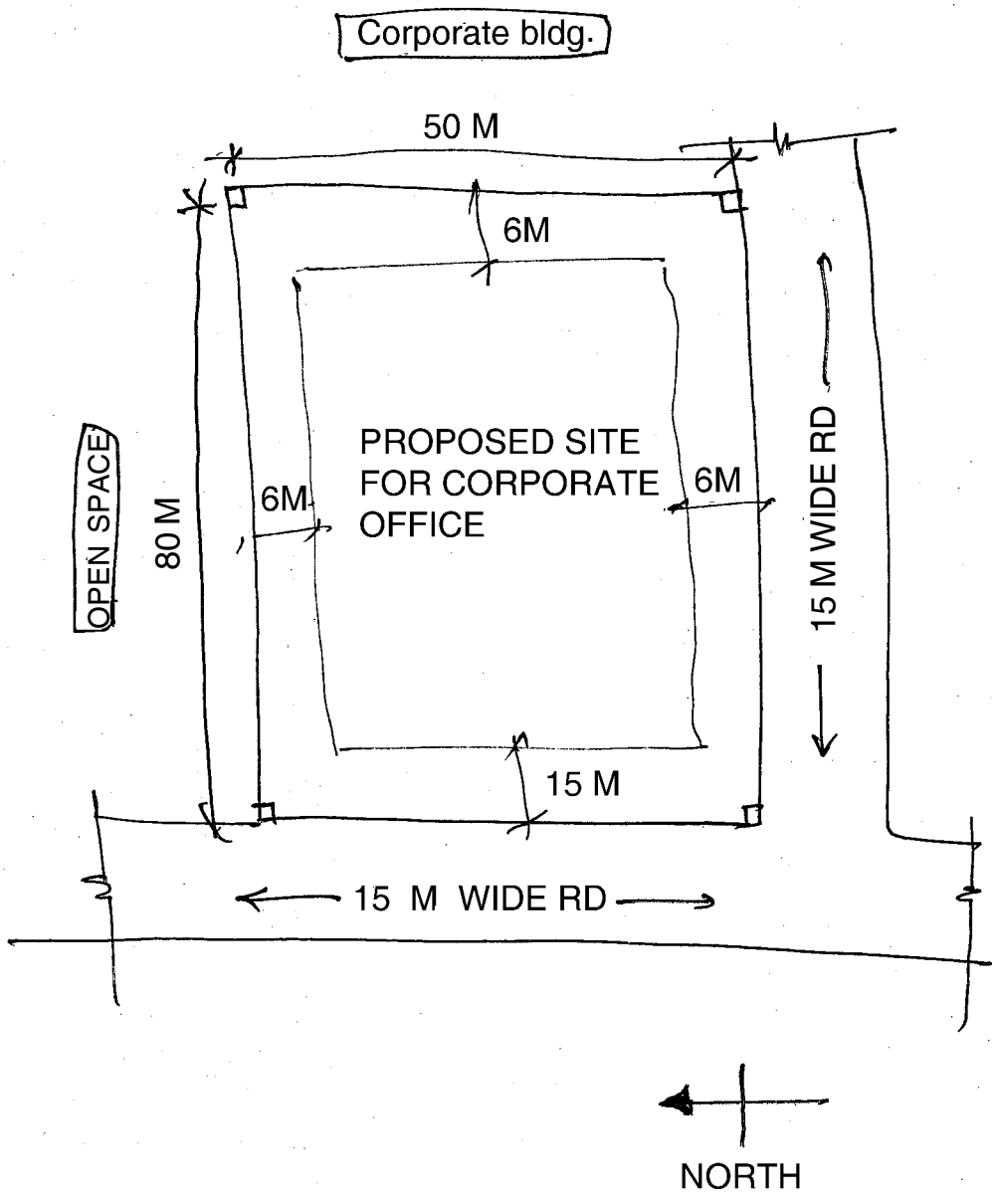
P.T.O.

