MAHARASHTRA JEEVAN PRADHIKARAN
RESEARCH AND TRAINING CENTRE, NASHIKROAD

Professional Examination of Asstt.Engineer- II / Sectional Engineer / Jr.Engineer

October 2011

Subject :- Practical Drawing

Date :- 12/10/2011

Time :- 10.00 to 14.00
Marks :- 100

Note :-
(1) All Questions are compulsory.
(2) Use of calculator set-square, mini drafter. T-square are allowed.
(3) Marks are reserved in Each questions for clear sketches good hand writing and neatness in general)
(4) Fig. in right hand side bracket indicate full marks)
(5) Make suitable assumptions where necessary and state then clearly.

Question No.1 A Line diagram of R.C.C. under ground sump with pump house on top is given. Prepare fully dimensional drawings of following. (50)

(1) Detailed plan

(2) Detailed Sectional Elevations

Following guide lines are given.

(a) Capacity of sump = 60,000 Lit.

(b) Clear inside size of sump = 6 m x 4m x 3 m (Including free board)

(c) Free board 0.5 M.

(d) 10 cm thick PCC M 100 levelling cource below floor slab of sump projecting 15 cm on all side.

(e) 15 cm thick RCC M.200 floor slab of sump projecting 15 cm on all sides.

(f) 0.75 m wide 0.50 M deep and 3.00 M. long suction pit in the floor slab of sump

(g) 20 cm thick RCC M-200 vertical wall of sump.

(h) 15 cm thick R.C.C. M.200 roof slab for sump with no projection beyond vertical wall.

(i) Clear inside size of pump house 4 m x 3m x 4.5 m.

(j) Vertical wall of pump house 20 cm thick concrete block masonry.

(k) One vertical wall of pump house to rest on beam (beam size 0.30x0.45 including slab thickness)

(l) Top of pump house floor slab to be kept 0.50+0.15 = 0.65 M. above GL.

(m) 2 Nos ISMB 250 to be fixed 0.4 m apart in the floor slab of pump house width for installing pumping machinery for which on opening of 0.65 m width and 3 M. length to be kept in the floor slab of pump house.

(n) 1 No ISMB 2.50 to be fixed at 1 m below roof slab to facilitable installation of pumping machinery.

(o) 1 No rolling shutter of size 1.5 m x 2.5 m height to be provided to the pump house.

(p) 3 Nos steel window of size 1.0 m x 1.2 m height to be provided to the pump house.

(q) 20 cm thick lintels and 10 cm thick chhajjas to be provided for door and window opening chhajjas to project 0.60 m.

(r) Roof slab of pump house 10 cm thick R.C.C. M-150 with no projection beyond vertical wall.

Question No.2 A line plan of small residential building is given prepare full dimentiontioned drawings of following (50)

(1) Ground floor plan

(2) Front elevation

(3) Sectional elevation A-A

Following guide line are given

(a) Foundation detailed are as shown in the sketch

(b) Plinth level is 60 cm above average GL

(c) Height above floor upto bottom of roof slab for all room is 3.00 M.

(d) The building has only ground floor

(e) Roof slab thickness is 10 cm in M-150

(f) Parapet wall is 0.75 M. above roof slab.

(g) Lintels over door and window are 15 cm thick and chajja are 10 cm thick chajja project 0.60 m beyond the walls

(h) Flooring is mosaic tiles 20 mm thick over PCC M-100

(i) Door- Teak wood paneled Size 0.90 mc 2.00 m.

(j) Window- Teak wood paneled with M.S. grill size 0.90 M x 1.20 M.

(k) Window for bath & W.C. are louvered window of size 0.60 m x 0.60 m with teak wood & frame.

