



17607

11718

3 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) *All questions are compulsory.*
 - (2) *Answer each next main question on a new page.*
 - (3) *Illustrate your answers with neat sketches wherever necessary.*
 - (4) *Figures to the right indicate full marks.*
 - (5) *Assume suitable data, if necessary.*
 - (6) *Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.*

Marks

1. Attempt **any five** of the following : **20**
 - a) State any four practical applications of plumbing code.
 - b) Explain the importance of plumbing.
 - c) List any eight plumbing fixtures.
 - d) Give examples of sources of water. (two each)
 - e) Explain any one method of disinfection.
 - f) Differentiate between stack vent and branch vent.
 - g) Draw a neat sketch of drinking fountain.

2. Attempt **any four** of the following : **16**
 - a) Differentiate between Air break and Air gap.
 - b) Draw a neat labeled sketch showing trap arm and trap seal.
 - c) Explain any four types of pipe materials used in plumbing system.
 - d) What is the role of AHJ in plumbing services ?
 - e) Suggest flush volumes for water closet, urinal, wash basin and shower head.
 - f) Explain rain water harvesting in plumbing system.

3. Attempt **any four** of the following : **16**
 - a) Explain architectural and structural provisions in plumbing systems.
 - b) Explain the working of a flush tank with a neat sketch.
 - c) Explain with a neat sketch FOG disposal system.

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- d) Explain the purpose and working of a cleanout.
- e) What is a prohibited trap ? Explain any one type of it.
- f) Explain the use of hangers and supports in water supply system.

4. Attempt any two of the following : 16

- a) Define aerated fitting, carrier, flood level rim and floor sink.
- b) Explain the installation of water closet with a neat sketch.
- c) Differentiate between one pipe system and two pipe system.

5. Attempt any two of the following : 16

- a) State any eight requirements of a good trap.
- b) Explain with neat sketch bend, tee, single wye and double wye sanitary fittings.
- c) Explain the system of capturing and discharging storm water with a neat sketch.

6. Attempt any two of the following : 16

- a) Explain with a neat sketch occurrence and exit of hydraulic jump in a sanitary drainage system.
 - b) Explain hot and cold water distribution system with a neat sketch.
 - c) What is the significance of gray water and reclaimed water in plumbing services ?
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