
SECTION – A

There are **FOUR** questions in this section. Answer question **Q. No. 1** and any **TWO** from the rest.

1. Distinguish between sample and sampling unit. Critically evaluate various methods for the sample selection process under probability sampling with examples. **(6+22=28)**
2. Define case study. What should be the desired skills of a case study investigator? **(5+16=21)**
3. What considerations are made while preparing interview questionnaire? Write down the advantages and disadvantages of interview as a data collection method. **(5+16=21)**
4. Write short notes on any three of the following methods of data collection. **(3×7=21)**
(a) Surveys (b) Focused group discussions (c) Key informants (d) Observations

SECTION – B

There are **FOUR** questions in this section. Answer question **Q. No. 5** and any **TWO** from the rest.

5. Briefly describe the following research types with examples- **(4×7=28)**
(a) Descriptive research (b) Exploratory research (c) Applied research
(d) Experimental research
6. Discuss the different steps involved in a research process. Why is it vital to systematically follow the research process? **(16+5=21)**
7. Briefly describe the theoretical and ethical factors that affect the choice of research methods. **(21)**
8. What is Quantitative and Qualitative research? Write down the strengths and weaknesses of Quantitative and Qualitative research. **(5+16=21)**

L-4/T-1/ARCH

19/05/2024
Date: 28/04/2024

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA

L-4/T-1 B. Arch. Examinations 2022-2023

Sub: **ARCH 809** (Health Facilities Planning and Design)

Full Marks: 140

Time: 3 Hours

The figures in the margin indicate full marks.

USE SEPARATE SCRIPTS FOR EACH SECTION

SECTION – A

There are **FOUR** questions in this section. Answer **Q. No. 1 and 2** and any **ONE** from **Q. No. 3-4**.

1. (a) Explain different types of single-room layouts based on toilet position using a sketch. (13)
(b) Which layout approach would you prefer for a hospital's inpatient unit: single-bed or multi-bed, and why? (10)
2. (a) Discuss the factors that need to be considered while designing and planning the Emergency Department of a hospital. (13)
(b) Compare various Emergency Department layouts in terms of functional efficiency. (10)
3. (a) What are the planning and design objectives of the outpatient department? (10)
(b) Illustrate various operational models of an outpatient department layout with sketches. (14)
4. (a) Briefly discuss different zones of the Operation Theater (OT) unit and their associated area. (10)
(b) Compare the single corridor and racetrack model of the Operation Theater (OT) unit in terms of infection control. (14)

SECTION – B

There are **FOUR** questions in this section. Answer **Q. No. 5** and any **TWO** from the rest.

5. Evaluate different types of secondary hospital layouts that have been utilized in Bangladesh throughout history. (24)
 6. (a) Identify the factors that affect hospital utilization in the context of a developing country. (13)
(b) Assume that the population of a district is 450000, the average length of stay in the hospital is 5 days, and the annual admission rate is 1 per 20 population. Calculate the number of beds and total area for a proposed hospital considering the bed occupancy rate of 80%. (10)
 7. (a) What are the important design considerations to keep in mind while masterplanning a hospital? (10)
(b) Illustrate a clear process for successful hospital planning, outlining all the necessary steps. (13)
 8. (a) What organizational policies should be considered during planning stage of a hospital to perform its functions? (10)
(b) Please provide your insights on the key factors to consider while selecting a site for a district hospital. (13)
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L-4/T-1/ARCH

19/05/2024
Date: 28/04/2024

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA

L-4/T-1 B. Arch. Examinations 2022-2023

Sub: **ARCH 815** (Industrial Building Design)

Full Marks: 140

Time: 3 Hours

The figures in the margin indicate full marks.

USE SEPARATE SCRIPTS FOR EACH SECTION

SECTION – A

There are **FOUR** questions in this section. Answer **Q. No. 1** and any **TWO** from the rest.

1. (a) Define Industry and Industrial Building. (12)
(b) Justify the importance of legislation related to Industrial building design in the context of Bangladesh. (18)
2. (a) Define factory. (5)
(b) Classify the types of factory based on the nature of manufacturing process and impact on the landscape. (15)
3. (a) What measures should an architect consider in proposing a master plan of industrial building? (10)
(b) Briefly describe the factors that affect the location of an industry. (10)
4. Analyze the impact of innovations and interventions during 19th century on industrial building. (20)

SECTION – B

There are **FOUR** questions in this section. Answer **Q. No. 5** and any **TWO** from the rest.

Use sketches where necessary.

5. (a) Discuss different colour coding system of safety signs and symbols in industrial buildings. (15)
(b) Present a comparative analysis of different types of roof forms. (15)
 6. Explain how architects can contribute in designing green industrial buildings in Bangladesh. (20)
 7. Analyse the design criteria for the loading and unloading areas of industrial buildings. (20)
 8. Describe the measures to reduce noise and glare level while designing an industrial building. (20)
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BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA

L-4/T-1 B. Arch. Examinations 2022-2023

Sub: **PLAN 821** (Theory and Practice of Planning)

Full Marks: 140

Time: 3 Hours

The figures in the margin indicate full marks.