SUB:- PRACTICAL DRAWING

Fig- Q. No.1

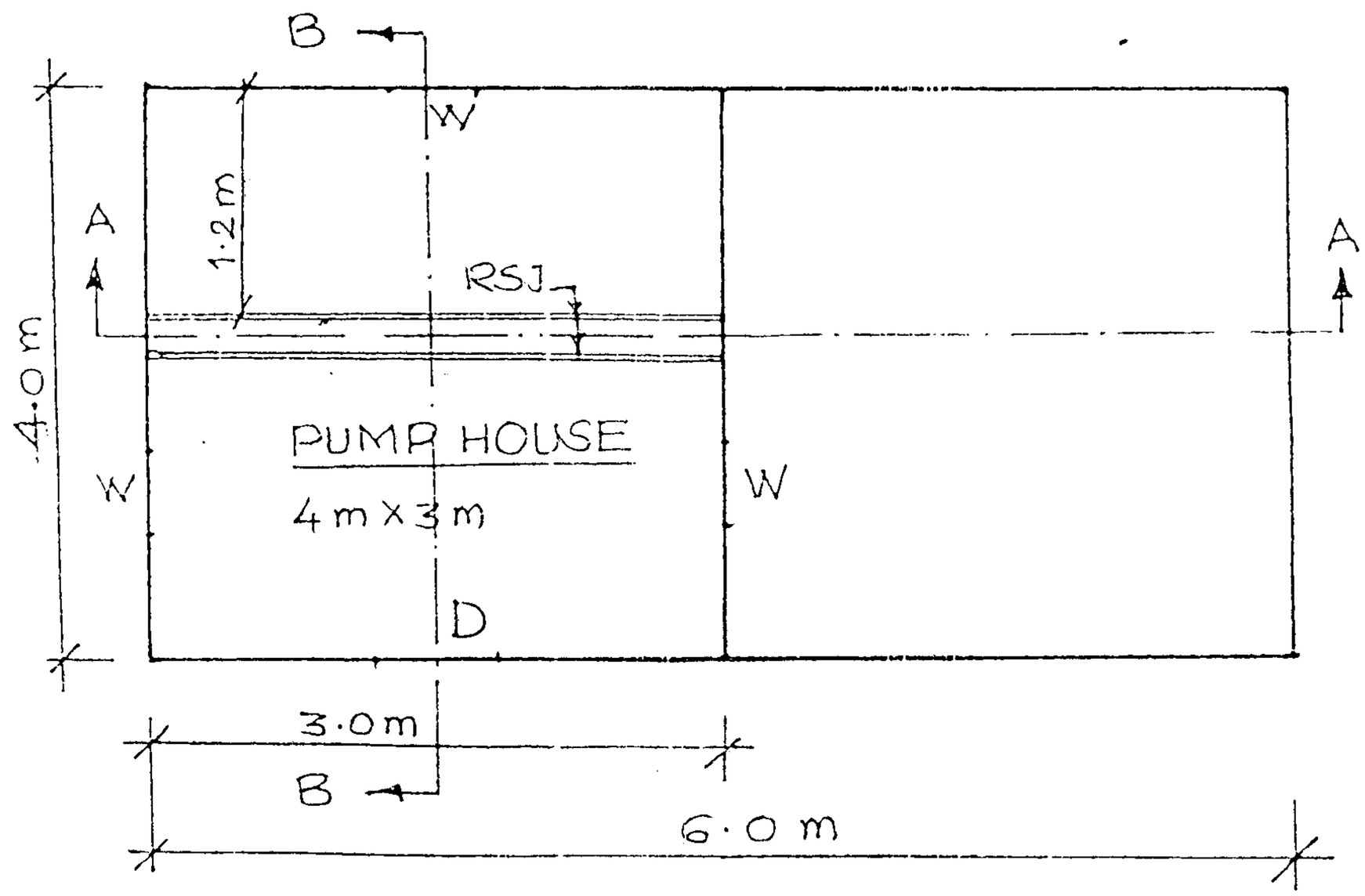


FIG. NOT TO SCALE

NOTE: DIMENSIONS SHOWN ARE CLEAR INSIDE FOR SUMP AND PUMP HOUSE.

FIG. – Q. No - 2

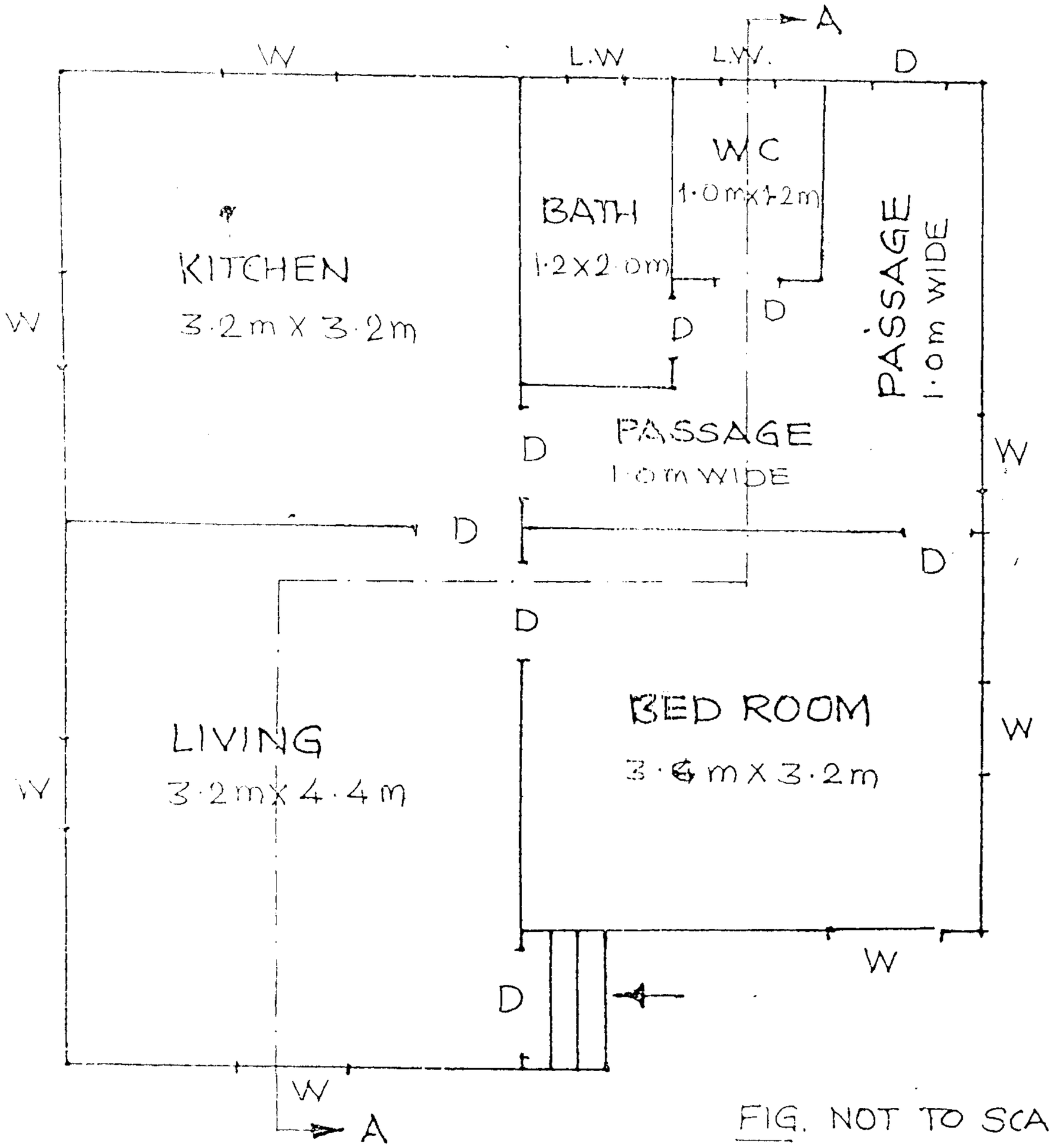
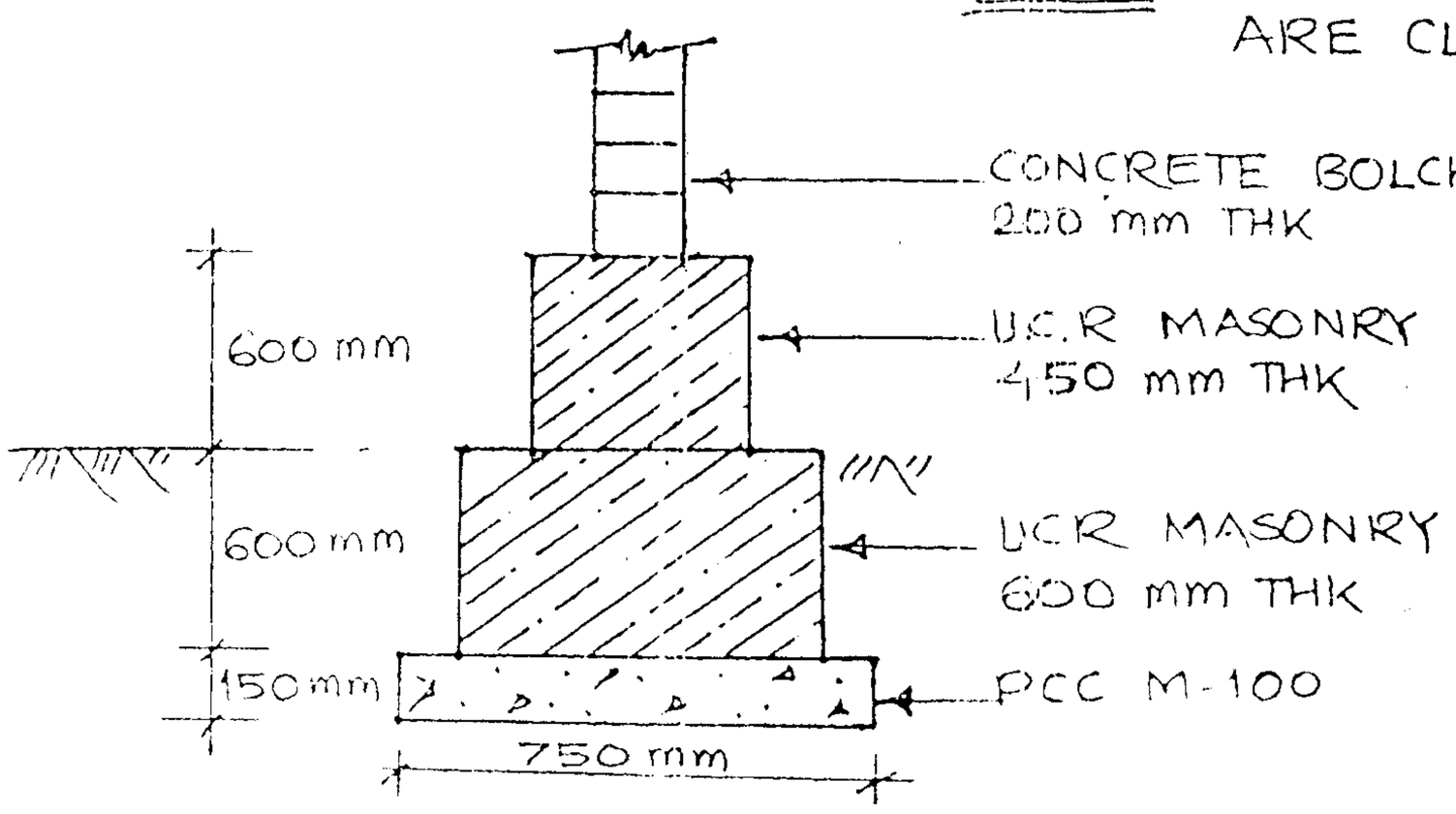


