Code.No: 07A40101 | R07 | SET-1

II B.TECH – II SEM EXAMINATIONS, DECEMBER - 2010
BUILDING PLANNING AND DRAWING
(CIVIL ENGINEERING)

Time: 3hours **Max.Marks:80**

Answer any THREE questions from Part – A
Answer any ONE question from Part – B

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PART – A **[3 x 16 = 48]**

1.a) Explain the various principles of planning of a building.
b) Define the following terms
i) Floor area ratio ii) Floor space index
iii) Plinth area iv) Carpet area [10+6]

2.a) What are the various factors that affect the selection of a suitable site for the Residential building?
b) Describe the various types of residential buildings. [8+8]

3. A primary health centre is to be constructed in a village. Draw the line diagram of the diagram of the health centre building. Briefly explain the principles of your planning. [16]

4. a) Explain the various stages of planning in construction management.
b) Differentiate between CPM and PERT. Explain the circumstances under which one is preferred over the other. [8+8]

5. The following table lists the activities, durations and their sequence of operation for a construction project. Prepare the network and compute in a table their early start, early finish, late start and late finish times. Determine the critical path and find the total float and free float for all the activities. [16]

Activity	Duration(Days)	Activity	Duration(Days)
1-2	8	4-7	0
1-3	10	5-6	4
1-4	5	5-7	3
2-7	6	5-8	6
3-4	3	6-8	5
4-5	7	7-8	5