USE SEPARATE SCRIPTS FOR EACH SECTION

SECTION – AThere are **FOUR** questions in this section. Answer any **THREE**.

1. (a) Explain the notion of planning theory. (7 1/3)
(b) Appraise how advocacy planning serves the distressed group of population. (16)
2. (a) Describe the problems associated with participatory planning. (7 1/3)
(b) Discuss the differences between Rational Comprehensive Strategy and Disjointed Incremental Strategy of planning. (16)
3. (a) Compare bottom-up approach with top-down approach of planning. (7 1/3)
(b) Analyze the participatory wealth ranking tool of PRA method. (16)
4. (a) Demonstrate the example of normative planning. (7 1/3)
(b) Differentiate between Blue-print and Process planning. (16)

SECTION – BThere are **FOUR** questions in this section. Answer any **THREE**.

5. (a) Appraise the salient features of Sector Model. (9)
(b) Outline the specific functions that a structure plan should identify with reasoning. (7)
(c) State the need for a middle order local plan. Identify the limitations of Dhaka Master Plan 1959 and briefly discuss its implications on the subsequent development of Dhaka. (3+4 1/3 = 7 1/3)

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA

L-4/T-1 B. Arch. Examinations 2022-2023

Sub: **ARCH 825** (Introduction to Interactive, Smart and Intelligent Architecture)

Full Marks: 140

Time: 3 Hours

The figures in the margin indicate full marks.

USE SEPARATE SCRIPTS FOR EACH SECTION

SECTION – AThere are **FOUR** questions in this section. Answer **Q. No. 1** and any **TWO** from the rest.

1. (a) Define the concept of "interaction" in architecture. (5)
(b) State the purpose of introducing interaction in architecture. (5)
(c) Discuss in detail a real-world interactive project (architecture or art installation) that demonstrates "open-ended" interaction. Explain the project's technological aspects, its interaction loop, active participants, and the way in which interaction reaches open-endedness. (Use sketches as needed). (20)
2. (a) Explain how architecture can embody the 'interactive essence'. (10)
(b) Describe the history and evolution of interactive architecture. (10)
3. Explain with illustrations the use of Internet-of-Things for the following.
(a) Smart Home (10)
(b) Smart Office (10)
4. Discuss elaborately two real-world examples in architecture that demonstrate the use of interactive technologies for environmental control. Use sketches to explain the interactions. (20)

SECTION – BThere are **FOUR** questions in this section. Answer **Q. No. 5** and any **TWO** from the rest.

5. Write short notes on the following. (5×6=30)
 - (a) Reactive vs. Open-Ended systems
 - (b) Sensor technologies in Architecture
 - (c) Smart vs. Intelligent Architecture
 - (d) Robotics in Architecture
 - (e) Intelligent skins for buildings

Contd P/2

ARCH 825

6. (a) Define Embedded Computation (EC). (5)
(b) Describe the major components of EC. (5)
(c) Discuss the purpose and evolution of EC in the field of architecture. (10)
7. (a) Define Mediated Environments (ME). (5)
(b) Explain with examples how ME may assist people at home and in the streets. (15)
8. (a) What are the characteristics of a smart material? (5)
(b) Discuss the various types of smart materials used in the field of art and architecture.
Give five examples. (15)
-

SECTION – A

There are **FOUR** questions in this section. Answer any **THREE** questions.

1. (a) Briefly discuss the following: (3×4=12)
 - (i) SDG,
 - (ii) Perspective Plan 2041,
 - (iii) Zoning.
- (b) Discuss how physical forms of people's dwelling unit changed from pre-historic period till the formation of cities. (11 ⅓)
2. (a) Briefly outline landuse planning principles with relevant examples. (10)
 - (b) 'The horizontal expansion of London was stopped due to green belt, but London continued its growth by densification theory vertical expansion' - Illustrate the context of Green Belt and discuss the additional measures taken to control the population growth of London. (13 ⅓)
3. (a) Generalize some characters of pre-industrial cities with example. (7 ⅓)
 - (b) Demonstrate how industrialization influenced the emergence of city planning. (16)
4. (a) Summarize the key inventions that expedite the process of industrialization. (7 ⅓)
 - (b) "City's character depends on three indicators" – In this context define the character of 'Chattogram' city. (16)

SECTION – B

There are **FOUR** questions in this section. Answer any **THREE** questions.