FIG. NOT TO SCALE

NOTE :- ALL ROOM DIMENSIONS ARE CLEAR INSIDE



FOUNDATION DETAILS

MAHARASHTRA JEEVAN PRADHIKARAN

Examination conducted by

Maharashtra Environmental Engineering Training & Research Academy (MEETRA), Nashik.

Professional Examination of Asstt. Engineer-II / Sectional Engineer / Jr. Engineer

October 2013

Subject :- Practical Drawing **Time :- 10.00 to 14.00**
Date :- 23/10/2013 **Marks :- 100**

Note :- (1) All Questions are compulsory.
(2) Use of Calculator, set-square, mini drafter, Tsquare are allowed.
(3) Marks are reserved in Each questions for clear sketches good hand writing and neatness in general.
(4) Figure in right hand side bracket indicate total marks.

Que. No. 1. A line plan of small residential building is given prepare full dimensioned drawings of following. (50)

1) Ground floor plan.
2) Front elevation.
3) Sectional elevation A-A

Following guidelines are given:

a) Foundation detailed are as shown in the sketch.
b) Plinth level is 60 cm above average GL.
c) Height above floor upto bottom of roof slab for all room is 3.00 M.
d) The building has only ground floor.
e) Roof slab thickness is 10 cm in M-150.
f) Parapet wall is 0.75 M. above roof slab.
g) Lintels over door and window are 15 cm thick and chajja are 10 cm thick chajja project 0.660 m beyond the walls.
h) Flooring is mosaic tiles 20 mm thick over PCC M-100.
i) Door- Teak wood paneled Size 0.90 mc 2.00 m.
j) Window – Teak wood paneled with M.S. grill size 0.90 M x 1.20 M.
k) Window for bath & W.C. are louvered window of size 0.60 m. 0.60 m with teak wood frame.

1) boundary wall — 10 cm thick

Que. No. 2. A line diagram of R.C.C. underground sump with pump house on top is given. Prepare fully dimensional drawings of following. (50)

1) Detailed plan.

2) Detailed Sectional Elevations.

