Scheme - I
Sample Question Paper

Program Name : **Civil Engineering Program Group**

Program Code : **CE/CR/CS**

Semester : **Fifth**

Course Title : **Public Health Engineering**

22504

Max. Marks : **70** **Time: 3 Hrs.**

Instructions:
(1) All questions are compulsory.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data if necessary.
(5) Preferably, write the answers in sequential order.
(6) Use of Non-programmable calculator is permitted.

Q.1 Attempt FIVE of the following. **10 Marks**

a. Enlist Surface and Sub-surface sources of water.

b. Define-Intake Structure and enlist types of intakes.

c. List different types of pipes used for conveyance and distribution of water

d. Define: Sewage and Sullage.

e. Define anaerobic process.

f. State the functions of sluice valve and air relief valve.

g. Enlist any four sanitary fittings.

Q.2 Attempt Three of the following. **12 Marks**

a. Explain various factors affecting the rate of water demand.

b. Explain the procedure of collection of water sample for biological test.

c. The population data for a town is given below. Forecast the population after three decades by Geometrical Increase method.

Year	1980	1990	2000	2010
Population	67500	85350	107500	138000

d. Define aeration and state its objects.

Q.3) Attempt Three of the following. **12 Marks**

a. Draw flow diagram of water treatment plant for metropolitan city.

b. Give Comparison between rapid sand and slow sand filter on any eight points.

c. Explain Pumping method of distribution of water with neat sketch.

d. Explain break point chlorination with neat sketch.

Q.4) Attempt Three of the following. **12 Marks**

a. Draw a neat labeled sketch of cross section of "Rapid sand Gravity Filter".

b. Draw layout of grid iron system of distribution of water and explain its suitability.

c. Explain the functions of service reservoirs provided for water distribution network.

d. Explain the principles of building drainage arrangement.

e. Explain the term "Recycling and Reuse" of domestic waste.

Q.5) Attempt Two of the following. **12 Marks**

a. Explain the method of Water softening and Defluoridation technique.

b. Draw a neat sketch of two pipe plumbing system to be provided for multistoried building and state its advantages.

c. Draw a neat labelled sketch of manhole when two sewers meet at different levels below the ground. State the functions of various components of such manhole.

Q.6) Attempt Two of the following. **12 Marks**

a. Compare separate and combined system of sewerage on any six points.

b. Draw a neat labeled sketch of Trickling filter and explain its working.

c. Draw flow diagram of activated sludge process and explain the function of each unit.

Scheme - I

Sample Test Paper - I

Program Name : **Civil Engineering Program Group**

Program Code : **CE/CR/CS**

Semester : **Fifth**

22504

Course Title : **Public Health Engineering**

Max. Marks : **20** **Time: 1 Hour**

Instructions:

(1) All questions are compulsory.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data if necessary.
(5) Preferably, write the answers in sequential order.
(6) Use of Non-programmable calculator is permitted.

Q.1 Attempt any FOUR. **08 Marks**

a) Define Intake structure.

b) Define “Design Period”.

c) State the principle of coagulation.

d) State the objects of aeration.

e) State the importance of residual chlorine.

f) State the function of air relief valve.

Q.2 Attempt any THREE. **12 Marks**

a) List various methods of forecasting of population. Explain Geometrical Increase method.

b) Explain the necessity of analysis of water.

c) Describe theory of filtration.

d) Draw flow diagram of conventional water treatment plant.

e) Explain with sketch, the working of rapid sand gravity filter.

Scheme - I

Sample Test Paper - II

Program Name : **Civil Engineering Program Group**

Program Code : **CE/CR/CS**

Semester : **Fifth**

22504

Course Title : **Public Health Engineering**

Max. Marks : **20** **Time: 1 Hour**

Instructions:

(1) All questions are compulsory.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data if necessary.
(5) Preferably, write the answers in sequential order.
(6) Use of Non-programmable calculator is permitted.

Q.1 Attempt any FOUR. **08 Marks**

a) List the types of joints used in water supply pipe line.

b) Name the types of layouts provided for distribution of water.

c) Define: Rainwater pipe and soil pipe

d) List four sanitary fittings.

e) State the purpose of traps used in sanitary arrangement of building.

f) Define BOD

Q.2 Attempt any THREE. **12 Marks**

a) Draw layout of circular system of distribution of water.

b) Explain the procedure for laying of sewer.

c) Draw neat sketch of deep manhole and label the components.

d) Explain the necessity of building sanitation.

e) Draw flow diagram for conventional sewage treatment plant.