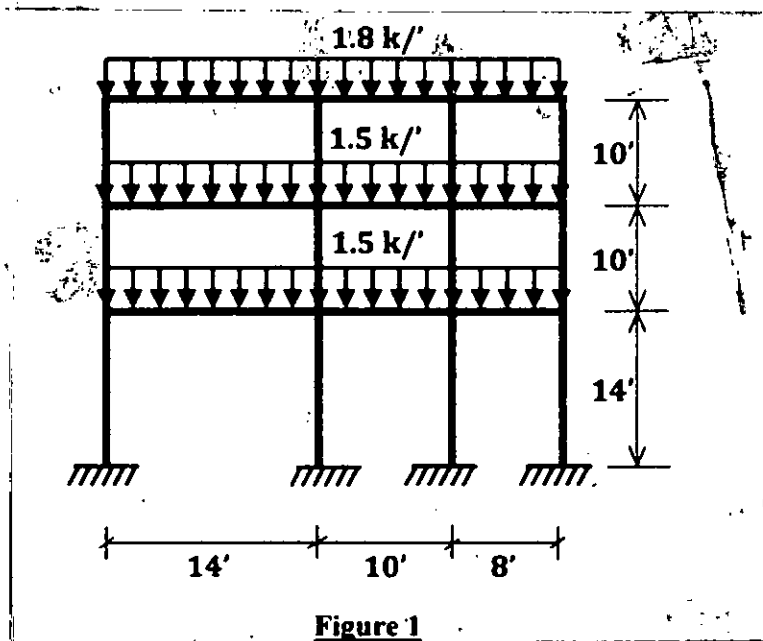
5. (a) Define planning. State the considerations of democratic planning process. (6)
 - (b) State the differences between growth and development. (10)
 - (c) Write down the criticisms of traditional planning approach. (7 ⅓)
6. (a) Explain the differences between sectoral and spatial planning. (5)
 - (b) Discuss how functionality and social justice can be achieved in spatial planning process. (10)
 - (c) Explain the concept of systems approach in planning. (8 ⅓)
7. (a) Draw a sketch depicting domains of development planning. (10)
 - (b) List the stages in planning process. (6)
 - (c) Do you consider the stages in planning process cyclical? Explain your answer. (7 ⅓)
8. (a) Write down the strength of structure planning over traditional planning approach. (8)
 - (b) Explain how you think the concept of advocacy planning can help the disadvantaged group of people to be heard in planning process. (12)
 - (c) Define participatory planning process. (3 ⅓)

SECTION - A

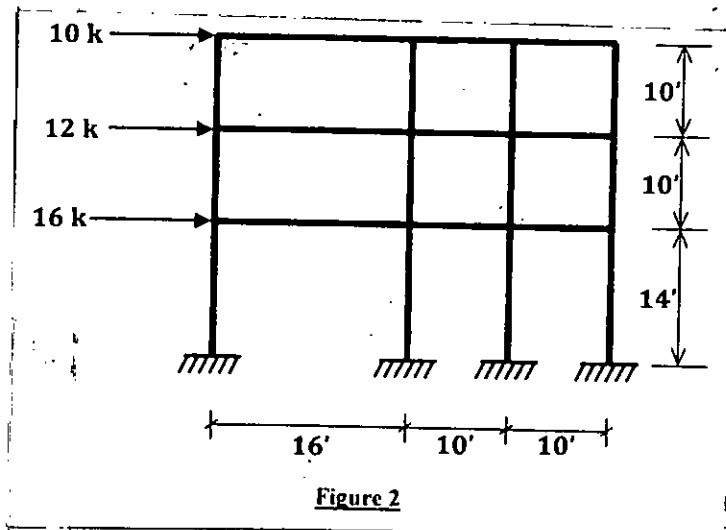
There are **FOUR** questions in this section. Answer any **THREE** Questions.

Assume reasonable values for missing data, if any.

- Using the approximate method of analysis for gravity loads, draw the bending moment diagram for all the columns and girders, the shear force diagram of the girders, and the axial force diagram of the columns for the frame shown in Figure 1. All the columns have the same cross-section and are uniform throughout the height. (23 $\frac{1}{3}$)

