

GANPAT UNIVERSITY**B. Tech. Semester: V Civil Engineering****Regular Examination November – December- 2013****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 Enlist the methods of layout of distribution pipes. Explain any two. 06
 B What are the methods of disposal of effluent coming from septic tank 06

OR

- Que. – 1** A Explain the methods of distribution of water with sketches 06
 B Discuss the rain water harvesting in detail. 06

- Que. – 2** A Design a septic tank for a small residential colony having a population of 600 persons. The rate of water supply is 170 liters per day. What would be the size of soak well if the effluent from the septic tank is to be discharged in it. Assume 80 % of water appears as sewage. 06
 B Find the head loss due to friction in a pipe of diameter 300 mm and length 50 m, through which water is flowing at a velocity of 3 m/s using. (i) Darcy formula (ii) chezy's formula Take, C= 60. 05

OR

- Que. – 2** A What is a trap? Explain the types of traps. 06
 B Explain the system of plumbing with sketches. 05

- Que. – 3** Answer the following
 A Explain the test which can be carried out to detect the location of leakage of water. 06
 B What is total pressure? Derive the equation for same. 06

Section – II

- Que. – 4** A Explain briefly the procedure adopted for Laying and Testing of Sewers. 06
 B Explain the effects of electric currents on human body. 06

OR

- Que. – 4** A Enumerate the appurtenances for the Pipes. Write a short note on Reflux and Sluice Valves. 06
 B What is Earthing? Enlist its methods and briefly explain Plate earthing. 06

- Que. – 5** A An Illumination of 50 lux is to be produced on the floor of room 12 m × 04

9 m. 36 lamps are required to produce this illumination in the room. Calculate the luminous flux produced. Assume coefficient of utilization is to be 0.5 and depreciation factor 1.25.

- B** Define the terms: Light, Luminous intensity, Luminous Flux, Illuminance. **04**
- C** Write the types of Lamps with flow chart and Briefly explain Operation of Fluorescent Lamp. **03**

OR

- Que. - 5** **A** An office 30m × 15m is illuminated by 40 W fluorescent lamps of lumen output 2700 lumens. The average illumination required at the work place is 200 lux. Calculate the number of lamps required to be fitted in the office. Assume coefficient utilization to be 0.6 and depreciation factor 1.25. **04**
- B** Write the types of Lighting and Explain LED. **04**
- C** Draw pie charts showing Energy consumption in Residential and Commercial Building in India. **03**

Que. - 6 **Answer the following**

- A** What is the function of fuse? Why it is connected in the phase wire? **04**
- B** What are the causes and effects of fire? **04**
- C** What do you mean by Air Conditioning? What are its purposes? **04**

END OF PAPER