Following guide line are given.

a) Capacity of sump = 60,000 Lit.

b) Clear inside size of sump = 6 m x 4m x 3 m (Including free board)

c) Free board 0.5M.

d) 10 cm thick PCC M 100 leveling cource below floor slab of sump projecting 15 cm on all side.

e) 15 cm thick RCC M.200 floor slab of sump projecting 15 cm on all sides.

f) 0.75 m wide 0.50 M deep and 3.00 M. long suction pit in the floor slab of sump.

g) 20 cm thick RCC M-200 vertical wall of sump.

h) 15 cm thick R.C.C. M.200 roof slab for sump with no projection beyond vertical wall.

i) Clear inside size of pump house 4 m x 3 m x 4.5 m.

j) Vertical wall of pump house 20 cm thick concrete block masonry.

k) One vertical wall of pump house to rest on beam (beam size 0.30m x 0.45m including slab thickness).

l) Top of pump house floor slab to be kept 0.50 + 0.15 = 0.65 M. above GL.

m) 2 Nos ISMB 250 to be fixed 0.4 m apart in the floor slab of pump house width for installing pumping machinery for which on opening of 0.65 m width and 3 M. length to be kept in the floor slab of pump house.

n) 1. No ISMB 250 to be fixed at 1.0 m x 1.2 m height to be provided to the pump house.

o) 1 No rolling shutter of sie 1.5 m x 2.5 m height to be provided to the pump house.

p) 3 Nos steel window of size 1.0 m x 1.2 m height to be provided to the pump house.

q) 20 cm thick lintels and 10 cm thick chajjas to be provided for door and window opening chajjas to project 0.60 m.

r) Roof slab of pump house 10 cm thick R.C.C. M-150 with no projection beyond vertical wall.

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MAHARASHTRA JEEVAN PRADHIKARAN
Examination conducted by
Maharashtra Environmental Engineering Training & Research Academy
(MEETRA), Nashik
Professional Examination of Asstt. Engineer-II/Sectional Engineer/
Jr. Engineer/Technical Assistant (Civil)
November 2014

Subject :- Practical Drawing
Date :- 13/11/2014 **Time** :- 14.00 to 18.00
Marks :- 100

Note :- 1) All questions Compulsory.
2) Use of calculator, Log, table are allowed.
3) Figure in bracket on right hand side indicate total marks.
4) Make suitable assumptions where necessary & state them.
5) Use of mobile, laptop & tab are not allowed.

Que.No.1. A line of R.C.C. underground sump with pump house on top is given prepare fully dimensional drawing of following. (50)

1) Detailed plan
2) Detailed Sectional Elevations
Following guide lines are given.
a) Capacity of sump = 60,000 Lt.
b) Clear inside size of sump = 6 m x 4m x 3m (including free board)
c) Free board 0.5 M.
d) 10 cm thick PCC M 10 levelling cource below floor slab of sump projecting 15 cm on all side.
e) 15 cm thick RCC M. 200 floor slab of sump projecting 15 cm on all sides.
f) 0.75 m wide 0.50 M deep and 3.00 M. long suction pit in the floor slab of sump.
g) 20 cm thick RCC M-200 vertical wall of sump.
h) 15 cm thick R.C.C. M.200 roof slab for sump with no projection beyond vertical wall.
i) Clear inside size of pump house 4 m x 3 m x 4.5 m.
j) Vertical wall of pump house 20 cm thick concrete block masonry.
k) One vertical wall of pump house to rest on beam (beam size 0.30 x 0.45 m including slab thickness)
l) Top of pump house floor slab to be kept 0.50 + 0.15 = 0.65 M. above GL.
m) 2 Nos ISMB 2.50 m to be fixed at 1 m below roof slab to facilitable installation of pumping machinery.

n) 1 No ISMB 2.50 m. to be fixed at 1 m below roof slab to facilitable installation of pumping machinery.
o) 1 No rolling shutter of size 1.5 m x 2.5 m height to be provided to the pump house.
p) 3 Nos steel window of size 1.0 m x 1.2 m height to be provided to the pump house.
q) 20 cm thick lintels and 10 cm thick chajjas to be provided for door and window opening chajjas to project 0.60 m
r) Roof slab of pump house 10 cm thick R.C.C. M-150 with no projection beyond vertical wall.

Que.No.2. A line plan of small residential building is given prepare full dimensioned drawings of following. (50)

1) Ground floor plan
2) Front elevation
3) Sectional elevation A-A

Following guide line are given

a) Foundation detailed are as shown in the sketch
b) Plinth level is 60 cm above average GL
c) Height above floor upto bottom of roof slab for all romm is 3.00 M.
d) The building has only ground floor
e) Roof slab thickness is 10 cm in M-150
f) Parapet wall is 0.75 M. above roof slab.
g) Lintels over door and window are 15 cm thick and chajja are 10 cm thick chajja project 0.60 cm beyond the walls.
h) Flooring is mosaic tiles 20 mm thick over PCC M-100
i) Door – Teak wood paneled size 0.90 m 2.00 m.
j) Window – Teak wood paneled with M.S. grill size 0.90 M x 1.20 M.
k) Window for bath & W.C. are louvered window of sie 0.60 m 0.60 m with teak wood frame.

PRACTICAL DRAWING

FIG.:- Q. No- 1)

