

GANPAT UNIVERSITY**B. Tech. Semester: V Civil Engineering****Regular Examination November – December -2015****Subject: 2CI-506 Building Services****Time: 3 Hours****Total Marks: 70**

- Instruction:** (1) Answer to the two sections must be written in separate answer books.
 (2) Figures to the right indicate full marks.
 (3) Assume suitable data if required.

Section - I

- Que. – 1** A Explain grid iron method of layout of pipe in detail. 06
 B Write note on water supply to low and high rise building. 06

OR

- Que. – 1** A What is waste water survey? Explain different water waste test. 06
 B What is septic tank? Explain its construction features. 06

- Que. – 2** A Explain system of plumbing with neat sketch. 05
 B What are the general considerations of planning of distribution system? 06

OR

- Que. – 2** A How to save rain water? Discuss in detail. 05
 B Tabulate the flushing storage capacities of different types of building. 06

Que. – 3 Answer the following

- A What are the gauge pressure and absolute pressure at a point 6 m below the free surface of a liquid having a density of 1385 kg/m^3 ? If the atmospheric pressure is equivalent to 750mm of mercury? The specific gravity of mercury is 13.6 & density of water = 1000 kg/m^3 06
 B A rectangular plane surface is 3 m wide and 4 m deep. It lies in vertical plane in water. Determine the total pressure and position of center of pressure when its upper edge is horizontal and (A) coincides with water surface (B) 3 m below the free water surface. 06

Section – II

- Que. – 4** A An Illumination of 50 lux is to be produced on the floor of room $12 \text{ m} \times 9 \text{ m}$. 36 lamps are required to produce this illumination in the room. Calculate the luminous flux produced also show the lighting design layout. Assume coefficient of utilization is to be 0.5, depreciation factor 1.25. Spacing to H_m ratio is 1.5 and mounting height is 4.5m. 06
 B Why is it necessary to connect fuse with live wire? Also state the effects of electric current on human body. 06

OR

- Que. – 4** A A production area in a factory measures 60 metres \times 24 metres. Find the number of lamps required if each lamp has a Lighting Design Lumen (LDL) output of 18,000 lumens. The illumination required for the factory area is 200 lux. Utilization factor = 0.4. Lamp Maintenance Factor = 0.75. Prepare the lighting design layout. Spacing to mounting height ratio is 3:2 and mounting height is 4 m. 06

- B Explain Plate Earthing with figure. Also give the comparison between Fuse and MCB. 06

Que. - 5 A Write the applications of the following: 04

1. Wooden Pipes
2. Asbestos Cement Pipes

B What is the difference between summer air conditioning and winter air conditioning? 04

C Explain the working of Fluorescent tubes and LED. 03

OR

Que. - 5 A Write the applications of the following: 04

1. Galvanized Iron Pipes
2. Copper Pipes

B Explain the types of ventilation systems with sketch. 04

C Write the applications of HID and Incandescent Lights. 03

Que. - 6 Answer the following

A Write the causes and preventive measures of House hold fire. 04

B How the conveyance of water takes place? Also state How sewers can be tested after placing. 04

C Explain the functioning of Reflux Valve and Bib Cock with figure. 04

END OF PAPER