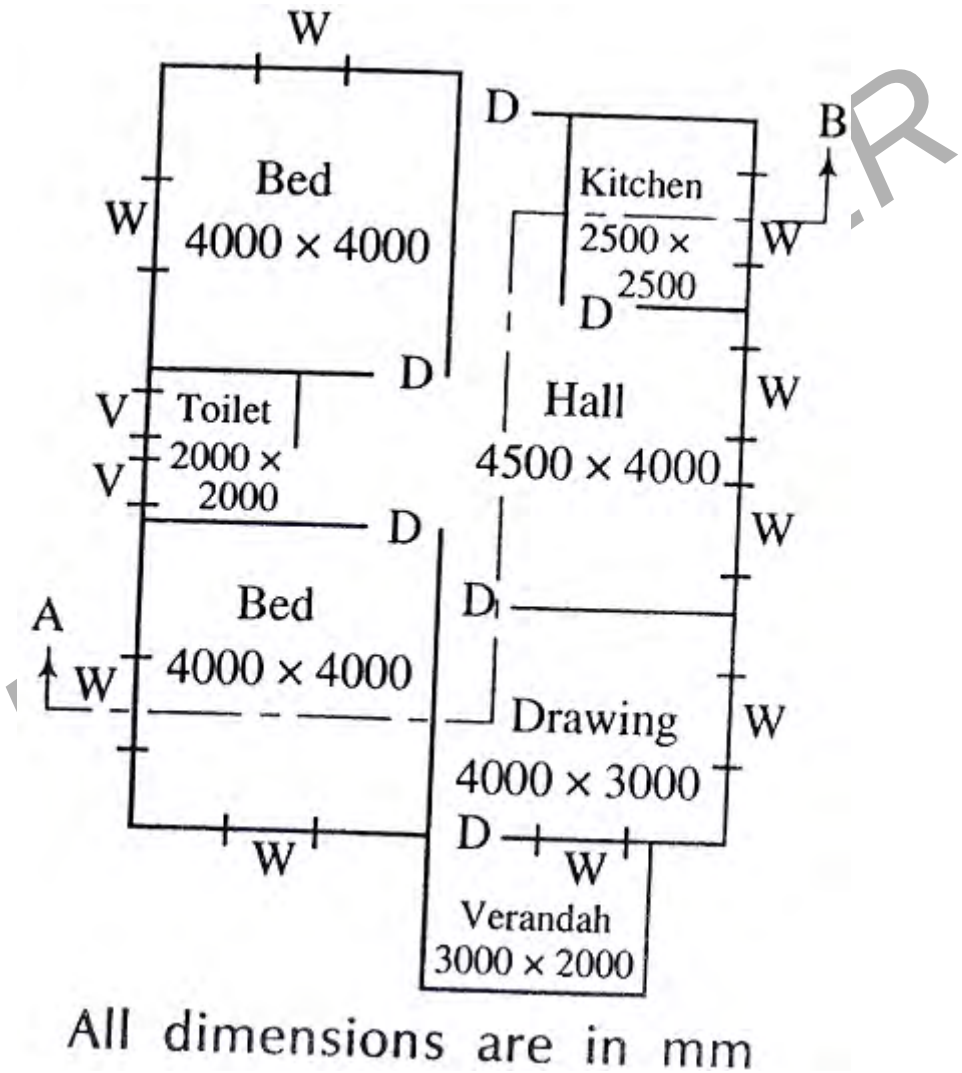
PART – B **[1 x 32 = 32]**

6.a) Draw the Plan and isometric view of a right angle function of two brick wall in English bond, showing at least 4 consecutive layers.
b) Draw to a suitable scale, the elevation and details of queen post truss of span 12 m. [16+16]

7. The line plan of residential building is as shown in figure below.
Draw
i) Fully dimensioned plan ii) Sectional elevation along AB iii) Front elevation

Specifications :
Foundation – Cement concrete 1:5:10 base 800 mm × 300 mm
Rubble stone masonry – 600 mm × 500 mm
Basement – courted rubble stone masonry 400 mm × 700 mm
Super structure – Brickwork in c.m. 1:5, 300 mm thick ceiling height - 3m
R.C.C. roofing – 100mm.

Provide doors, windows, ventilators, lintels and sunshades as per standard dimensions. Assume any other data appropriately. [32]



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Code.No: 07A40101 | R07 | SET-2

II B.TECH – II SEM EXAMINATIONS, DECEMBER - 2010
BUILDING PLANNING AND DRAWING
(CIVIL ENGINEERING)

Time: 3hours **Max.Marks:80**

Answer any THREE questions from Part – A
Answer any ONE question from Part – B

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PART – A **[3 x 16 = 48]**

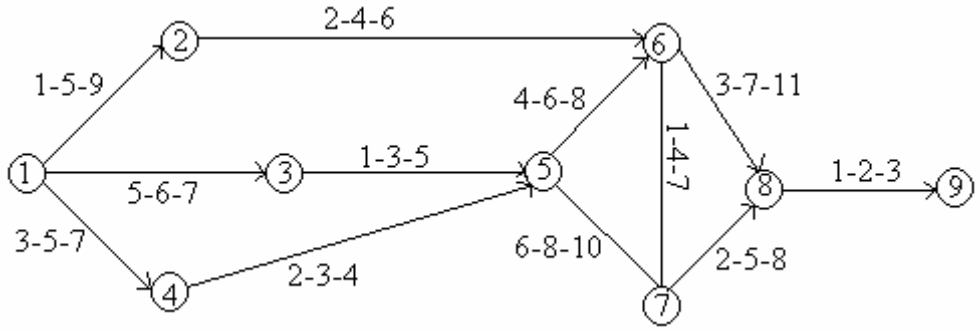
1.a) What are building bye-laws? What are the objectives of building bye-laws?
b) How do you classify the buildings as per the National Building Code? [10+6]

2. What are the requirements of the following rooms in planning of a residential building?
i) Living room ii) Dining room
iii) Kitchen iv) Bed room [16]

3 A hostel building is to be planned for an engineering college to accommodate 200 students. Draw the line diagram of the hostel building. Briefly explain the principles of your planning. [16]

4. a) Explain the various methods of scheduling.
b) Distinguish between PERT and CPM. Explain the circumstances under which one is preferred over the other. [8+8]

5. Find out the expected time of completion of each activity as well as the earliest expected time and latest allowable time of each event in the network given below. [16]



