

12999

11122

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) Use of Non-programmable Electronic Pocket Calculator is permissible.
- (7) Use of standard codes are not allowed in Examination Hall.

Marks

- 1. Attempt any FIVE of the following: **20****
- a) State the importance of standards in plumbing. Suggest any one code of practice.
- b) Enlist any eight plumbing fixtures.
- c) Give meaning of Black water and Gray water.
- d) Enlist any four modern plumbing materials, used now a days.
- e) Draw freehand sketch of:
- (i) Bend
- (ii) Door Bend
- (iii) Single ‘Y’
- (iv) Double ‘Y’
- f) Suggest the flush volumes for water closet, urinal, wash basin and shower head.

P.T.O.

- 2. Attempt any FOUR of the following:** **16**
- a) State two functions of:
 - (i) Trap
 - (ii) Interceptor
 - b) Draw a neat freehand sketch of three compartment sink on one trap.
 - c) Enlist four agencies involved in plumbing services. Give one role of each agency.
 - d) Give the meaning with neat sketch of Air gap and Back flow.
 - e) What is the purpose of providing cleanout? State its location as per standard practice.
- 3. Attempt any TWO of the following:** **16**
- a) What are different types of traps? Draw freehand sketch of crown vented trap.
 - b) State four necessity of vent-system provision in plumbing. Enlist four types of vents used for a public buildings.
 - c) Draw a layout of a residential building and show the following:
 - (i) Water line
 - (ii) Drainage line
 - (iii) Water meter
 - (iv) Cleanout
 - (v) Roof drain
 - (vi) Inspection chamber
 - (vii) Manhole
 - (viii) Floor - Sink/ Receptor

- 4. Attempt any TWO of the following: 16**
- a) Draw a neat sketch of the following along with trap provisions:
- (i) Water - closet plan
 - (ii) Wash - basin
- b) (i) Enlist the four important duties of plumber.
(ii) Suggest the standards for a water closet seat.
- c) State the use of:
- (i) Hanger
 - (ii) Riser clamp
 - (iii) Sway Bracing
 - (iv) Anchor
- 5. Attempt any TWO of the following: 16**
- a) Draw a freehand sketch of a toilet block and show the following fixtures, in plan.
- (i) WC
 - (ii) Shower
 - (iii) Soil stack
 - (iv) Bath tub
- b) State the necessity of providing flushing devices? Suggest the proper locations of it.
- c) State the use with sketches:
- (i) Increasesers
 - (ii) Reducers

6. Attempt any FOUR of the following:**16**

- a) What is meant by Reclaimed water?
 - b) How will you identify the following in plumbing system?
 - (i) Hot water pipe line.
 - (ii) Cold water pipe line.
 - (iii) Potable water line.
 - (iv) Non potable water line.
 - c) Draw simple line diagram vertically of two stack system, showing, waste pipe, vent pipe, soil pipe and inspection chamber, traps, manhole, public sewer in horizontal position/ connection.
 - d) Suggest the materials for:
 - (i) Underground drains
 - (ii) Above ground drains
 - e) Enlist the different types of valves used in a water supply system.
 - f) What provision is made in plumbing system for fire fighting requirement?
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