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**Third Semester B.Arch. Degree Examination, June/July 2016**  
**Building Services-I**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions.**

- 1 a. Describe the various types of springs with neat sketches. What are the factors to be considered when springs are taken as sources of water supply schemes? (16 Marks)  
b. Explain the various expressions used to determine "Fire demand". (04 Marks)
- 2 a. Differentiate between slow sand filter and rapid sand filter. (10 Marks)  
b. What do you mean by disinfection of water? List different methods used for disinfection of water. Explain briefly disinfection by excess of lime. (10 Marks)
- 3 a. Explain the different layouts of distribution systems with neat sketches. (14 Marks)  
b. What is turbidity? How is it measured? Describe with a sketch. (06 Marks)
- 4 a. Explain conservancy system and water carriage system, briefly. List out the differences between them. (10 Marks)  
b. What are the principles of house drainage? (10 Marks)
- 5 a. What is a trap? Explain P, Q, S and Gully traps with a neat sketch. (10 Marks)  
b. With the help of neat sketches, explain one pipe and two pipe systems. (10 Marks)
- 6 a. Define a Manhole. Explain with a neat sketch working of a drop man hole. (08 Marks)  
b. What is refuse? Explain briefly the types of refuse and explain briefly refuse disposal by sanitary land filling. (12 Marks)
- 7 Write short notes on :  
a. Fire hydrant  
b. Air relief valve  
c. Testing of drains and sewers  
d. Oxidation pond. (20 Marks)
- 8 Draw a schematic diagram showing the internal and external water supply and plumbing layout for a two bedroom independent residence. Draw a typical cross section of any one bathroom, toilet showing all the pipe lines. (20 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.