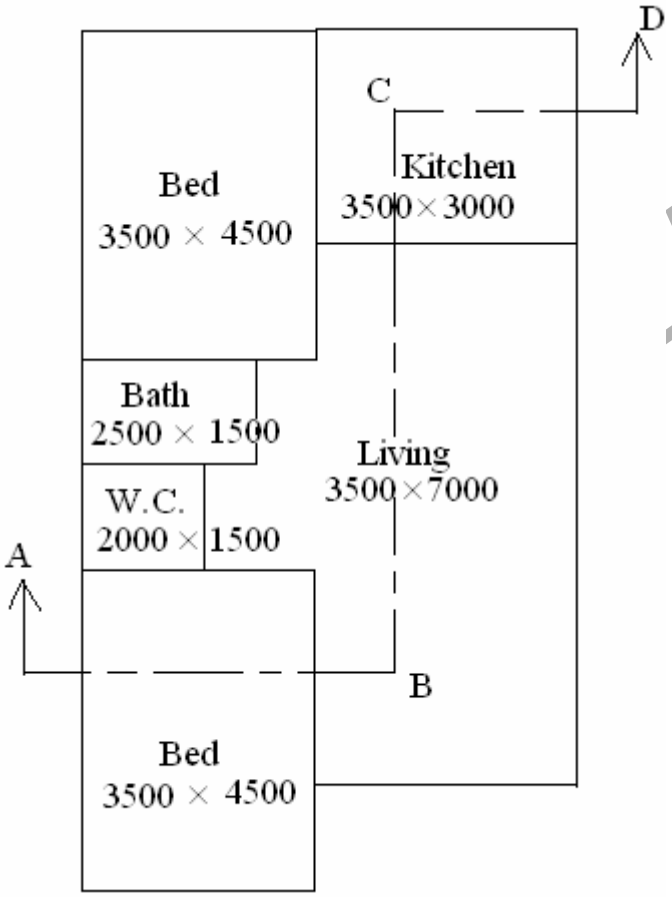
PART – B **[1 x 32 = 32]**

6. a) Draw the plan and isometric view of a right angle junction of one and half brick Wall in Flemish bond, flowing at least 4 consecutive layers.
b) Draw to a suitable scale. Fully dimensioned plan and elevation of a fully paralleled door of 1m×2m. [16+16]

7. The line plan of a residential building is as thrown in figure. Draw
i) Fully dimensioned plan ii) Sectional elevation along ABCD
iii) Front elevation. [32]

Specifications:

Good soil for foundations is available at a depth of 1.5m below G.L.
All the walls of super structure are 300mm thick roof slab thickness = 120 mm.
Ceiling height = 3m.
Provide doors, window, ventilators, lintels and sunshades as per standard dimensions.
Assume any other data appropriately.



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Code.No: 07A40101 | R07 | SET-3

II B.TECH – II SEM EXAMINATIONS, DECEMBER - 2010
BUILDING PLANNING AND DRAWING
(CIVIL ENGINEERING)

Time: 3hours **Max.Marks:80**

Answer any THREE questions from Part – A
Answer any ONE question from Part – B

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PART – A **[3 x 16 = 48]**

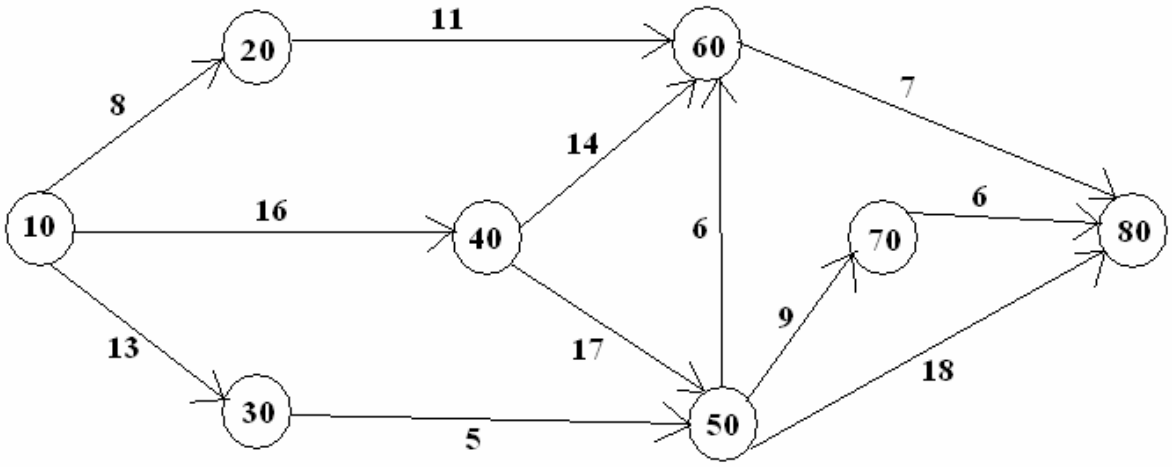
1. Explain the building bye – laws with reference to
   a) Area limitations of the buildings
   b) Lighting and ventilation requirements
   c) Size and other requirements of kitchen room
   d) Size and other requirements of stair case. [16]