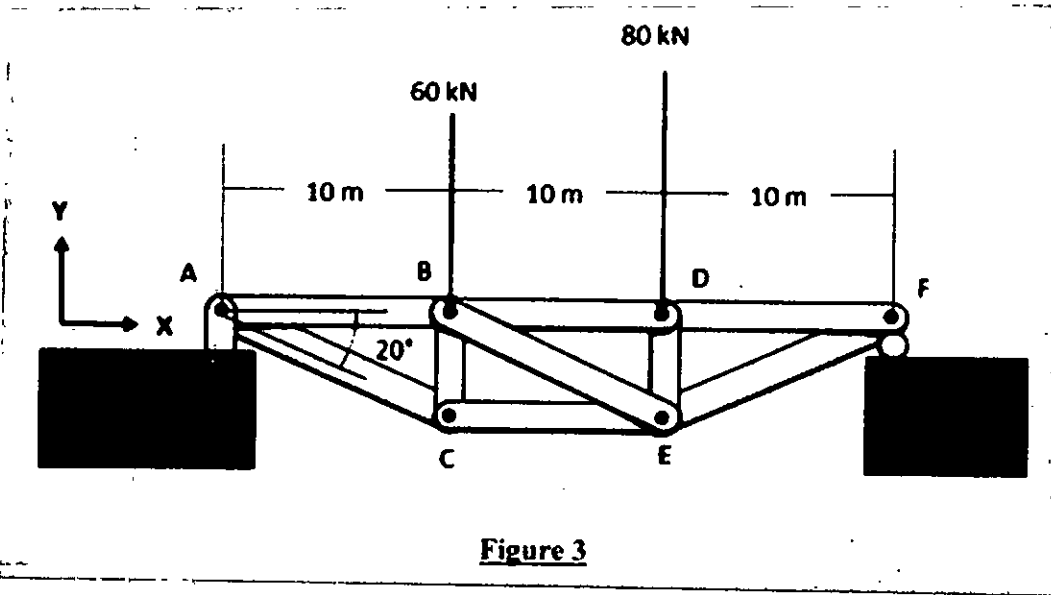


- Draw the shear force diagram and bending moment diagram for all the girders & columns of the frame shown in Figure 2 using the Portal method. (23 $\frac{1}{3}$)

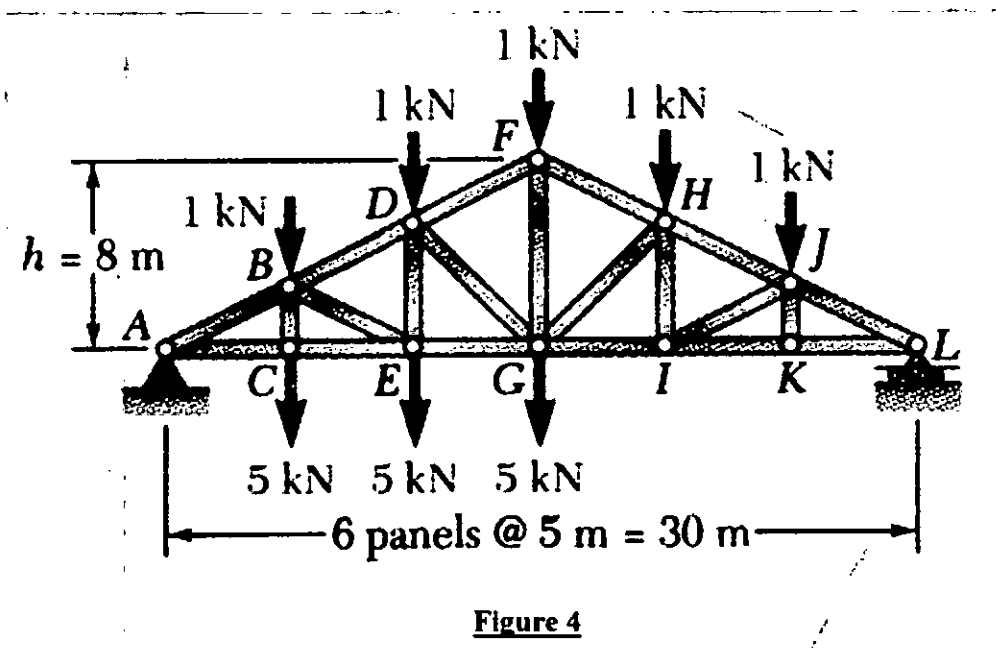


CE 467 (ARCH)

3. Find the force acting in each of the truss bridge members by the method of joints shown in Figure 3. Remember to specify if each member is in tension or compression. (23 $\frac{1}{3}$)



4. Determine the internal forces in members FH, GH, and GI of the following truss shown in Figure 4 using the method of sections. Indicate the nature of the forces also. (23 $\frac{1}{3}$)



SECTION - B

There are **FOUR** questions in this section. Answer any **THREE** Questions.

Assume reasonable values for missing data, if any.

5. (a) What are the basic differences between pre-stressed concrete and reinforced concrete? **(5)**
- (b) A simply supported 24 ft span prestressed concrete rectangular beam has a cross section of 16 inches X 24 inches. The beam is loaded by a uniform load of 2.0 kips/ft excluding its self-weight. The prestressing tendon has an eccentricity of 6 inches and produces an effective prestress of 250 kips. Compute the fiber stresses in concrete at the mid span section and show the stress distribution in neat sketch. **(18 $\frac{1}{3}$)**
6. Select the lightest W section of A992 steel to serve as a pinned-end main member column of 15 ft long to carry an axial compression load of 110 kips dead load and 140 kips live load. Use ASD approach. Given $F_y = 50$ ksi, $E = 29,000$ ksi. (Make only two trials. Assume $KL/r = 80$ and 90 for first and second trial respectively and then comment on your results) . **(23 $\frac{1}{3}$)**
7. Select the lightest W section to carry a uniformly distributed dead load of 1.1 kip/ft superimposed (i.e., in addition to the beam weight) and 2.1 kip/ft live load. The simply supported span is 18 ft. The compression flange of the beam is fully supported against lateral movement. Use ASD approach and select for the A36 ($F_y = 36$ ksi) steel. Also determine the shear stress distribution of the design beam section subjected to a service load shear force of 140 kips. **(23 $\frac{1}{3}$)**
8. (a) Define bearing capacity of soil. Discuss how the bearing capacity of soil can be improved. **(6)**
- (b) Where pile foundation is used in the construction? What is the difference between pre-cast and cast-in-situ piles? **(8)**
- (c) What are the different structural systems used in high-rise buildings to resist lateral loads, and how does each system work to provide stability? **(9 $\frac{1}{3}$)**
-