4) 2 Sections (1 : 100) **25**

5) 2 Elevation (1 : 100) **20**

6) 3D view (not to scale) **15**

SITE PLAN



SLR-Y – 55

Seat No.	

B.Arch. (Semester – VIII) (New) Examination, 2015
PROFESSIONAL PRACTICE – II

Day and Date : Wednesday, 6-5-2015 Max. Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

***Instructions** : 1) Q. No. **I** and Q. No. **II** are **compulsory**.*
*2) Answer **any five** from the remaining questions.*

I. A) Fill in the blanks : **5**

1) The _____ of the architect expires after two years from the date of completion of relevant part of the work.
2) EMD stands for _____ .
3) _____ act prevents and protects the architects from their architectural designs and drawings to be copied.
4) Contractor is asked to deposit an amount towards security deposit varying from _____ of the estimated cost of the project.
5) Government of India has enacted the Land Acquisition Act in ____ .

B) Answer in **one** sentence : **5**

1) What are the two types of easement rights ?
2) What is meant by arbitration ?
3) Define waste.
4) Define F.S.I.
5) Elongate NBC.

II. Write short notes on (**any 4**) : **20**

1) Duties of a client.
2) Demolition tender.
3) Arbitral award.
4) Characteristics of easements.
5) Single stage competition.

III. Explain Architects Act 1972. **10**

IV. Differentiate between item rate tender and lump-sum tender. **10**

V. Write in brief : Arbitrator, Arbitral tribunal, Arbitration agreement. **10**

VI. Discuss the role of COA with respect to architectural competition. **10**

VII. Discuss the laws relating to repairs of the house between tenants and owner. **10**

VIII. Compare between natural rights and customary rights. **10**

SLR-Y – 56

Seat No.	

B.Arch. (Semester – VIII) Examination, 2015
PROFESSIONAL PRACTICE – II (Old)

Day and Date : Wednesday, 6-5-2015 Max. Marks : 80

Time : 3.00 p.m. to 6.00 p.m.

Instructions *: I) Question* ***1*** *and* ***2*** *are* ***compulsory****.*
II) Draw ***neat*** *sketches* ***wherever*** *necessary.*
III) Answer ***any five*** *from* ***remaining*** *questions.*

1. A) Fill in the blanks : **5**
   a) The liability of the architect expires after _____ from the date of completion of relevant part of the work.
   b) EMD means _____
   c) _____ is a person who is appointed to settle the disputes.
   d) An agreement enforceable by law is a _____
   e) F. S. I. means _____

   B) Write in **one** sentences : **5**
   a) What is discontinuous easement ?
   b) Define contract.
   c) What is meant by arbitratral tribunal ?
   d) What is meant by waste ?
   e) Write the long form of NBC, TDR.

2. Write short note **(any four)** : **20**
   a) Clients responsibilities
   b) Demolition tender
   c) Arbitral award
   d) Natural and customary rights
   e) Single stage competition.

P.T.O.

3. Explain the Architects Regulations 1972 with reference to code of conduct. **10**

4. Explain in detail arbitrator, arbitral tribunal, arbitration agreement, arbitral award. **10**

5. What is meant by earnest money, security deposit, retention amount, mobilisation fund ? **10**

6. Explain in brief the method of assessment and award in architectural competitions. **10**

7. Write the characteristics of easement and essential conditions for the enjoyment of easement. **10**

8. Explain in detail dilapidations of building, repairs and measures to be taken. **10**

SLR-Y – 6

Seat No.	