2. Discuss the requirements of the following in planning of a residential building.
   a) Drawing room
   b) Bath room and water closets
   c) Bed room
   d) Verandah [16]

3. A School building is to be constructed in a rural area. The strength of the school is 500 students. Draw the line diagram of the school building and explain the principles of your planning. [16]

4.a) What are the objectives of construction management?
b) Write short notes on orientation of residential buildings. [8+8]

5. For the following CPM Network:
   a) Calculate all activity times and all floats in tabular form.
   b) Find the critical path and project duration. [16]



PART – B **[1 x 32 = 32]**

6.a) Draw the plan and isometric view of a right angle junction of two brick wall in Flemish bond . Showing at least 4 consecutive layers.
b) Draw to a suitable scale, the elevation and details of a king port truss of span 6.5m. [16]

7. The time plan of a residential building is as thrown in figure.

Specifications:

Foundation: Desty of foundation is 900 mm. The concrete base is 300 mm thick, 800 mm wide. The first footing over it is first class brick maroury in c.m. 1:6, 600 mm wide, 400 mm deep the second footing is 500 mm wide, 300 deep.

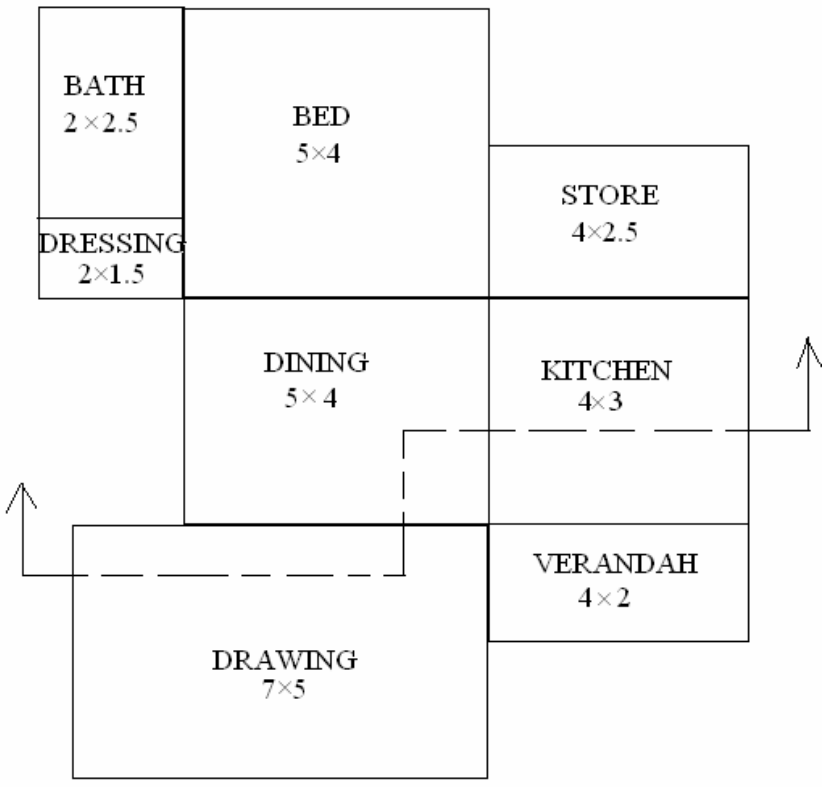
Basement: First class brick maroury in c.m. 1:6, 600 mm high and 400 mm thick.

Super structure: All the main walls are 300 mm thick brick walls in c.m. 1:6, and 3.5m high. The partition wall between toilet and dressing & toilet and bed rooms are 100 mm thick.

Roofing: Roof is 100 mm thick 1:2:4 R.C.C. slab provide flat tiles in l.m 1:2 in 2 layers as weathering coat.
Provide parapet wall 200 mm thick and 600 mm high.

Flooring: 100 mm thick c.c. 1:6:12 is laid over sand filling.
It is further finished with cudda pah slais 20 mm thick.
Doors, windows and ventilators:
Main doors are paneled doors of 1000 mm × 2000 mm.
Doors for toilet, dressing and store are 750 mm × 1800 mm and are also paneled.
Windows are glazed and of size 1000 mm × 1500 mm.
Ventilators are glazed and of size 1000 × 500 mm.

