Aldel Education Trust's
St. John College of Engineering & Management, Palghar
St. John Education Complex, Vevoor, Manor Road, Palghar (E), Dist. Palghar - 401 404
NAAC Accredited with Grade 'A' (2017-2022)
Department of Civil Engineering

Sample Question Paper for Environmental Engineering-I

Q1. Solve all questions mandatory **02 marks each**

Q1. a Which of the following is not a component of plumbing water supply system?

I. Washbasin
II. Water supply and distribution pipes
III. Valves
IV. Storage tanks

Q1.b As per IS : 1172-1963, water required per head per day for average domestic purposes, is

I. 50 litres
II. 115 litres
III. 135 litres
IV. 160 litres

Q1. c The diameter of main service pipe may vary from _____

I. 2-15 mm
II. 12-40 mm
III. 50-75 mm
IV. 60-80 mm

Q1. d The length of the bathtubs generally varies from _____

I. 1.7-1.85 m
II. 2.5-3.2 m
III. 3.6-4.7 m
IV. 4.8-5.2 m

Q1. e Which of the following is not a type of water closets?

I. Indian-type water closet
II. Spanish-type water closet
III. European-type water closet
IV. Anglo-Indian type water closet

Q1. f The pedestal type European water closet is also known as _____

I. Commode
II. Corundum
III. Luminite
IV. Limonite

Q1. g Which of the following is not a classification of traps based on their shape?

I. P-trap

II. Q-trap

III. S-trap

IV. W-trap

Q1. h Bell-type flushing cistern is an example of _____

I. Valveless siphonic cistern

II. Valve fitted siphonic cistern

III. Tubeless septic cistern

IV. Tube fitted septic cistern

Q1. i What is called for the collection of rainwater for use?

I. Rain collection

II. Rainwater harvesting

III. Rain digging

IV. Rain water pumping

Q1. j How many methods of rainwater harvesting are there?

I. 1

II. 2

III. 3

IV. 4

Q1. k Which is the methods of rainwater harvesting?

I. Roof top rainwater harvesting

II. Surface runoff harvesting

III. Both a & b

IV. None of the above

Q1. l Which state has made roof top rainwater harvesting structure compulsory to all the houses across the state?

I. Kerala

II. Karnataka

III. Tamil Nadu

IV. Andhra Pradesh

Q1. m Which of the following particles is called the particulate pollutants?

I. Ozone

II. Radon

III. Fly Ash

IV. Ethylene

Q1. n Which of the following statements is true about SMOG?

I. SMOG is derived from the fog

II. SMOG is derived from smoke

III. SMOG is derived from water vapour

IV. SMOG is derived from both fog and smoke

Q1. o Which of the following statements is true about the Air Quality Index?

I. It indicates the colour of the air.

II. It predicts ozone levels in your area.

III. It determines the intensity of sound and sound pollution.

IV. It estimates air pollution mainly sulphur content in the air.

Q1. p Smoke, fumes, ash, dust, nitric oxide and sulphur dioxide are the main sources of _____.

I. Primary Pollutants

II. Secondary pollutants

III. Bio-Degradable Pollutants

IV. None of the above

Q1. q Which of the following is a secondary air pollutant?

I. SPM

II. PAN

III. SO2

IV. NO2

Q1. r The permissible concentration of PM 10 in the air is _____

I. 60µg/m3

II. 40µg/m3

III. 50µg/m3

IV. 20µg/m3

Q1. s Which of the following air pollution control device has maximum efficiency?

I. Solid waste is heated in closed containers in oxygen-free atmosphere

II. Solid waste is incinerated in presence of oxygen

III. Wastewater is treated with oxygen

IV. Dissolved solids from water are removed by glass distillation

Q1. t Which of the following is incorrect regarding the fabric filter?

I. They can remove very small particle

II. They are liable to chemical attack

III. They have low efficiency in comparison to venturi scrubber

IV. They can handle large volume of gas at relatively high speed

Q2 Solve any two **10 marks each**

Q2.a What are the various types of intakes? Explain reservoir intake with neat sketch.

Q2.b Explain theory of coagulation and flocculation. What are the factors affecting coagulation process?

Q2.c Define water softening. Explain ion exchange process in details.

Q3 Solve any four **05 marks each**

Q3.a Draw a neat sketch of rapid sand filter showing various components

Q3.b What are the factors affecting efficiency of sedimentation?

Q3.c Design approximate dimensions of a set of rapid gravity filters for treating water required a population of 65000. The rate of supply being 140lpcd. The filters are rated to work 5000lit/hr/m^2. Assume data wherever necessary.

Q3.d Explain physical, chemical and biological impurities in water

Q3.e Write a note on reverse osmosis