Total No. of Questions : 12]

SEAT No. :

P4627

[Total No. of Pages :2

[4759] - 30
B.E. (Civil)
PLUMBING ENGINEERING
(Open Elective) (Semester - II) (2008 Course) (401008)

Time : 3Hours] *[Max. Marks : 100*

Instructions to the candidates:

1) ***Answers to the two Sections should be written in seperate answer books.***
2) ***Answer three questions from section I and three questions from section II.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to right side indicate full marks.***
5) ***Use of calculator is allowed.***
6) ***Assume suitable data, if necessary.***

SECTION - I

Q1) a) Describe the role of Plumbing Contractor while executing plumbing work in plumbing system engineering. **[7]**

b) Write a note on Green Plumbing. State the norms of water quality as per CPCB. **[11]**

OR

Q2) a) Describe the role of Plumbing Consultant while executing plumbing work in plumbing system engineering. **[7]**

b) State various codes available for plumbing. What are prohibited fittings? How coordination with other agencies play important role in execution of plumbing work. **[11]**

Q3) a) State various plumbing tools. Explain any three plumbing tools with neat sketch. **[7]**

b) Define HDPE, CPVC, PEX MDPE, GI Pipes, stainless steel pipes, copper pipes, PPR and Rigid PVC pipes. **[9]**

OR

P.T.O.

Q4) a) State various pipe jointing methods. Explain any three methods. **[7]**

b) What are standard plumbing fixtures explain any three with neat sketch. **[9]**

Q5) a) What is grease trap and how does it work, Explain with neat sketch. **[8]**

b) What is grease interceptor and how does it work. Explain with neat sketch. **[8]**

OR

Q6) a) What are the reasons for broken plumbing trap seals. **[8]**

b) What is Venting. Explain wet venting with neat sketch. **[8]**

SECTION - II

Q7) a) Explain the procedure for laying sewer pipes also state standard slope for 100mm, 150mm, 200mm, 250mm for a velocity of 0.75 m/s. **[9]**

b) Explain Hydraulic test, air test and smoke test for sewer line. **[9]**

OR

Q8) a) Explain types of residential drainage system. What is DFU? **[9]**

b) Why inspection chambers are necessary and how sewer line is vented. What is the purpose of sewer trap. **[9]**

Q9) a) Explain the design steps of Rain water harvesting system and explain RWH design problem with suitable example. **[8]**

b) State four types of solar collectors and explain any two. **[8]**

OR

*Q10)*a) What is active and passive solar heating system? Explain advantages and disadvantages of both. **[12]**

b) Draw a neat sketch of RWH System and explain filtration and storage in detail. **[4]**

*Q11)*a) Explain Installation of Ultra 250, 315, 355 and 450 Nu-Drain with sketch. **[8]**

b) State general design principles for high rise building plumbing. **[8]**

OR

*Q12)*a) Explain the necessity of nahani trap, gully trap, manhole, soak pit, grease trap and septic tank. Draw a neat labeled sketch of manhole is sewer line. **[8]**

b) State design issues for tall buildings plumbing. **[8]**