Draw
i) Fully dimensioned plan
ii) Sectional elevation along AB
iii) Front Elevation [32]



All dimensions are in metres

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Code.No: 07A40101 | R07 | SET-4

II B.TECH – II SEM EXAMINATIONS, DECEMBER - 2010
BUILDING PLANNING AND DRAWING
(CIVIL ENGINEERING)

Time: 3hours **Max.Marks:80**

Answer any THREE questions from Part – A
Answer any ONE question from Part – B

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PART – A **[3 x 16 = 48]**

1. Explain the building bye-laws with reference to
   a) Open space requirements.
   b) Built-up area limitations.
   c) Size and other requirements of habitable room.
   d) Size and other requirements of bath rooms and water closets. [16]

2. Discuss the requirements of the following in planning of a residential building.
   a) Kitchen b) Strain case
   c) Store room d) Prayer room. [16]

3. A library building is to be planned for an engineering college. The strength of the college is 1000 students. Draw the line diagram of the library building and explain the principles of your planning. [16]

4. a) What are the functions of construction management?
   b) Discuss in detail the various factors involved in the selection of a site for a building. [8+8]

5. Draw the network diagram for the following data and find the critical path using floats. Also find the project duration. [16]

Succeeding Activities	Preceeding activities	Activities	Duration (Days)
A & B	-	A	10
C	B	B	5
D	A	C	3
E	C	D	6
F	C	E	7
G	F	F	6
H	G	G	5
I	C	H	8
J	H & I	I	4
K	E, J & D	J	6
L	H & I	K	4
M	K & L	L	3
		M	2

PART – B **[1 x 32 = 32]**

6. a) Draw the plan and isometric view of a right angle junction of one and half brick wall in English bond, showing at least 4 consecutive layers.

b) Draw to a suitable scale, fully dimensioned plan and elevation of a half glazed paralleled door of size 1m × 2m. [16+16]

7. The line plan of a typical residential building is as shown in figure.

Specifications:

Foundations: Depth to which the main walls are taken below the ground level is 1000mm.

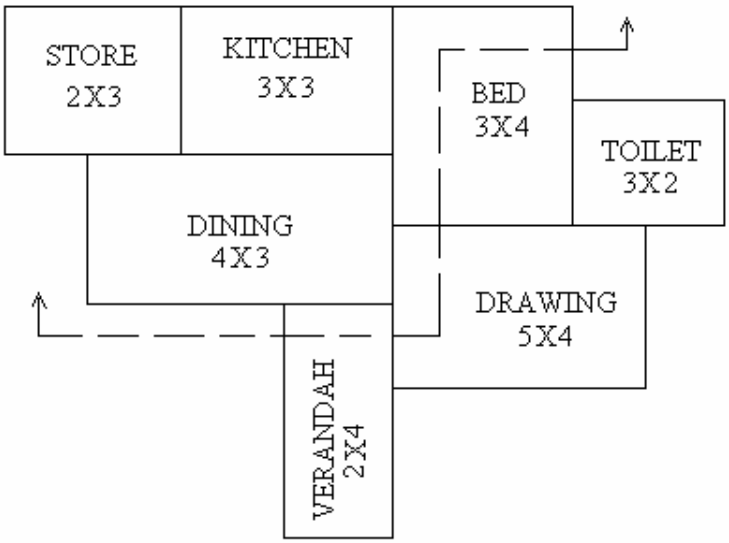
Cement concrete base 300mm thick and 900mm wide is provided under the main walls.
First footing is brickwork in cm, 1:6, 600 mm wide and 300 mm deep.
Second footing is 500 mm wide, 200 mm deep.
Third footing is 400mm wide 200 mm deep. It is extended to a height of 750 mm above the ground level to form the basement.

Super Structure: All the main walls are 300 mm thick and others are 200 mm thick.
Head room=3 m.

Roofing: It is 1:2:4 R.C.C slab 120 mm thick overlaid by 80 mm thick concrete and 400 mm thick insulation course.

Flooring: 25 mm thick cement concrete laid over 75 mm thick lime concrete base.

Provide doors, windows and ventilators as per standard dimensions. Assume any other data appropriately.
Draw:
i) Fully dimensioned plan.
ii) Sectional elevation along AA.
iii) Front Elevation. [32]



All Dimensions are in metres

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