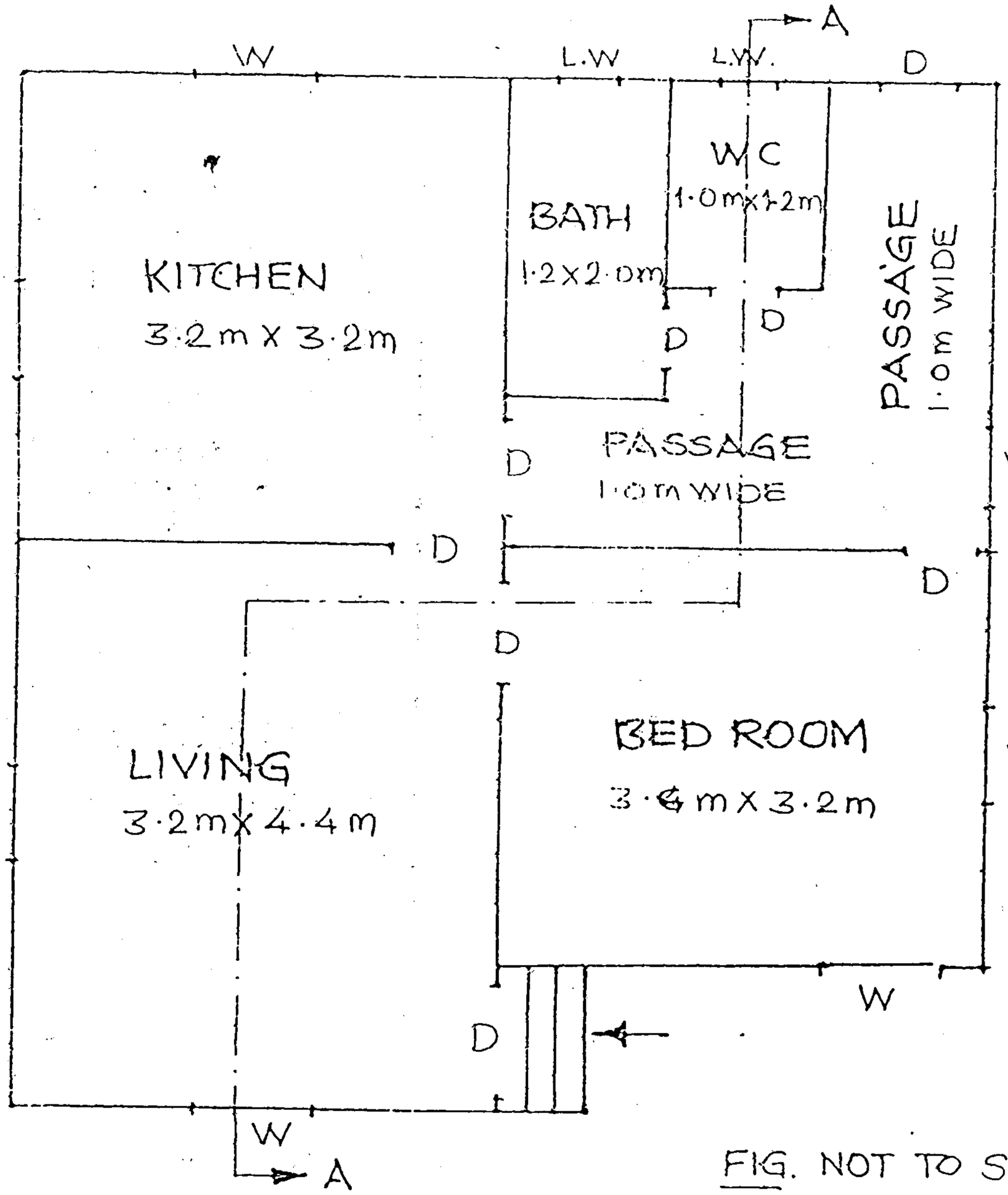
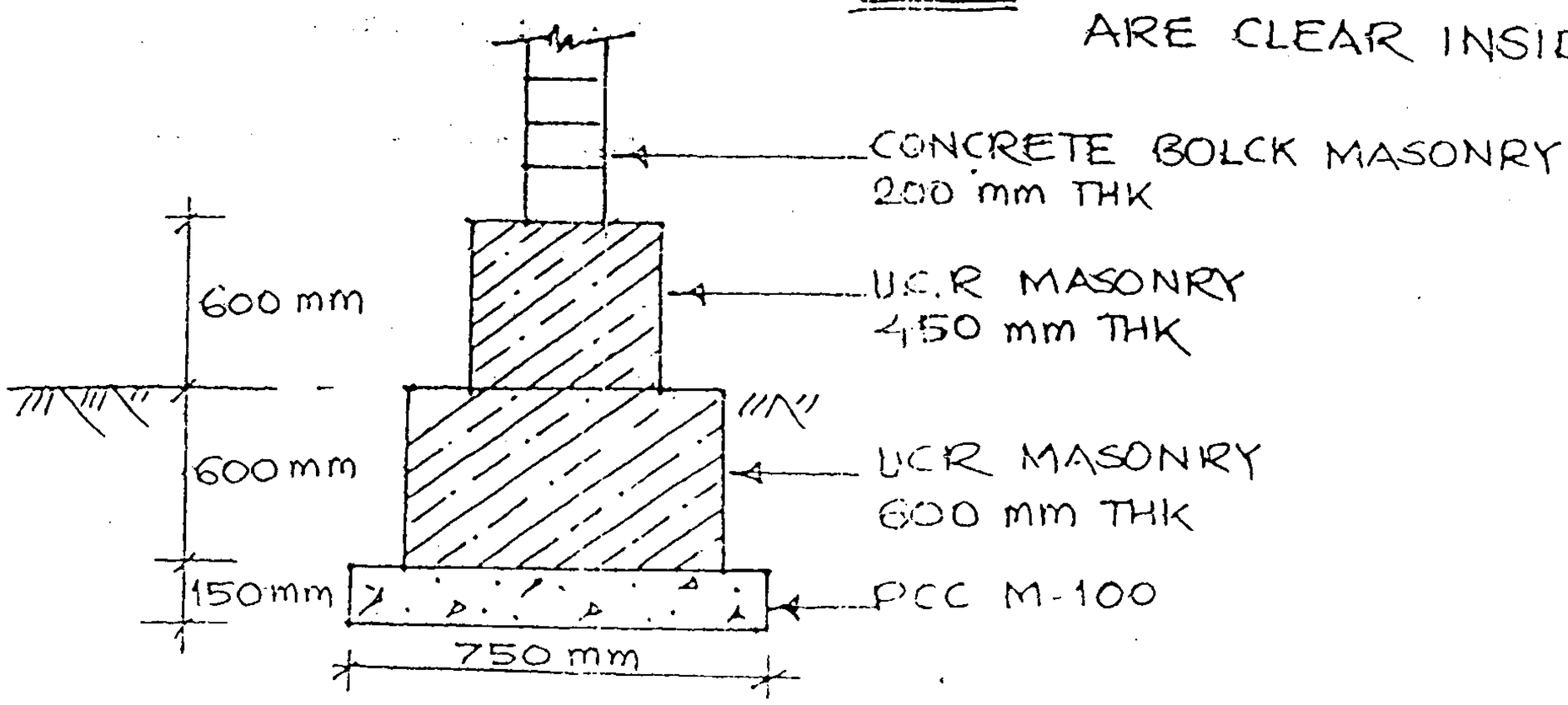