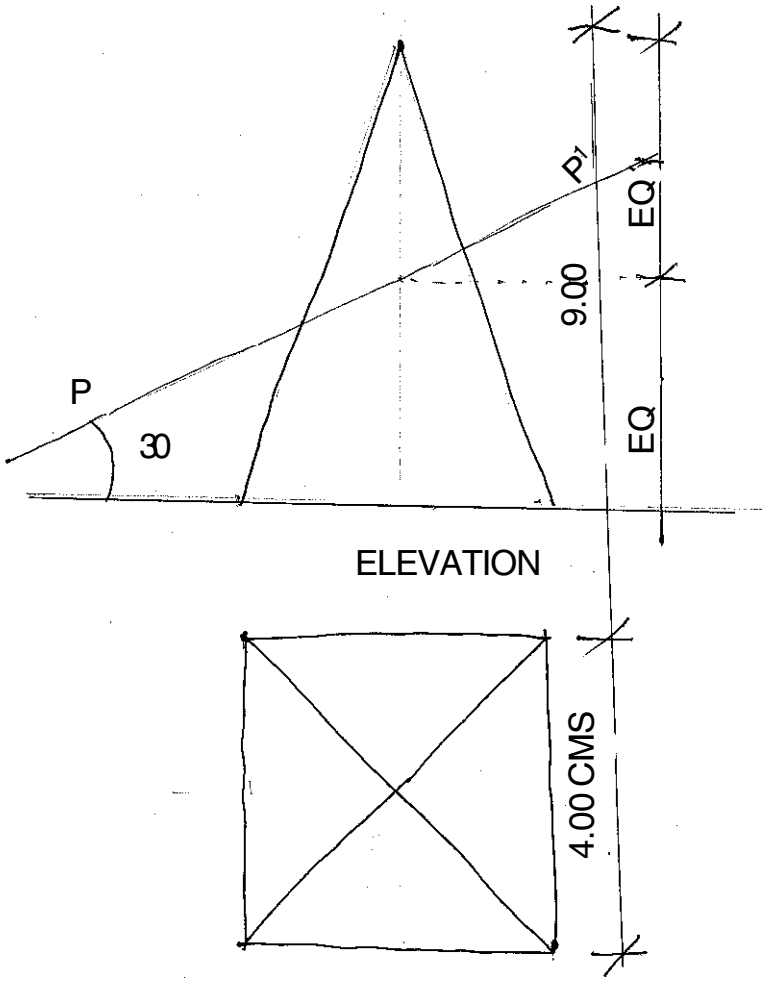
B.Arch. (Semester – II) (New) Examination, 2015
ARCHITECTURAL GRAPHICS – II
(CGPA Pattern)

Day and Date : Wednesday, 6-5-2015 Max. Marks : 70
Time : 10.00 a.m. to 1.00 p.m.

Instructions *: 1)* ***All*** *questions are* ***compulsory****.*
2) Retain ***all*** *construction lines.*
3) Figures to the ***right*** *indicate* ***full*** *marks.*
4) ***Five*** *marks are reserved for* ***neatness*** *and* ***good*** *drafting.*

1. A plane cuts the objects as shown in Fig. A at PP^1. Draw plan and sectional elevation (front and side) of the cut object (scale – 1 :1). **25**

Fig. A



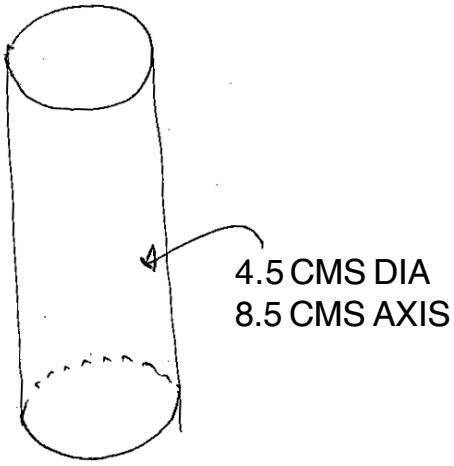
P.T.O.

