ANSWER ALL THE QUESTIONS.

Support your answers with relevant sketches where necessary.

Well-drafted and neat sketches shall be given extra credit.

Q. No. | Question                                                                 | M.M. |
-------|---------------------------------------------------------------------------|------|
1(a)   | Explain the following terms: (any four)                                   | [4X2.5-10] |
(i)    | Parent city                                                              |      |
(ii)   | Arterial road                                                            |      |
(iii)  | Garden city                                                              |      |
(iv)   | Necropolis                                                               |      |
(v)    | Superblock                                                               |      |
1(b)   | What is neighbourhood planning? Explain in detail.                        | [5]  |
2      | What were the factors responsible for the development of a hunter gatherer society into an agricultural society? Explain in detail with suitable sketches where necessary. | [10] |
3      | Write about the Town Planning characteristics of Indus Valley Civilization in detail. | [10] |

OR

3'     | What were the implications of industrial revolution on modern day Town Planning? Explain in detail. | [10] |
4      | Compare the town planning ideas of Le Corbusier and Ebenezer Howard.     | [10] |
5      | Sketch a 45m ROW road with a bus stop and explain the design with the help of following details:  |      |
(a)    | Plan                                                                     | [10] |
(b)    | Section                                                                  | [5]  |
2013-2014
B.ARCHITECTURE WINTER ( VI SEMESTER) EXAMINATION
B.ARCH.
BUILDING BYE LAWS
(AR-304 )
Credits: 03

Max Marks : 60

Duration: Three Hours

Answer all the questions.
Assume suitable data if missing.
Notations if used have their usual meaning.

1. Describe the necessity of building bye-laws. What are the problems which are likely to be encountered in the absence of building bye-laws.

OR

1'. Describe the requirement of drawings to accompany the application form for obtaining permission from the Development Authority for the construction of a residential building.

2. Differentiate any Three of the following:
   a) Loft and Mezzanine floor
   b) Dwelling House and Dwelling Unit.
   c) Low Rise and High Rise Buildings.
   d) Carpet Area and Floor Area.

3. Discuss the provisions in the building bye laws with respect to following:
   i) Minimum height and size of the habitable room.
   ii) Exemption to open space.
   iii) Light and ventilation with respect to different climatic zones.

4. A plot of one hectare is allocated for the office complex with a FAR 2.25
   (a) Find out the total buildable area on the above plot.
   (b) Area of the Parking lot and number of cars if parking is on stilt floor.

5. Write short notes on any Three of the following:
   a) Classification of buildings.
   b) Net Density and Gross Density.
   c) Light plane.
   d) Off street parking.
B.A.R.C.H. (WINTER SEMESTER) EXAMINATION
ARCHITECTURE
BUILDING SERVICES (ELECTRICAL & MECHANICAL)
AR-306

Maximum Marks: 60
Credits: 04
Duration: Three Hours

M.M.

Q.No.
1. Explain any four of the following terms:
   (a) Reverberation
   (b) Traction Elevator
   (c) Tracks in Escalator
   (d) Slack effect
   (e) Frequency of sound
   (f) Difference between Air Conditioning and Air Cooling?

2. What are the various type of lifts used in the buildings, why hydraulic lifts are not feasible in multi-storied building?

OR

2'. What are the basic components of Escalators, explain their operation?

3. What are the four major components of Air Conditioning, explain their function with a neat sketch diagram?

OR

3'. What are the different types of Air Conditioning systems, explain them?

4. Explain any two of the following:
   (a) Incandescent lamp
   (b) Sodium Vapour lamp
   (c) Fluorescent lamp

5. Draw the electrical layout of a bed room with size 4m X 6m with attached toilet cum dressing on the short wall of size 4m X 2.5m, also provide the legend and specifications for the same.
Answer all the questions.
Assume suitable data if missing.

Q.1. Write short notes on the following with neat sketches (any two):
   a) Post tensioning of structures with neat sketches
   b) Curtain wall with neat sketches
   c) Metallic false ceiling

   [2x6=12]

Q.2. Draw the sectional detail of a top runner set for sliding folding door.