ANNEXURE

$$F_{cr} = \left[0.658 \frac{F_y}{F_c} \right] F_y \quad \text{For } \frac{KL}{r} \leq 4.71 \sqrt{\frac{E}{F_y}} \quad \text{or } F_c \geq 0.44 F_y$$

$$F_{cr} = 0.877 F_c \quad \text{For } \frac{KL}{r} > 4.71 \sqrt{\frac{E}{F_y}} \quad \text{or } F_c < 0.44 F_y$$

$$F_c = F_{cr} = \frac{\pi^2 E}{\left(\frac{KL}{r} \right)^2}$$

$$\text{Required } Z_x = \frac{\Omega M_a}{F_y}$$

$$\lambda = \frac{b_f}{2t_f} < \lambda_{pf} = \frac{65}{\sqrt{F_y, \text{ ksi}}}$$

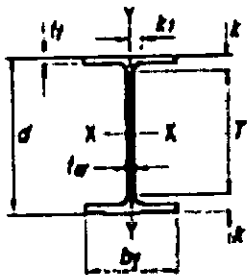


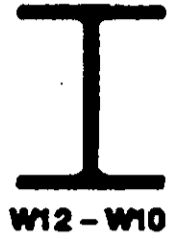
Table 1-1 (continued)
W Shapes
Dimensions

