

II B. Tech II semester Regular End Examinations, April/May 2009

BUILDING PLANNING AND DRAWING

(CIVIL ENGINEERING)

Time: 3 hours

Max. Marks: 80

PART - A

Answer any Three questions, from Part-A and Answer any ONE from Part-B

Maximum Marks. 48

1. (a) What are the Objectives of building bye laws. Explain the principles underlying building byelaws.
(b) Discuss the importance of Floor area ratio and Floor space index in creating an orderly growth of buildings in towns.
2. (a) Explain the usefulness of specifying the Minimum standards in buildings. How to design a stair case for a residential building? Explain
(b) Discuss the various requirements for designing i) Verandah ii) Drawing room iii) Bed room and iii) Sanitary units of a residential building.
3. (a) Write a short notes on the Characteristics of various types of residential buildings
(b) Discuss salient features of planning High School buildings.
4. (a) Distinguish among Bar chart, CPM and PERT networks in planning different works and times pertaining to a major construction Project.
(b) In a CPM network, explain the following terms
 - (i) Earliest event time
 - (ii) Latest allowable occurrence time
 - (iii) Forward pass
 - (iv) Critical path
5. (a) Explain the method of Resource allocation when conflicting demands are made for the same type of resource, which is limited.
(b) Discuss the Time floats of PERT networks

Part-B

Maximum marks 32

1. Plan a Single storied Residential building for a plinth area of 120 sqm. Assume the North point for the layout. Arrive at the Sizes of various rooms based on principles of planning. The building is 3.20 m from the floor to the ceiling. A good soil for laying foundation is available at 1.00 m from the ground level. Draw the PLAN, ELEVATION of the building to a suitable scale

- 2) Plan a Single storied Bank building for a plinth area of 180 sqm. Assume the North point for the layout. Design the Sizes of various units of the bank. The building is 4.00 m from floor to the ceiling. A good soil for laying foundation is available at 1.20 m from the ground level. Draw the PLAN, ELEVATION of the building to a suitable scale.

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**Answer any THREE questions from Part-A
and any One question from Part-B
Part-A**

Maximum marks 48

All questions carry equal marks

1. (a) What are the Principles underlying building byelaws. Discuss the internal and external Open space requirements in Residential buildings.
(b) What is the relevance of Floor space index in building planning. Explain with illustrations how the building height is controlled by i) Rear open space and ii) Width of the road
2. (a) What is Grouping of different units of a building. Explain how to group various rooms in a Residential building
(b) Write a short notes on the Characteristics of different types of residential buildings.
3. (a) What are the requirements of a Dispensary building and sketch a suitable line diagram showing the layout of the building.
(b) Discuss the planning of buildings for recreation purpose.
4. (a) Discuss the Optimistic time, Pessimistic time and Most likely time in a PERT network analysis.
(b) Briefly explain the following
 - (i) Numbering the events
 - (ii) Loop network
 - (iii) Slack time
 - (iv) Total float

5. (a) Bring out the difference between Planning, Scheduling, and Monitoring.
- (b) Develop a CPM network for the construction of an office building. The total time for completion of the project is 21 weeks. Assume different activities of the project. Draw a suitable network diagram.

Part-B

Maximum marks 32

1. Plan a single storied Residential building having a plinth area of 125 sqm. Assume the North point and also suitable sizes of different rooms. The height of the building from floor to the terrace is 3.30 m. Provide an external staircase. Draw the PLAN and ELEVATION of the Residential building to a suitable scale.
2. Plan a Single storied Hotel building for a plinth area of 650 sqm. Assume the North point for the layout. Design the Sizes of various units of the Hotel building. The building is 4.10 m from floor to the ceiling. A good soil for laying foundation is available at 1.25 m from the ground level. Draw the PLAN and ELEVATION of the Hotel building.

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BUILDING PLANNING AND DRAWING

(Civil Engineering)

Time: 3 hours

Max. Marks: 80

**Answer any THREE questions from Part-A
and any One question from Part-B**

Part-A

Maximum marks 48

All questions carry equal marks

1. (a) What are the Objectives of building byelaws. Explain the Directive principles to frame and implement building byelaws.
(b) Classify the buildings based upon i) Occupancy and ii) Fire resistance.
2. (a) Explain the reasons dictating the Minimum standards in buildings. List out the minimum sizes of different rooms in residential buildings.
(b) Discuss the various requirements for i) Living room ii) Bed room iii) Kitchen and iii) Sanitary units of a residential building.
3. (a) What is a layout plan. Enumerate different aspects to be considered in planning a Commercial complex. Show a typical layout for a Shopping enclave
(b) Discuss salient features of planning the buildings for a High School
4. (a) Distinguish among Bar chart, CPM and PERT in planning different works and times pertaining to a major construction Project.
(b) In a CPM network, explain the following terms
 - (i) Earliest event time
 - (ii) Latest allowable occurrence time
 - (iii) Forward pass
 - (iv) Critical path
5. (a) Explain the method of Resource allocation when conflicting demands are made for the same type of resource, which is limited.
(b) Discuss the Time floats of PERT networks

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SET - 3

Part-B

Maximum marks 32

- 1 Plan a Single storied residential building for a plinth area of 140 sqm. Assume the North point for the layout. Arrive at the locations of various rooms based on the principles of planning. Design the Sizes of rooms. The building is 3.20 m from floor to the ceiling. A good soil for laying foundation is available at 0.90 m from the ground level. Draw the PLAN and ELEVATION of the building to a suitable scale

- 2) Plan a Single storied Office building for a plinth area of 360 sqm. Assume the North point for the layout. Design the Sizes of various units of the office building.. The building is 4.20 m from floor to the ceiling. A good soil for laying foundation is available at 1.10 m from the ground level. Draw the PLAN and ELEVATION of the Office building to a suitable

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Max. Marks: 80

**Answer any THREE questions from Part-A
and any One question from Part-B**

Part-A

Maximum marks 48

All questions carry equal marks

1. (a) Discuss the internal and external Open space requirements in residential buildings.
(b) What is a building height. Explain with illustrations how the building height is controlled by i) Rear open space ii) Width of the road and iii) Floor Area Ratio
2. (a) What is the purpose of Grouping in buildings. Explain how different rooms are to be grouped in a Hospital building.
(b) Write a short notes on the Characteristics of different types of residential buildings.
3. (a) What are the requirements of a High school building. Explain, how the different units are to be grouped in a School layout.
(b) Discuss the planning of stairs and stair cases in residential buildings
4. (a) Discuss the Time estimates in a PERT network analysis.
(b) Briefly explain the following
 - (i) Numbering the events
 - (ii) Loop network
 - (iii) Total float
 - (iv) Backward pass
5. (a) Bring out the difference between Planning and scheduling, and Updating.
(b) Write a CPM network for construction of a Dispensary. The total project time is 25 weeks. Assume suitable activities. Draw the network diagram.

Part-B

Maximum marks 32

1. Plan a single storied Residential building having a plinth area of 135 sqm. Assume North point and also suitable sizes of different rooms. The height of the building from floor to the terrace is 3.25 m. Provide an external staircase.
Draw a PLAN and ELEVATION of the Residential building.
2. Plan a Single storied Hostel building for a plinth area of 350 sqm. Assume a North point for the layout. Design the Sizes of various rooms of the Hostel building. The building is 4.50 m from floor to the ceiling. A good soil for laying foundation is available at 1.25 m from the ground level. Draw the PLAN and ELEVATION to a suitable scale.
