

Started on	Sunday, 19 November 2023, 8:04 AM
State	Finished
Completed on	Sunday, 19 November 2023, 8:20 AM
Time taken	15 mins 34 secs
Grade	7.00 out of 10.00 (70%)

Question 1

Correct

Mark 1.00 out of 1.00

The right to healthy environment is included in the article 21 ✓ of the constitution.

Your answer is correct.

Question 2

Partially correct

Mark 1.50 out of 3.00

Match the following **wastewater** treatment methods with their most significant functions. Select the most appropriate answer.

Screens	Removal of large objects	✓
Primary sedimentation tank	Removal of active biomass (sludge)	✗
Secondary sedimentation tank	Turbidity removal	✗
Grit chamber	TSS removal	✗
Chlorine contact tank	Pathogen removal	✓
Aeration tank	BOD removal	✓

Your answer is partially correct.

You have correctly selected 3.

The correct answer is: Screens → Removal of large objects, Primary sedimentation tank → TSS removal, Secondary sedimentation tank → Removal of active biomass (sludge), Grit chamber → Sand removal, Chlorine contact tank → Pathogen removal, Aeration tank → BOD removal

Question 3

Correct

Mark 1.00 out of 1.00

The interstitial velocity in baghouse filter is defined as

Select one:

- ☐ a. face velocity of gas through filter media
- ☐ b. Air-to-cloth ratio
- ☐ c. Volumetric gas flow rate divided by total cross-sectional area of the filter
- ☒ d. Velocity inside the pores of the filter ✓

Your answer is correct.

The correct answer is: Velocity inside the pores of the filter


Question 4

Not answered

Marked out of 1.00

How much time (in sec) the gas spends near the wall of the cyclone for effective capturing of the particle of diameter $2\text{ }\mu\text{m}$. The diameter of outer helix is 1.8 m. The centrifugal velocity is 27 m/s. [Round off answer to 2 decimal place]

Time spend by gas inside the cyclone (in sec)

One possible correct answer is: 1.2566370614359

Your answer is incorrect.


Question 5

Correct

Mark 1.00 out of
1.00

The power generation unit in Korba has ESP for removal of 94 percent of the particles. Plant engineer suggested to improve the efficiency by increasing the drift velocity by 1.9 times using an additive. If we use the suggested additive and if the statement is true, what will the improved collection efficiency be? [Round off answer to 1 decimal place]

Improved collection efficiency of ESP (in %)

One possible correct answer is: 99.523034050747

Your answer is correct.


Question 6

Correct

Mark 1.00 out of
1.00

Which control technology(ies) is best for removal of fine particles from corrosive flue gas emission from a steel industry.

Select one:

- ☐ a. Adsorption
- ☐ b. Electrostatic precipitator
- ☒ c. Wet scrubber followed by cyclone 
- ☐ d. Baghouse filter combined with electrostatic precipitator
- ☐ e. Baghouse filter followed by wet scrubber

Your answer is correct.

The correct answer is: Wet scrubber followed by cyclone

Question 7

Correct

Mark 1.00 out of 1.00

Select the self-purification mechanisms that come under physical processes occurring in a water body. There is no partial marking.

Select one or more:

- ☒ a. Gas transfer ✓
- ☐ b. Metabolism
- ☒ c. Dilution ✓
- ☐ d. Oxidation
- ☐ e. Precipitation

Your answer is correct.

The correct answers are: Gas transfer, Dilution

Question 8

Partially correct

Mark 0.50 out of 1.00

In conventional water softening method, calcium is precipitated in the form of

calcium carbonate ▼



and magnesium in the form of

magnesium carbonate ▼



[magnesium hydroxide] .

Your answer is partially correct.

◀ Updated air pollution control technology pdf

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