| Shape | Area, A | Depth, d | Web | | Flange | | Distance | | | | | | | |
|------------------|------------|-------------|------------------|-------|--------------|------------------|----------|-------|--------|-------|-----------------------|---------|--------|-------|
| | | | Thickness, tw | Iw | Width, bf | Thickness, tf | k | | k1 | T | Work- able Gage | | | |
| | | | | | | | kmax | kmin | | | | in. | in. | |
| in. ² | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | | | |
| W12x58 | 17.0 | 12.2 | 12 1/4 | 0.360 | 7/16 | 10.0 | 10 | 0.640 | 7/16 | 1.24 | 1 1/8 | 13 1/16 | 9 1/4 | 5 1/2 |
| x53 | 15.6 | 12.1 | 12 | 0.345 | 3/8 | 10.0 | 10 | 0.575 | 7/16 | 1.18 | 1 3/8 | 13 1/16 | 9 1/4 | 5 1/2 |
| W12x50 | 14.6 | 12.2 | 12 1/4 | 0.370 | 7/16 | 8.08 | 8 1/2 | 0.640 | 7/16 | 1.14 | 1 1/2 | 13 1/16 | 9 1/4 | 5 1/2 |
| x45 | 13.1 | 12.1 | 12 | 0.335 | 7/16 | 8.05 | 8 | 0.575 | 7/16 | 1.08 | 1 3/8 | 13 1/16 | 9 1/4 | 5 1/2 |
| x40 | 11.7 | 11.9 | 12 | 0.295 | 7/16 | 8.01 | 8 | 0.515 | 1/2 | 1.02 | 1 3/8 | 7/8 | 9 1/4 | 5 1/2 |
| W12x35 | 10.3 | 12.5 | 12 1/2 | 0.300 | 7/16 | 6.56 | 6 1/2 | 0.520 | 1/2 | 0.820 | 1 3/8 | 3/4 | 10 1/8 | 3 1/2 |
| x30 | 8.79 | 12.3 | 12 3/4 | 0.260 | 7/16 | 6.52 | 6 1/2 | 0.440 | 7/16 | 0.740 | 1 1/8 | 3/4 | 10 1/8 | 3 1/2 |
| x26 | 7.65 | 12.2 | 12 1/4 | 0.230 | 7/16 | 6.49 | 6 1/2 | 0.380 | 7/16 | 0.680 | 1 1/8 | 3/4 | 10 1/8 | 3 1/2 |
| W12x22 | 6.48 | 12.3 | 12 1/4 | 0.260 | 7/16 | 4.03 | 4 | 0.425 | 7/16 | 0.725 | 1 1/8 | 3/4 | 10 1/8 | 2 1/4 |
| x19 | 5.57 | 12.2 | 12 1/4 | 0.235 | 7/16 | 4.01 | 4 | 0.350 | 7/16 | 0.650 | 7/8 | 3/4 | 10 1/8 | 2 1/4 |
| x16 | 4.71 | 12.0 | 12 | 0.220 | 7/16 | 3.99 | 4 | 0.265 | 1/2 | 0.565 | 1 3/8 | 3/4 | 10 1/8 | 2 1/4 |
| x14 | 4.16 | 11.9 | 11 7/8 | 0.200 | 3/16 | 3.97 | 4 | 0.225 | 1/2 | 0.525 | 7/8 | 3/4 | 10 1/8 | 2 1/4 |
| W10x112 | 32.9 | 11.4 | 11 1/8 | 0.755 | 3/4 | 10.4 | 10 3/4 | 1.25 | 1 1/8 | 1.75 | 1 11/16 | 1 | 7 1/2 | 5 1/2 |
| x100 | 29.4 | 11.1 | 11 1/8 | 0.680 | 1 1/8 | 10.3 | 10 3/4 | 1.12 | 1 1/8 | 1.62 | 1 13/16 | 1 | 7 1/2 | 5 1/2 |
| x88 | 25.9 | 10.8 | 10 7/8 | 0.605 | 7/8 | 10.3 | 10 7/8 | 0.990 | 1 | 1.48 | 1 1 1/16 | 13 1/16 | 7 1/2 | 5 1/2 |
| x77 | 22.6 | 10.6 | 10 5/8 | 0.530 | 7/8 | 10.2 | 10 7/8 | 0.870 | 7/8 | 1.37 | 1 1 1/16 | 7/8 | 7 1/2 | 5 1/2 |
| x68 | 20.0 | 10.4 | 10 3/8 | 0.470 | 7/8 | 10.1 | 10 1/2 | 0.770 | 7/8 | 1.27 | 1 1/8 | 7/8 | 7 1/2 | 5 1/2 |
| x60 | 17.6 | 10.2 | 10 1/4 | 0.420 | 7/16 | 10.1 | 10 1/8 | 0.680 | 1 1/16 | 1.18 | 1 3/8 | 13 1/16 | 7 1/2 | 5 1/2 |
| x54 | 15.8 | 10.1 | 10 1/8 | 0.370 | 3/8 | 10.0 | 10 | 0.615 | 7/8 | 1.12 | 1 3/8 | 13 1/16 | 7 1/2 | 5 1/2 |
| x49 | 14.4 | 10.0 | 10 | 0.340 | 7/16 | 10.0 | 10 | 0.560 | 7/16 | 1.06 | 1 3/8 | 13 1/16 | 7 1/2 | 5 1/2 |
| W10x45 | 13.3 | 10.1 | 10 1/8 | 0.350 | 3/8 | 8.02 | 8 | 0.620 | 7/8 | 1.12 | 1 3/8 | 13 1/16 | 7 1/2 | 5 1/2 |
| x39 | 11.5 | 9.92 | 9 7/8 | 0.315 | 7/16 | 7.99 | 8 | 0.530 | 1 1/8 | 1.03 | 1 3/8 | 13 1/16 | 7 1/2 | 5 1/2 |
| x33 | 9.71 | 9.73 | 9 3/4 | 0.290 | 7/16 | 7.96 | 8 | 0.435 | 7/16 | 0.935 | 1 1/8 | 3/4 | 7 1/2 | 5 1/2 |
| W10x30 | 8.84 | 10.5 | 10 1/2 | 0.300 | 7/16 | 5.81 | 5 1/2 | 0.510 | 1/2 | 0.810 | 1 1/8 | 1 1/8 | 6 1/2 | 2 1/4 |
| x26 | 7.61 | 10.3 | 10 1/8 | 0.260 | 7/16 | 5.77 | 5 1/4 | 0.440 | 7/16 | 0.740 | 1 1/8 | 1 1/8 | 6 1/2 | 2 1/4 |
| x22 | 6.49 | 10.2 | 10 1/8 | 0.240 | 7/16 | 5.75 | 5 1/4 | 0.360 | 7/16 | 0.660 | 1 1/8 | 7/8 | 6 1/2 | 2 1/4 |
| W10x19 | 5.62 | 10.2 | 10 1/4 | 0.250 | 7/16 | 4.02 | 4 | 0.395 | 7/16 | 0.695 | 1 1/8 | 7/8 | 6 1/2 | 2 1/4 |
| x17 | 4.99 | 10.1 | 10 1/4 | 0.240 | 7/16 | 4.01 | 4 | 0.330 | 7/16 | 0.630 | 7/8 | 7/8 | 6 1/2 | 2 1/4 |
| x15 | 4.41 | 10.0 | 10 | 0.230 | 7/16 | 4.00 | 4 | 0.270 | 7/16 | 0.570 | 1 1/8 | 7/8 | 6 1/2 | 2 1/4 |
| x12 | 3.54 | 9.87 | 9 7/8 | 0.190 | 7/16 | 3.96 | 4 | 0.210 | 7/16 | 0.510 | 7/8 | 7/8 | 6 1/2 | 2 1/4 |

* Shape is slender for compression with $F_y = 50$ ksi.
 † Shape exceeds compact limit for flange with $F_y = 50$ ksi.
 ‡ The actual slenderness, combination, and orientation of flange components should be compared with the geometry of the cross-section to ensure compatibility.
 § Shape does not meet the M/L_r limit for shear in Specification Section G2.1a with $F_y = 50$ ksi.