FIG. NOT TO SCALE

NOTE :- ALL ROOM DIMENSIONS ARE CLEAR INSIDE



FOUNDATION DETAILS

SUB:- PRACTICAL DRAWING

Fig- Q. No.2

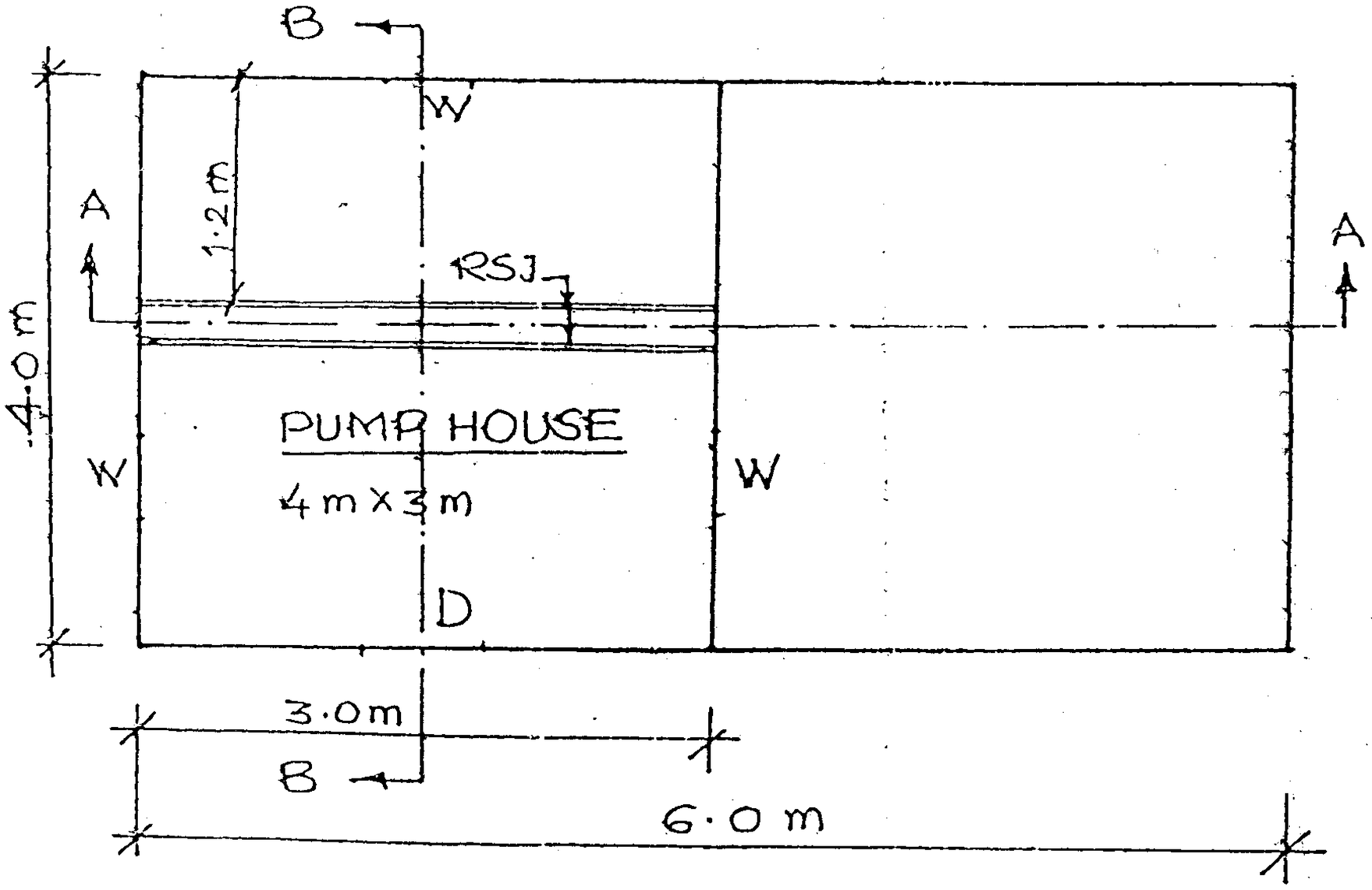


FIG. NOT TO SCALE

NOTE: DIMENSIONS SHOWN ARE CLEAR INSIDE FOR SUMP AND PUMP HOUSE.

MAHARASHTRA JEEVAN PRADHIKARAN
Examination Conducted by
MAHARASHTRA ENVIRONMENTAL ENGINEERING TRAINING & RESEARCH ACADEMY (MEETRA) NASHIK

Professional Examination of AE-II / Sect. Engr. / Jr. Engr. / Technical Assistant (Civil) October 2015

Subject:- Practical Drawing — **Time;- 14.00 - 17.00**
Date:- 29/10/2015 — **Marks:- 100**

Note- 1) All questions are compulsory.
2) Use of calculator, log table are allowed.
3) Figure in bracket on the right hand side indicates total marks.
4) Use of mobile, laptop & tab are not allowed.

Question No.1 - A line plan of small residential building is given prepare full dimensioned drawings of following. (50)

(1) Ground floor plan.
(2) Front elevation.
(3) Sectional elevation A-A

Following guidelines are given:

a) Foundation detailed are as shown in the sketch.

b) Plinth level is 60 Cm above average GL.

c) Height above plinth upto bottom of roof slab for all room is 3.00 M.

d) The building has only ground floor.

e) Roof slab thickness is 10 cm in M-150.

f) Parapet wall is 0.75 M. above roof slab.

g) Lintels over door and window are 15 Cm thick and chajja are 10 Cm thick chajja project 0.60 M beyond the walls.

h) Flooring is mosaic tiles 20 mm thick over PCC M-100.

i) Door - Teak wood panelled Size 1.00 M x 2.10 M.

j) Window-Teak wood panelled with M.S. grill size 0.90 M x 1.20 M.

k) Window for bath & W.C. are louvered window of size 0.45 M x 0.75 M.