2. Draw true cut portion or development of surface of cut object from Q. No. 1 of Fig. A (scale – 1 : 1). **10**

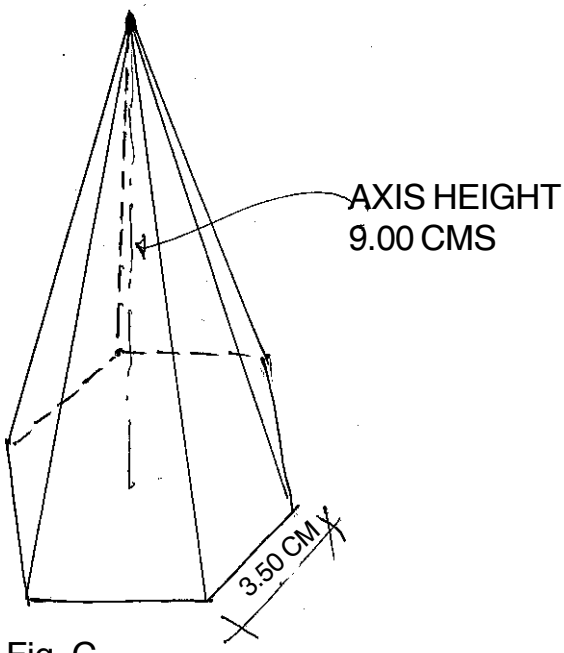
3. Draw the development of surfaces of the following objects in Fig. B (scale – 1 : 1). **10**

Fig. B

1)



2)



4. Draw isometric view of the object shown in Fig. C. **15**

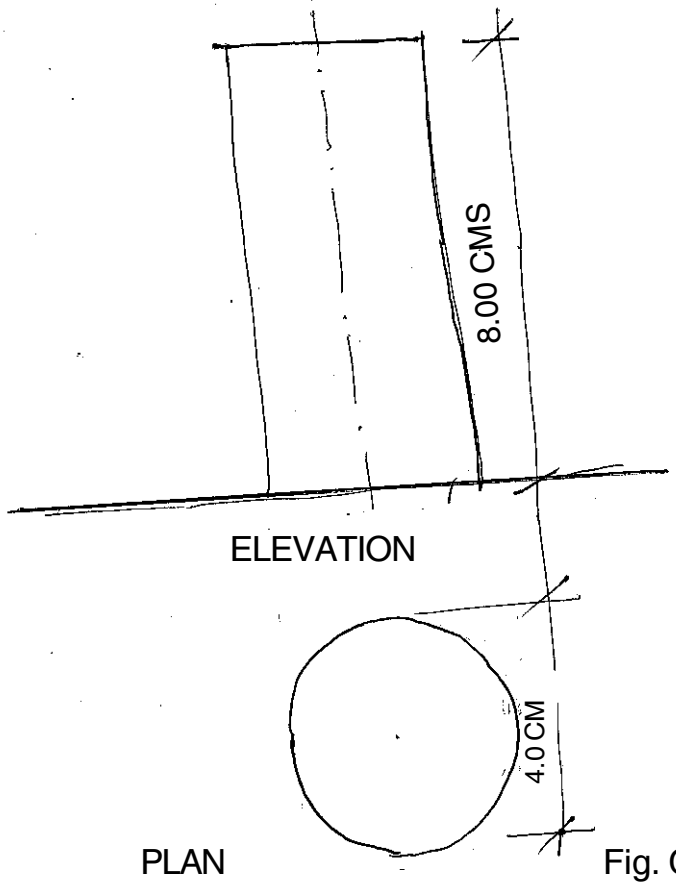
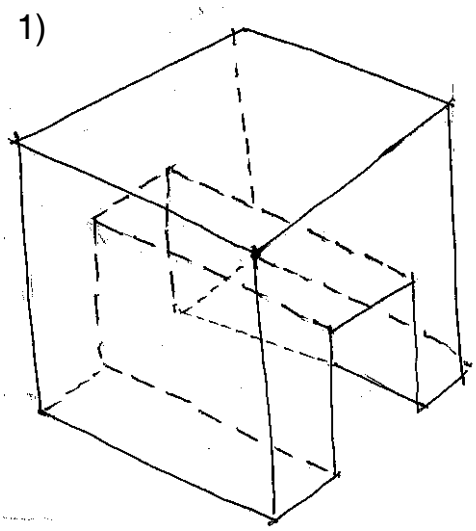