   [08]

Q.3.a) What are the various types of pitched roofs used in building construction? Explain each one of them in detail with neat sketches.

   [06]

Q.3.b) Write in detail about the provision of joints in structures and support your answer with relevant sketches.

   [06]

OR

Q.3'a) Write down the reasons for development of cracks in buildings and methods to prevent them.

   [06]

Q.3'b) Write about the various constituents of paints in detail.

   [06]

Q.4. Draw a steel roof truss in elevation with support details.

   [08]
Office Complex

Design and present a Office Complex for a private trans-national Company on a site measuring 300 mts x 450 mts on a 45 mts wide road in the North of N11 02 leading from Delhi to Mathura at Firozabad.

Design the building/site with following features/facilities considering FAR 50.
- Park and Parking for 50 cars and 100 two-wheelers, in the 50 mts. front setback.
- Entrance lounge for 80 people.
- Small corporate offices on the upper ground floor and first floor served by passenger lifts and escalators covering 25% of the total covered area.
- Basement with 50% area in covered parking and remaining for housing services and served by passenger lifts.
- Upper floors to cater to the needs of large business/commercial corporate offices covering 50% of the covered area.
- Manager’s and caretaker’s chambers supported by staff of 12 each.
- Integrate a Kitchen with store and a cafeteria, etc. for 200 people indoor dining.
- General Toilet for males and females.

*Present your scheme to suggest site layout, park/parking & outdoor (functioning) spaces.

* Floor Plans, two elevations and two sections.

*Concept(Viva)
Use of standards is permitted, however their supply in the examination hall is not guaranteed. Present the scheme through the to-scale drawn and drafted sketches. Neat presentation of graphics and write-ups carry additional weight-age within maximum marks. Concept of design shall be evaluated through viva-voce. Assume suitable data/situation if missing.

Commercial Complex

Design and present a Commercial Complex for a private multinational chain of retail business on a site measuring 300 mts x 450 mts on a 45 mts wide road in the North ofNH 91 leading to from Delhi to Ghaziabad.

Design the building/site with following features/facilities considering FAR 50.

- Park and Parking for 50 cars and 100 two-wheelers, in the 50 mts. front setback.
- Entrance lounge for 100 people.
- Shops and Showrooms on the upper ground floor and first floor served by passenger lifts and escalators covering 25% of the total covered area.
- Basement with 50% area in covered parking and remaining for housing services and holding area for goods served by goods lifts.
- Upper floors to cater to the needs of large business/commercial corporate offices covering 50% of the total covered area.
- Manager’s and caretaker’s chambers supported by staff of 12 each.
- Integrate a Kitchen with store and a cafeteria, etc. for 100 people indoor dining.
- General Toilet for males and female.

*Present your scheme to suggest site layout, park/parking & outdoor (functioning) spaces.

* Floor Plans, two elevations and two sections.

*Concept(Viva)
Note: (i) Neufert's data and time saver standards are allowed but provision of these is not the responsibility of the department.
(ii) Good drafting shall carry weightage.
(iii) Assume any suitable data wherever desirable.

Design problem

A well known private engineering institute of Aligarh managed by an industrialist has realised the importance and scope of civil engineering and hence desires to have civil engineering department at his institute located on the main high way 60 mts wide. He has appointed you as architect for the project considering your past works/expertise in such type of projects in U.P. as per local/relevant laws/byelaws and socio-climatic conditions. It also expects you to design it as one of the best with facilities at par with IITs for graduate, post graduate and research program and suitable hostel facilities. It has provided a plot of rectangular shape measuring 150m x 250m located on east side of high way running north-south, adjacent to the existing engineering institute located on the left side with no existing expandable space.

For the above project provide the following

1. List of requirement with area chart. 06
2. Site plan with parking and landscaping. 12
3. Suitable plans to explain your design. 04
4. Section/sections 04
5. Elevations and/ views 04

Viva shall also be conducted to provide you opportunity to explain your concept/design. 06