

BACHELOR OF ARCHITECTURE (B.ARCH)

Term-End Examination

June, 2014

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

Time : 3 hours

Maximum Marks : 70

Note : Attempt any five questions in all. Illustrate your answers with neat sketches wherever necessary. All questions carry equal marks.

1. Explain sustainable sewage collection and disposal systems for a housing complex with 200 units considering pipe-size calculation at different segments and inspection chamber. **14**
2. Enumerate design principles for energy-efficient lighting design. Also provide a design solution for 500 - seater auditorium with all possible control measures. **14**
3. Develop a schematic layout for advanced tele - and data - communication system in a high - rise office building. Also mention features which make them more secured from failure and unintended access. **14**
4. Discuss role of service trench in a Highrise Building's Complex with emphasis on types of services to be grouped in a service trench and the manner in which it is grouped. **14**

5. Explain fire detection system and fighting system requirements for a high - rise office building. Mention National Building Code - 2005 provisions in this regard. 14
 6. Calculate water demand (nominal and special) for a 10 - storied multi - family building. Assume 4 families live on each floor and each apartment has 2 bed rooms with attached toilets, one kitchen and one common WC with drawing/dining Hall. Also explain the procedure for installation of rain water harvesting system. 14
 7. Explain basic concepts behind lift-design for a tall building with reference to travel time in a lift-bank. During a fire breakout, what controls apply for the vertical circulation ? 14
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