Fig. C

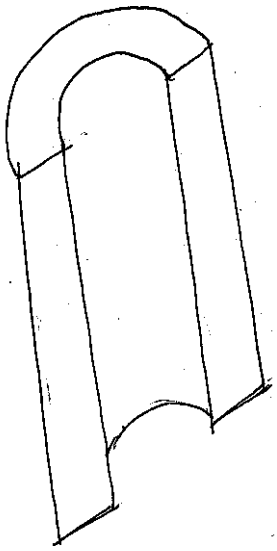
5. Mention the no. of surfaces of the following objects as shown in Fig. D. **5**

Fig. D

1)



2)



SLR-Y – 7

Seat No.	

B.Arch. (Semester – II) Examination, 2015
THEORY OF STRUCTURE – II (New) (CGPA Pattern)

Day and Date : Friday, 8-5-2015 Max. Marks : 70
Time : 10.00 a.m. to 1.00 p.m.

***Instructions** : 1) **Use** of scientific calculator is **allowed**.*
*2) Q. No. **1** and Q. No. **2** are **compulsory**. From **remaining** questions solve **any four**.*
*3) Figures to the **right** indicates **full** marks.*
*4) Assume suitable data **if necessary**.*

1. Select the correct option for the following : **7**

1) At point of contra flexure
   a) B. M. is zero b) B. M. is maximum
   c) Both d) None

2) The force of resistance offered by a body against the deformation is called as
   a) Strain b) Elasticity c) Stress d) None of above

3) The maximum bending moment at centre with S.S. beam carries Point load "w" at Centre is
   a) w*l*/4 b) w*l*/2 c) w l^2/4 d) None of above

4) The ratio of direct stress to volumetric strain is known as
   a) Bulk modulus b) Shear strain
   c) Modulus of Elasticity d) None of above

5) The moment of inertia for a circular section about its CG is
   a) Pi × d^4/64 b) Pi × b^3/12 c) b^3 d^3/12 d) bd^2/12

6) The moment of inertia for a rectangular section about its CG is
   a) b d^4/64 b) b × d^3/12 c) b^3 d^3/12 d) bd^2/12

7) Bending moment at centre of SS beam with UDL is
   a) w*l*/4 b) wl^2/8 c) wl^2/4 d) None of above

P.T.O.

