

**BACHELOR OF ARCHITECTURE (B.Arch.)**

**Term-End Examination**

**December, 2014**

**00405**

**BARE-072 : ADVANCED BUILDING SERVICES  
(ELECTIVE 1)**

*Time : 3 hours*

*Maximum Marks : 70*

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***Note :** Attempt any **five** questions. Support your answers with neat sketches. All questions carry equal marks.*

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1. Enumerate the importance of service core in a high rise office building. Explain what facilities are accommodated in a service core. Draw a typical layout for the same. 14
  
2. Discuss fire-safety requirements for a large high rise housing complex as per National Building Code – 2005. 14
  
3. Calculate the water demand, both general and special, for a 6-storied multi-family apartment building. Assume 3 apartments on each floor and each apartment has three bedrooms with toilets attached, one kitchen, one utility space and one common WC in the living area. Also show a schematic diagram for water supply for the same. What water saving measures can be taken to improve the design ? 14

4. Explain sustainable methods for solid waste collection and treatment in a housing complex with 200 units. Also, calculate the amount of solid waste generated by this housing complex. 14
  5. Enumerate the role of efficient illumination design. Develop a lighting design scheme for a 500-seater auditorium with possible control mechanisms for functional use and energy efficient operations. 14
  6. Explain the tele- and data-communication system for a state-of-the-art (using latest technologies) IT building. Also discuss the fail-safe measures employed in these types of buildings for operation of such systems. 14
  7. In a high rise (60-storied) building, a 'lift-system' needs to be designed for efficient vertical circulation. In your opinion, what are the different design methods that can be offered for the same ? If at peak hours, the system has to handle 950 people per minute, what will be the waiting time ? 14
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