USN ☐☐☐☐☐☐☐☐☐☐ **15CV54**

Fifth Semester B. E. Degree Examination, December 2018
(CIVIL ENGINEERING)

COMPUTER AIDED BUILDING PLANNING AND DRAWING

Time: 3 Hours Max. Marks: 80

Note: Answer any **TWO** full questions. Assume any missing data suitably.

Q1. Draw a cross section of a S.S. Masonry foundation to be provided for a load bearing wall 300mm thick in Burnt Brick Masonry in superstructure of a residential building. Use following data:

a. Width of foundation = 1.20m
b. Depth of foundation below GL = 1.20m
c. Width of PCC = 1.20m
d. Thickness of PCC in 1:3:6 = 75mm.
e. Width of first footing above PCC = 1.05m
f. Depth of first footing above PCC = 0.375m
g. Width of second footing = 0.90m
h. Depth of second footing = 0.375m
i. Width of third footing = 0.75m
j. Depth of third footing = 0.375m
k. Width of plinth wall = 0.45m
l. Depth of plinth wall = 0.60m
m. Thickness of DPC in 1:2:4 = 100mm **(30 Marks)**

OR

Q2. Prepare a working drawing for an isolated rectangular RCC column and footing has the following details:

Column size: (400 x 600) mm.
Size of footing: 2m x 3m of uniform thickness 450mm.
Depth of foundation below GL = 1.5m
Height of column to be shown above GL = 1.0m
Thickness of PCC bed in 1:3:6 = 75mm

Details of reinforcement:
Column: #8 - 16ϕ as main bars with 2L - 8ϕ @ 150 c/c lateral ties
Footing: Longer direction steel - 12ϕ @ 130 c/c
Shorter direction steel - 12ϕ @ 220 c/c **(30 Marks)**

Q3. Line diagram of single storey residential building is given in figure Q3. Draw to scale the followings:

a. Electrical services.
b. Plumbing and sanitary services **(50 Marks)**

OR

Q4. Line diagram of single storey Hospital building is given in figure Q4. Draw to scale the followings:

a. Plan at sill.
b. Front elevation.
c. Section along XX. **(50 Marks)**

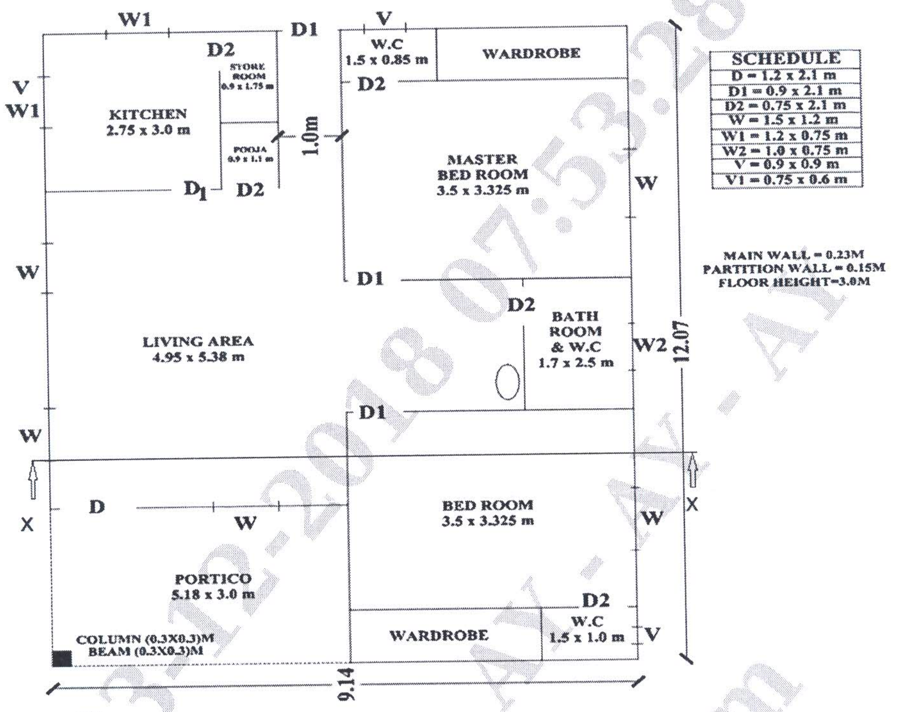

Figure Q3. Line diagram of single storey residential building

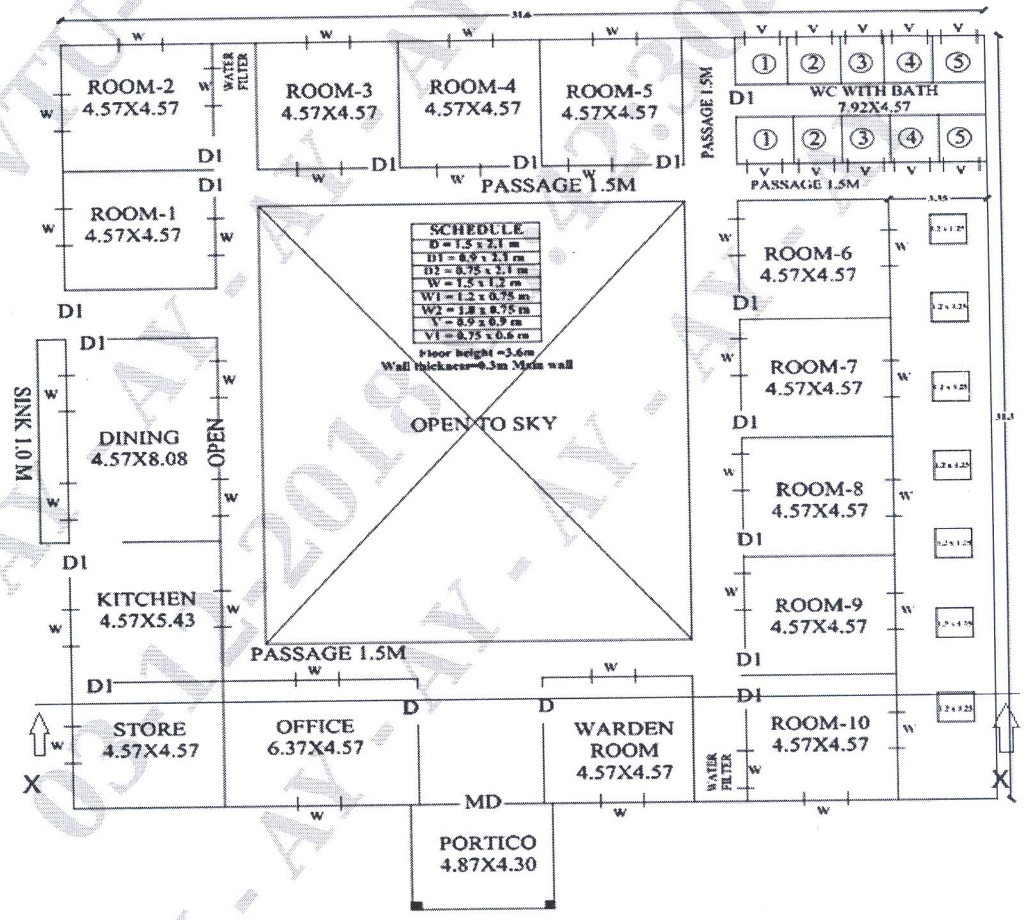

Figure Q4. Line diagram of single storey Hospital building