ANNEXURE

Table 1-1 (continued)
W Shapes
Properties



| Nominal wt. lb/ft | Compact Section Criteria | | Axis X-X | | | | Axis Y-Y | | | | r_x in. | r_y in. | Torsional Properties | |
|-------------------------|--------------------------------|-----------------|-------------------------|-------------------------|------------|-------------------------|-------------------------|-------------------------|------------|-------------------------|--------------|--------------|-------------------------|---------------------------|
| | $\frac{h}{2t}$ | $\frac{h}{t_w}$ | I in. ⁴ | S in. ³ | r in. | Z in. ³ | I in. ⁴ | S in. ³ | r in. | Z in. ³ | | | J in. ⁴ | C_u in. ³ |
| | | | | | | | | | | | | | | |
| 58 | 7.82 | 27.0 | 475 | 78.0 | 5.28 | 86.4 | 107 | 21.4 | 2.51 | 32.5 | 2.82 | 11.6 | 2.10 | 3570 |
| 53 | 8.69 | 28.1 | 425 | 70.6 | 5.23 | 77.9 | 95.8 | 19.2 | 2.48 | 29.1 | 2.79 | 11.5 | 1.58 | 3180 |
| 50 | 6.31 | 26.8 | 391 | 64.2 | 5.18 | 71.9 | 86.3 | 13.9 | 1.96 | 21.3 | 2.25 | 11.6 | 1.71 | 1880 |
| 45 | 7.00 | 29.6 | 348 | 57.7 | 5.15 | 64.2 | 80.0 | 12.4 | 1.95 | 19.0 | 2.23 | 11.5 | 1.26 | 1630 |
| 40 | 7.77 | 33.6 | 307 | 51.5 | 5.13 | 57.0 | 44.1 | 11.0 | 1.94 | 15.8 | 2.21 | 11.4 | 0.906 | 1440 |
| 35 | 6.31 | 35.2 | 285 | 45.6 | 5.25 | 51.2 | 24.5 | 7.47 | 1.54 | 11.5 | 1.79 | 12.0 | 0.741 | 879 |
| 30 | 7.41 | 41.8 | 238 | 38.6 | 5.21 | 43.1 | 20.3 | 6.24 | 1.52 | 9.56 | 1.77 | 11.9 | 0.457 | 720 |
| 26 | 8.54 | 47.2 | 204 | 33.4 | 5.17 | 37.2 | 17.3 | 5.34 | 1.51 | 8.17 | 1.75 | 11.8 | 0.300 | 607 |
| 22 | 4.74 | 41.8 | 156 | 25.4 | 4.91 | 29.3 | 4.66 | 2.31 | 0.848 | 3.66 | 1.04 | 11.9 | 0.233 | 164 |
| 19 | 5.72 | 46.2 | 130 | 21.3 | 4.82 | 24.7 | 3.76 | 1.88 | 0.822 | 2.98 | 1.02 | 11.8 | 0.180 | 131 |
| 16 | 7.53 | 49.4 | 103 | 17.1 | 4.67 | 20.1 | 2.82 | 1.41 | 0.773 | 2.26 | 0.982 | 11.7 | 0.103 | 95.9 |
| 14 | 8.82 | 54.3 | 88.6 | 14.9 | 4.62 | 17.4 | 2.36 | 1.19 | 0.753 | 1.90 | 0.962 | 11.7 | 0.0704 | 80.4 |
| 112 | 4.17 | 30.4 | 716 | 126 | 4.85 | 147 | 236 | 45.3 | 2.68 | 69.2 | 3.07 | 10.1 | 151 | 6020 |
| 100 | 4.62 | 31.6 | 623 | 112 | 4.60 | 130 | 207 | 40.0 | 2.65 | 61.0 | 3.08 | 10.0 | 109 | 5150 |
| 88 | 5.18 | 33.0 | 534 | 98.5 | 4.54 | 113 | 179 | 34.8 | 2.63 | 53.1 | 2.99 | 9.85 | 7.53 | 4330 |
| 77 | 5.86 | 34.8 | 455 | 85.9 | 4.49 | 97.6 | 154 | 30.1 | 2.60 | 45.9 | 2.95 | 9.73 | 5.11 | 3630 |
| 68 | 6.58 | 36.7 | 394 | 75.7 | 4.44 | 85.3 | 134 | 26.4 | 2.59 | 40.1 | 2.91 | 9.63 | 3.56 | 3100 |
| 60 | 7.41 | 38.7 | 341 | 66.7 | 4.39 | 74.6 | 116 | 23.0 | 2.57 | 35.0 | 2.88 | 9.54 | 2.48 | 2640 |
| 54 | 8.15 | 41.2 | 303 | 60.0 | 4.37 | 66.6 | 103 | 20.6 | 2.56 | 31.3 | 2.86 | 9.48 | 1.82 | 2320 |
| 49 | 8.93 | 43.1 | 272 | 54.6 | 4.35 | 60.4 | 93.4 | 18.7 | 2.54 | 28.3 | 2.84 | 9.42 | 1.39 | 2070 |
| 45 | 6.47 | 42.5 | 248 | 49.1 | 4.32 | 54.9 | 83.4 | 13.3 | 2.01 | 20.3 | 2.27 | 9.48 | 1.51 | 1200 |
| 39 | 7.53 | 45.0 | 209 | 42.1 | 4.27 | 46.8 | 65.0 | 11.3 | 1.98 | 17.2 | 2.24 | 9.39 | 0.976 | 922 |
| 33 | 9.15 | 47.1 | 171 | 35.0 | 4.19 | 38.8 | 36.6 | 9.20 | 1.94 | 14.0 | 2.20 | 9.30 | 0.583 | 791 |
| 30 | 5.70 | 49.5 | 170 | 32.4 | 4.38 | 36.6 | 16.7 | 5.75 | 1.37 | 8.84 | 1.60 | 10.0 | 0.622 | 414 |
| 26 | 6.56 | 34.0 | 144 | 27.9 | 4.35 | 31.3 | 14.1 | 4.89 | 1.36 | 7.50 | 1.58 | 9.89 | 0.402 | 345 |
| 22 | 7.99 | 36.9 | 118 | 23.2 | 4.27 | 26.0 | 11.4 | 3.97 | 1.33 | 6.10 | 1.55 | 9.81 | 0.239 | 275 |
| 19 | 5.09 | 35.4 | 96.3 | 18.8 | 4.14 | 21.6 | 4.29 | 2.14 | 0.874 | 3.35 | 1.06 | 9.85 | 0.233 | 104 |
| 17 | 6.08 | 36.9 | 81.9 | 16.2 | 4.05 | 18.7 | 3.56 | 1.78 | 0.845 | 2.80 | 1.04 | 9.78 | 0.155 | 85.1 |
| 15 | 7.41 | 38.5 | 68.9 | 13.8 | 3.95 | 16.0 | 2.89 | 1.45 | 0.810 | 2.30 | 1.01 | 9.72 | 0.104 | 68.3 |
| 12 | 9.43 | 46.6 | 53.8 | 10.9 | 3.90 | 12.6 | 2.18 | 1.10 | 0.785 | 1.74 | 0.983 | 9.66 | 0.0547 | 50.9 |

