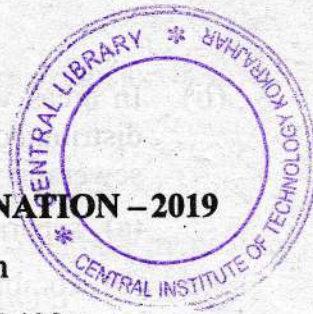


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END SEMESTER EXAMINATION – 2019

Semester : 4th

Subject Code : CT-402

**WATER SUPPLY AND SANITARY
INSTALLATION**

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks
for the questions.

PART – A

All the questions are compulsory

1. Answer the following questions as directed :
1×25=25

- (i) Branch sewer are mainly made up of
- (a) PCC
 - (b) RCC
 - (c) Asbestos
 - (d) Glazed stone ware.

(Choose the correct option)

[Turn over

(ii) In areas where light rainfall are uniformly distributed throughout the year, the type of sewerage system to be adopted is

- (a) separate system
- (b) combined system
- (c) partially combined
- (d) None of these

(Choose the correct option)

(iii) Asbestos cement sewer are

- (a) light in weight
- (b) susceptible to hydrogen sulphide corrosion
- (c) not strong enough to bear large compressive stress
- (d) All of the above

(Choose the correct option)

(iv) For drainage pipes in building the test applied before putting them to use is

- (a) smoke test
- (b) water test
- (c) straightness test
- (d) None of the above.

(Choose the correct option)

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(2)

(v) The gas which may cause explosion in sewer is

- (a) carbon dioxide
 - (b) ammonia
 - (c) methane
 - (d) carbon monoxide
- (Choose the correct option)

(vi) Hydraulic mean radius is

- (a) Mean radius of sewer
- (b) Mean of radii in a pipe line of varying cross-section
- (c) Difference in head between two pipes
- (d) Cross-sectional area/wetted perimeter

(Choose the correct option)

(vii) Drop manhole is provided if

- (a) Sewer drops from a height
 - (b) Waste pipe branch sewer joins the main sewer at higher level
 - (c) Lamp is inserted to check obstruction
 - (d) None of the above
- (Choose the correct option)

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(3)

[Turn over

- (viii) Cowl is provided at
- (a) lower end of ventilating column
 - (b) upper end of ventilating column
 - (c) first step of manhole
 - (d) upper surface of manhole
- (Choose the correct option)
- (ix) The quantity of liquid waste which flows in sewers during the period of rainfall is
- (a) Sanitary sewage
 - (b) Industrial sewage
 - (c) Storm sewage
 - (d) None of the above
- (Choose the correct option)
- (x) Anti-siphonage pipes are fitted
- (a) at the end of septic tank
 - (b) on manholes
 - (c) at the beginning of sewer line
 - (d) with a water closet trap
- (Choose the correct option)



- (xi) The asbestos cement pipes are generally laid _____ . (Fill in the blank)
- (xii) An underground conduit or drain through which sewage is conveyed to point of discharge or disposal is _____. (Fill in the blank)
- (xiii) The liquid waste from kitchen, bathrooms and wash basins is called _____. (Fill in the blank)
- (xiv) Crown corrosion is the biggest disadvantage of _____ sewer. (Fill in the blank)
- (xv) Weighing bucket type rain gauge is a _____. (Fill in the blank)
- (xvi) The most commonly adopted pumps in water supplies are _____. (Fill in the blank)
- (xvii) _____ system, separate soil pipe and waste pipe are provided. All the traps are completely ventilated by providing separate ventilating pipes. (Fill in the blank)

(xviii) The process of providing sheeting and bracing is known as _____. (Fill in the blank)

(xix) Laying of sewer is usually done with the help of _____. (Fill in the blank)

(xx) Sludge contain waste water from toilet. (Write true or false)

(xxi) The small sewers are cleaned by flushing. (Write true or false)

(xxii) Backfilling should be done immediately for concrete bedding. (Write true or false)

(xxiii) The underground sewers are more subjected to compressive force. (Write true or false)

(xxiv) Removal of oil and grease from sewage is called skimming. (Write true or false)

(xxv) The quality of tube well water is poor as compared to surface water. (Write true or false)

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PART - B
Marks - 45

Answer all the questions

2. (i) Describe water supply scheme with a schematic layout. 5

(ii) Write a note on testing of sewers. 5

Or

(i) Define rain gauge. Explain working of Symonds's rain gauge 5

(ii) Describe the working of river submerged intake. 5

3. Mention different types of pumps used in water works practice. Describe the principles of working of displacement pumps. 10

Or

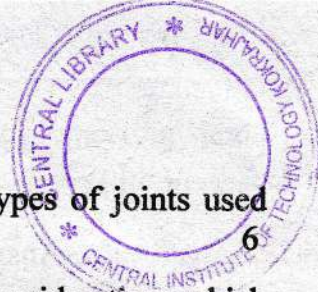
Describe, with the help of a neat sketch, the components of a septic tank, along with the function of each. 10

4. (i) Write a note on different types of sewer. 5

(ii) Explain the various types of water carriage system. 5

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Or

- (i) Enumerate the various types of joints used in sewer line. 6
 - (ii) What are the important considerations which govern the selection of site of an intake? 4
5. (i) Describe, the procedures for laying of sewer. 7
- (ii) Explain the working of catch basin. 3

Or

Explain the various systems of plumbing used for house drainage. 10

6. Bring out the criteria for selection of sewer materials. 5

Or

How drop manhole is constructed? 5