Question No.2- A line diagram of R.C.C. underground sump with pump house on top is given prepare fully dimensional drawings of following **(50)**

(1) Detailed plan.
(2) Detailed Sectional Elevations.

Following guide line are given.

a) Capacity of sump - 75000 Lit.

b) Clear inside size of sump - 6 M x 4 M x 3.625 M (Including free board)

c) Free Board - 0.50 M

d) 10 Cm thick P.C.C. M100 levelling course below floor slab of sump projecting 15 Cm in all sides.

e) 15 Cm thick R.C.C. M200 floor slab of sump projecting 15 Cm on all sides.

f) 0.75 M wide, 0.50 M deep and 3.0 M long suction pit in the floor slab of sump

g) 20 Cm thick R.C.C. M200 vertical wall of sump

h) 15 Cm thick R.C.C. M200 roof slab for sump with no projection beyond vertical wall.

i) Clear inside size of pump house 4 M x3 M x 4.5 M.

J) Vertical wall of pump house 20 Cm thick concrete block masonry.

k) One vertical wall of pump house to rest on beam (beam size 0.30 M x 0.45 M including slab thickness)

l) Top of pump house floor slab to be kept 0.50 + 0.15 = 0.65 M above GL.

m) 2 Nos ISMB 250 to be fixed 0.40 m apart in the floor slab of pump house width for installing pumping machinery for witch on opening of 0.65 M width and 3.0 M length to be kept in the floor slab of pump house .

n) 1 No ISMB 250 to be fixed at 1.0 M x 1.20 M height to be provided to the pump house.

o) 1 NO rolling shutter of size 1.50 M x 2.50 M to be provided to the pump house.

p) 3 Nos steel window of size 1.0 M x 1.50 M height to be provided to the pump house.

q) 20 Cm thick lintels and 10 Cm thick chajjas to be provided for door window opening chajjas to project 0.60 M.

r) Roof slab of pump house 10 Cm thick R.C.C. M-150 with no projection beyond vertical wall.

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FIG.- Q. NO. 1

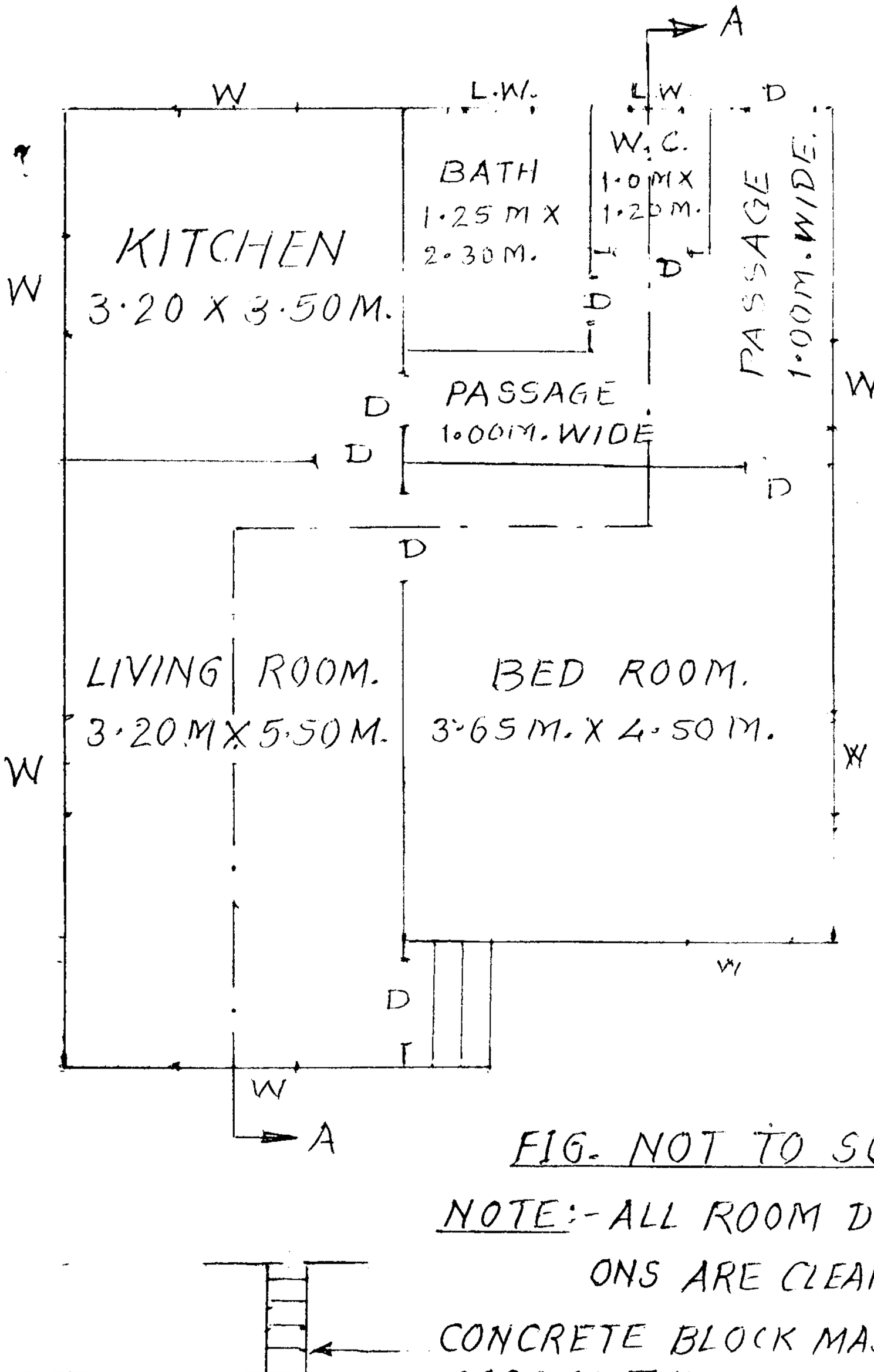
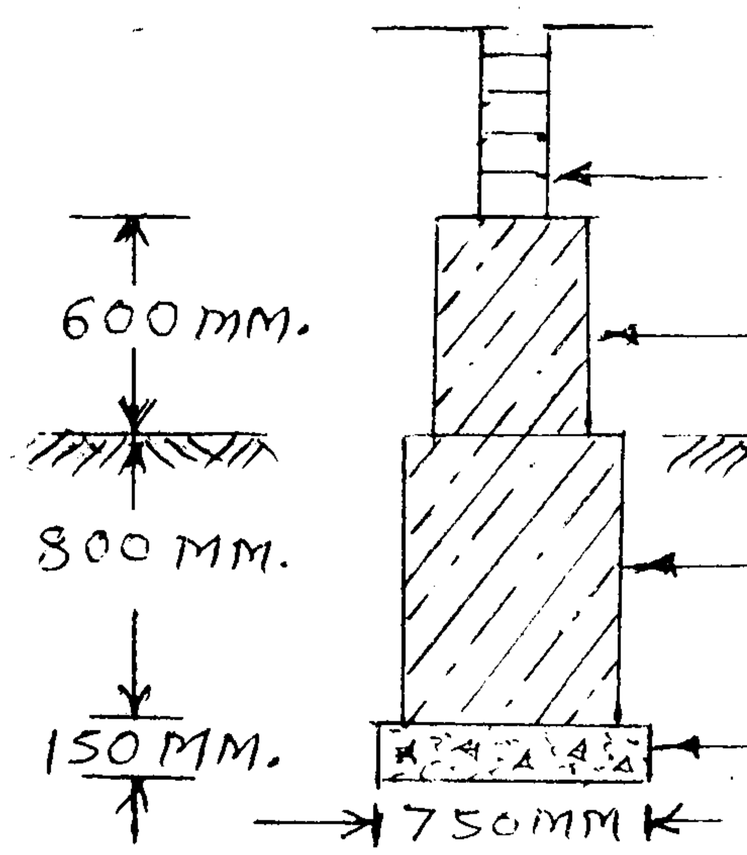