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA

L-4/T-1 B. Arch. Examinations 2022-2023

Sub: **PLAN 821** (Theory and Practice of Planning)

Full Marks: 140

Time: 3 Hours

The figures in the margin indicate full marks.

USE SEPARATE SCRIPTS FOR EACH SECTION

SECTION – AThere are **FOUR** questions in this section. Answer any **THREE**.

1. (a) Explain the notion of planning theory. (7 1/3)
(b) Appraise how advocacy planning serves the distressed group of population. (16)
2. (a) Describe the problems associated with participatory planning. (7 1/3)
(b) Discuss the differences between Rational Comprehensive Strategy and Disjointed Incremental Strategy of planning. (16)
3. (a) Compare bottom-up approach with top-down approach of planning. (7 1/3)
(b) Analyze the participatory wealth ranking tool of PRA method. (16)
4. (a) Demonstrate the example of normative planning. (7 1/3)
(b) Differentiate between Blue-print and Process planning. (16)

SECTION – BThere are **FOUR** questions in this section. Answer any **THREE**.

5. (a) Appraise the salient features of Sector Model. (9)
(b) Outline the specific functions that a structure plan should identify with reasoning. (7)
(c) State the need for a middle order local plan. Identify the limitations of Dhaka Master Plan 1959 and briefly discuss its implications on the subsequent development of Dhaka. (3+4 1/3 = 7 1/3)

PLAN 821/ARCH

6. (a) Identify the difference between zoning and land use planning. Classify the basic types of zoning. (12 1/3)
- (b) Explain the shortcoming of Detail Area Plan 2010-15. (6)
- (c) Appraise the concept of density zoning (Area FAR) incorporated in Detail Area Plan 2022-35. (5)
7. (a) Demonstrate a problem tree and solution tree regarding the issue of traffic congestion in Dhaka city. (20 1/3)
- (b) Explain the Multiple Nuclei Model with necessary illustration. (3)
8. (a) Drawing references from international case studies develop some strategies that can be adopted to make Dhaka a sustainable city. (15 1/3)
- (b) Summarize the key points of Structure Plan 2016-35. (8)
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