2. Write a short note on : **15**

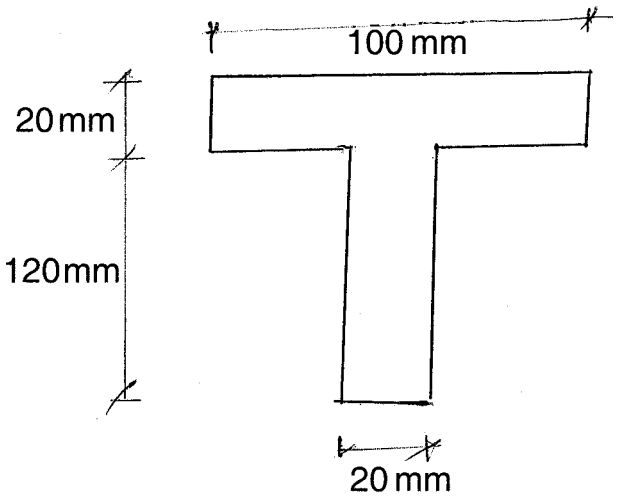
   a) Parallel axis theorem

   b) Bending moment and shear force

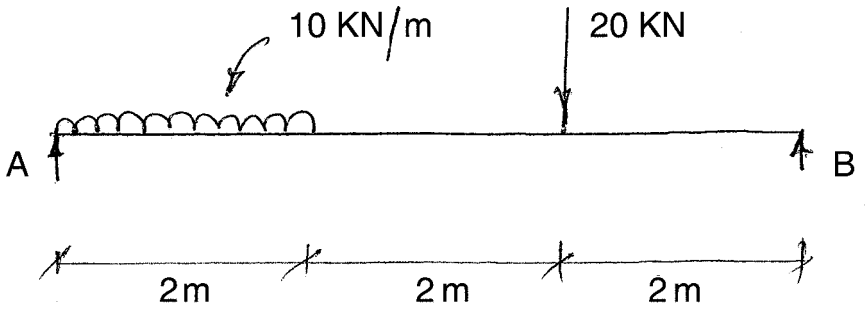
   c) Hooks law.

3. A bar shown is sketch subjected to axial tensile force of 80 KN. Calculate total elongation of $\in = 1.5 \times 10^5$ MPa. Also calculate stress in AB, BC, CD. **12**

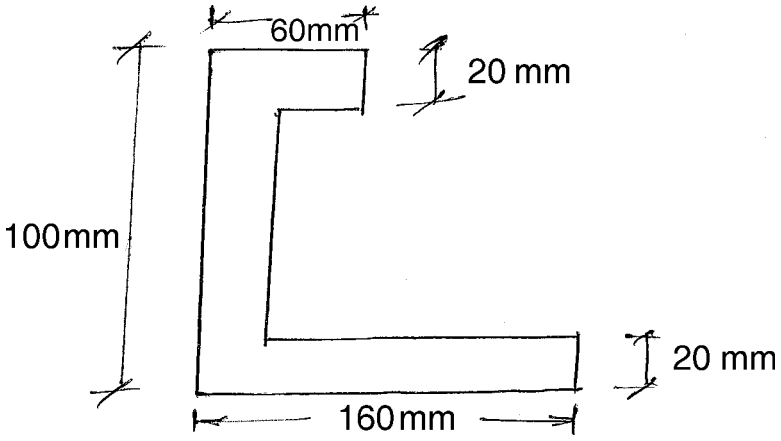
4. Calculate the centroid of following : **12**



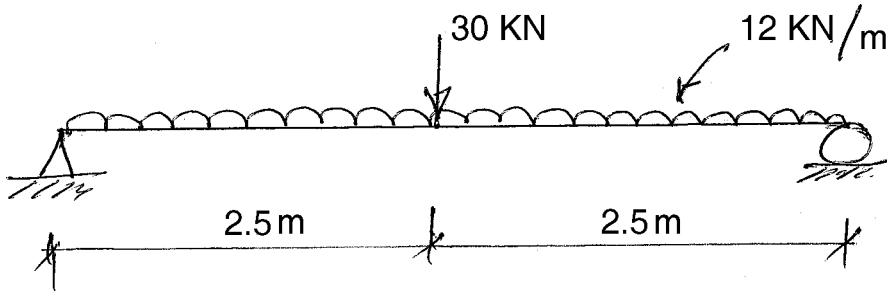
5. Draw SFD and BMD for the following beam. **12**



6. Calculate the moment of inertia at its horizontal and vertical axis passing through its C.G. **12**



7. Draw SFD and BMD for the following beam. **12**



SLR-Y – 8

Seat No.	

B.Arch. (Semester – II) Examination, 2015
HISTORY OF ARCHITECTURE – II (CGPA Pattern) (New)

Day and Date : Monday, 11-5-2015 Total Marks : 70
Time : 10.00 a.m. to 1.00 p.m.