FIG. NOT TO SCALE.

NOTE:- ALL ROOM DIMENSIONS ARE CLEAR IN SIDE.



FOUNDATION DETAILS

SUB:- PRACTICAL DRAWING.

Fig. Question NO:-2

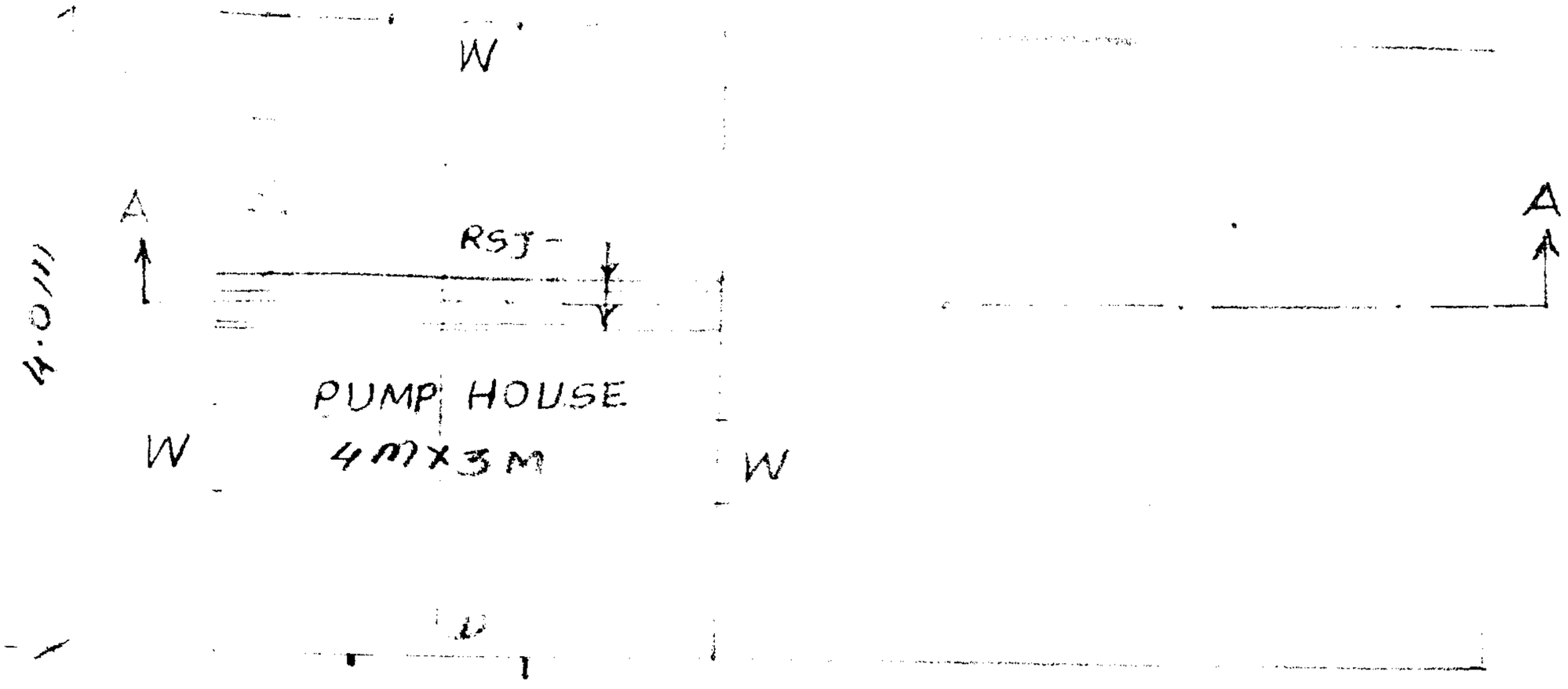


FIG. NOT TO SCALE

NOTE: DIMENSIONS SHOWN ARE CLEAR INSIDE FOR SUMP AND PUMP HOUSE