

17607

21415

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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. a) **Attempt any THREE of the following:** **12**
- (i) Explain importance of plumbing.
 - (ii) List any eight plumbing fixtures.
 - (iii) State any four uses of plumbing fixtures.
 - (iv) State any four purposes of traps.
- b) **Attempt any ONE of the following:** **6**
- (i) Explain different types of plumbing systems with sketches.
 - (ii) Explain with sketch hot and cold water distribution system.

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- 2. Attempt any FOUR of the following:** **16**
- a) Explain any two standards as per AHJ for plumbing.
 - b) Explain with sketch different types of traps.
 - c) Draw plan of fixtures and fittings with standard dimensions for attached toilet.
 - d) Explain drinking water system with sketch for building drainage.
 - e) State with four points the purpose of ventilation for building drainage.
 - f) Explain with sketch 'T and Y' fittings in sanitary fittings.
- 3. Attempt any FOUR of the following:** **16**
- a) State different sources of water.
 - b) Differentiate between potable and nonpotable water with four points.
 - c) Explain the concept of sizing of horizontal and vertical pipes.
 - d) Explain with sketch types of hydraulic jumps.
 - e) List any four soil fixtures and explain any one with sketch.
 - f) List any four types of valves in water supply and explain any one with sketch.
- 4. a) Attempt any THREE of the following:** **12**
- (i) List any four prohibited fittings and two prohibited systems of plumbing.
 - (ii) Explain with sketch working of 'FOG' removal traps.
 - (iii) State installation standards for any four fixtures as per code of plumbing.
 - (iv) List different types of pipe materials and joints in sanitary drainage system.

- b) **Attempt any ONE of the following:** **6**
- (i) Explain concept of rain water harvesting and explain with sketch any one system of rain water harvesting.
 - (ii) Draw any three sketches for protection of pipes and structures.
- 5. Attempt any FOUR of the following:** **16**
- a) List any four requirements of storm water drains.
 - b) State any four local municipal laws for plumbing services.
 - c) List any four aerated fittings used in plumbing and explain any one in detail with sketch.
 - d) Explain with sketch working of flush tanks.
 - e) Describe with sketch method of installing and directing waste pipes.
 - f) State any four requirements of good trap.
- 6. Attempt any FOUR of the following:** **16**
- a) Define grey water and give any two specifications for use of grey water.
 - b) Explain with sketch use of conductors with their connections.
 - c) Explain standard procedure of testing of pumps.
 - d) Explain with sketch working of dishwashers.
 - e) Explain the working of display fountain with sketch.
 - f) Explain development length and arms of traps.
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