Instructions : *1) Question No. **1** and **2** are **compulsory**.*
*2) Solve **any 4** questions from the remaining.*
*3) Draw **neat** sketches **wherever** necessary.*

1. Fill in the blanks : **7**
   1) Buddhist barrel vaulted halls of worship is known as _____
   2) _____ period deserves the name "the Golden age of Indian art and culture".
   3) The middle division of classic entablature is known as _____
   4) Name any one Ratha at Mahabalipuram _____
   5) Hagia Sophia is located in _____
   6) The chief compartment of the temple where the image of deity placed is _____
   7) Residential place for Buddhist monks _____
2. Write short notes on **any 3** : **15**
   1) Roman corinthian order
   2) Dome in Hagia Sophia
   3) Ashokan Pillars
   4) Chaitya window.
3. Explain formation and development of Greek Architecture with reference to geological, political and religious conditions. **12**
4. Write in brief and explain with neat sketches Ladkhan Temple. **12**
5. Draw a neat sketch and explain the different parts of Great stupa at sanchi. **12**
6. Explain with neat sketches any three Rathas at Mahabalipuram. **12**
7. Explain architectural features of early Basilican churches with suitable example. **12**

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SLR-Y – 9

Seat No.	

B.Arch. (Semester – II) Examination, 2015
ARCHITECTURAL GRAPHICS – II (Old)

Day and Date : Wednesday, 6-5-2015 Max. Marks : 100

Time : 10.00 a.m. to 1.00 p.m.

Instructions *: 1)* ***All*** *the questions are* ***compulsory****.*

2) Retain ***all*** *construction lines.*

3) Figures to ***right*** *indicates* ***full*** *marks.*

4) ***Five*** *marks are reserved for* ***neatness*** *and good drafting.*

5) Make suitable assumptions ***wherever*** *necessary.*

1. A plane cuts an object as shown in the figure "A" at XX. Draw plan and sectional elevations (front and side) of the object. (scale – 1:1) **35**

2. Draw development of surface of the cut object in figure "A" OR Draw true cut portion of the same object in fig. "A" **15**

3. Draw the development of surface of the following objects in fig. "C". **15**

4. Draw the isometric view in isometric scale of the object in figure "C". **20**

5. Mention the no. of surfaces of the following objects in fig. "D". **10**

P.T.O.

Figure – A

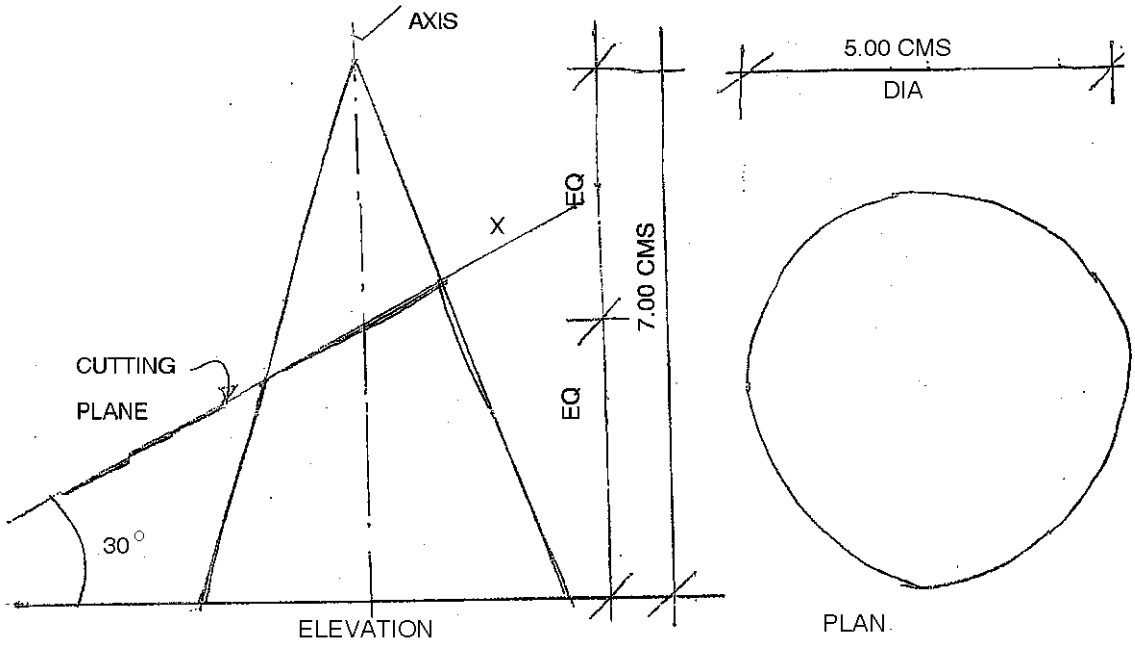

Figure – B

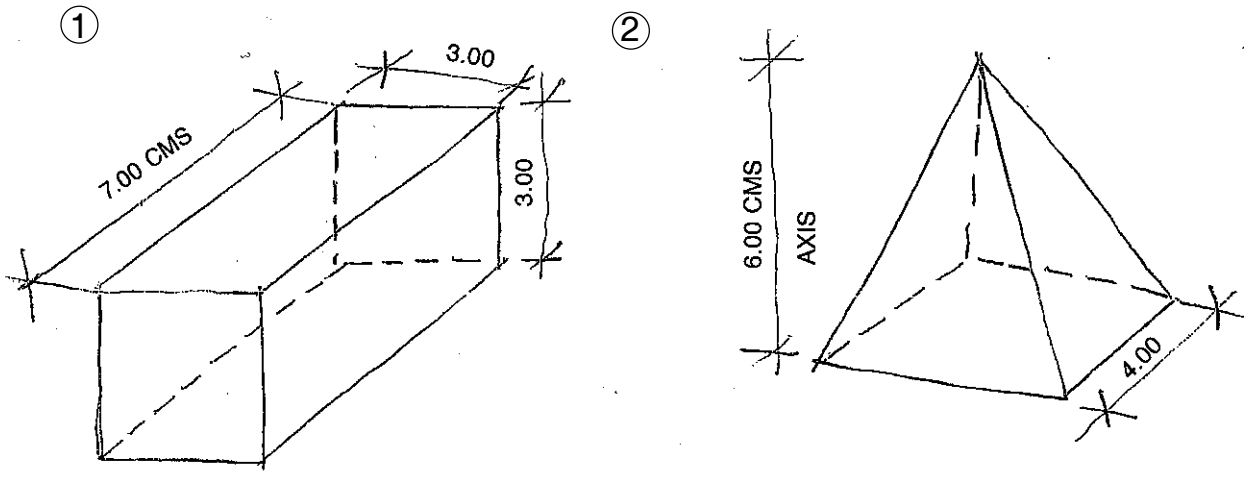

Figure – C

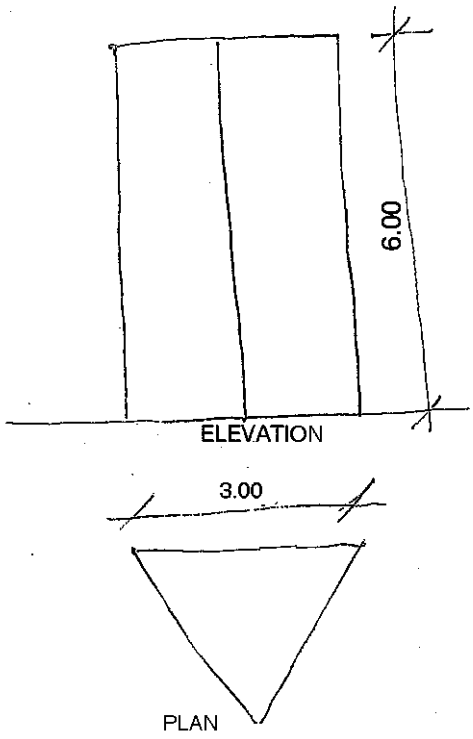

Figure – D