

Q : Consider the following sentence:

Bleeding in a bituminous mix refers to the appearance of excess bitumen on the surface over period of time on account of \_\_\_ in the mix.

Identify the CORRECT option from among those given below to fill in the blank in the above sentence [ UPPCL AE 2018 ]

A : Seepage of water through the road surface displacing the bitumen

B : Action of traffic load and subgrade upthrust

C : action of traffic load and there being inadequate voids

D : Action of traffic load and there being excess void.

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EVEREXAM

Q : A canal with rectangular cross-section of width  $b$  is carrying a uniform flow of depth  $h$ . For this canal, if Chezy's coefficient is  $C$  and Manning's coefficient is  $n$ , the product ' $Cn$ ' is [ UPPCL AE 2018 ]

A :  $(2b + h)^{2/3}$

B :  $(b + 2h)^{2/3}$

C :  $(b + 2h)^{1/6}$

D :  $(2b + h)^{1/6}$



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Q : The dimensions of a rectangular primary sedimentary tank is length = 30 m; breadth = 10 m and depth = 3 m. If the flow rate through the tank is  $0.1 \text{ m}^3/\text{s}$ , the surface overflow rate (SOR) of the tank is \_\_\_\_.

[ UPPCL AE 2018 ]

A :  $14.4 \text{ m}^3/\text{m}^2/\text{d}$

B :  $28.8 \text{ m}^3/\text{m}^2/\text{d}$

C :  $9.6 \text{ m}^3/\text{m}^2/\text{d}$

D :  $21.6 \text{ m}^3/\text{m}^2/\text{d}$



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Q : What is the main reason for providing an equalizaion tank in the sewage treatment plant? [ UPPCL AE 2018 ]

A : Damping the hourly variation in the sewage flow

B : Damping of the daily variation in the sewage flow

C : Aeration of the sewage

D : Proper mixing the sewage before further treatment.

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Q : In fall cone test, the depth of cone penetration corresponding to the liquid limit of any soil is \_\_\_\_\_. [ UPPCL AE 2018 ]

A : 25 mm

B : 30 mm

C : 10 mm

D : 20 mm



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**EVEREXAM**

Q : In the context of the Marshall test, consider the following statement:

Statement- 1: Stability of the mix is the maximum load which the bituminous mix can sustain.

Statement-2: Flow of the mix is defined as the deformation at maximum load.

Which of the following is CORRECT ? [ UPPCL AE 2018 ]

A : Compressive strength using a cylinder.

B : Flexural strength using a beam

C : Compressive strength using a cube

D : Tensile strength using a cylinder.

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Q : Balancing of sights means that: [ UPPCL AE 2018 ]

A : The horizontal angles in the face left and face right conditions of theodolite should be same.

B : The distance corresponding to the fore sight and back sight in differential levelling should be equal

C : The stadia intercept corresponding to the upper and lower cross hairs with respect to the middle cross hairs in tacheometry should be equal

D : The error of the loop closure in traverse adjustment should be zero.

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Q : Pressure meter test is used for the determination of \_\_\_\_\_

[ UPPCL AE 2018 ]

A : Poisson's ratio

B : Shear modulus

C : Bulk modulus

D : Young's modulus



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Q : In the context of testing of cements in the laboratory, consider the following statements:

Statement-1: The blaine method of determination of fineness is based on evaluation of the heat of hydration during process.

Statement-2: The determination of initial and final setting times is based on change in penetration resistance over time due to continued hydration

Which of the following is CORRECT ? [ UPPCL AE 2018 ]

A : Both statement are False

B : Both statement are True

C : Statement - 1 is False and Statement - 2 is True

D : Statement - 1 is True and Statement - 2 is False

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Q : Which of the following methods is NOT used for the control establishment in Surveying ? [ UPPCL AE 2018 ]

- A : Triangulation
- B : Traversing
- C : Trilateration
- D : Plane tabling



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**EVEREXAM**

Q : Which one of the following of soil types is responsible for negative skin friction in piles ? [ UPPCL AE 2018 ]

A : Over consolidated clay

B : Dense sand

C : Soft clay

D : Stiff clay



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**EVEREXAM**

Q : Determine the equivalent hydraulic conductivity of a soil layer having the average vertical and horizontal hydraulic conductivities are  $1 \times 10^5$  cm/s and  $2 \times 10^{-4}$  cm/s, respectively. [ UPPCL AE 2018 ]

A :  $3.5 \times 10^{-5}$  cm/s

B :  $4.5 \times 10^{-5}$  cm/s

C :  $1.5 \times 10^{-4}$  cm/s

D :  $3.5 \times 10^{-4}$  cm/s



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**EVEREXAM**

Q : In the context of using bitumen in road construction, consider the following statement.

Statement-1: Penetrating grade bitumen is obtained by dissolving bitumen in solvent.

Statement-2: A bitumen emulsion is a suspension of bitumen globules in water.

Which of the following is CORRECT ? [ UPPCL AE 2018 ]

A : Statement - 1 is True and Statement - 2 is False

B : Both statements are False

C : Statement - 1 is False and Statement - 2 is True

D : Both statements are True

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Q : In the context of air entrainment in fresh concrete, consider the following statement: [ UPPCL AE 2018 ]

A : Statement - 1 is True and Statement - 2 is False

B : Both statement are False

C : Both statement are True

D : Statement - 1 is False and Statement - 2 is True

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Q : The COD/BOD<sub>5</sub> ratio of two wastewater samples from different source was measured as 1.5 and 3.0 respectively. Based on this information the following conclusion may be arrived at. [ UPPCL AE 2018 ]

A : The sample with higher COD/BOD<sub>5</sub> ratio has more organic matter

B : The sample with lower COD/BOD<sub>5</sub> ratio has higher percentage of biodegradable organic matter.

C : The sample with lower COD/BOD<sub>5</sub> ratio is from an industrial source

D : The sample with higher COD/BOD<sub>5</sub> ratio is a sample of domestic sewage.

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Q : Raw domestic sewage mostly contains the following forms of nitrogen  
[ UPPCL AE 2018 ]

A : Organic-N, Nitrite-N

B : Organic-N, Ammonia-N

C : Ammonia-N, Nitrogen-N

D : Nitrate-N, Nitrite-N



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**EVEREXAM**



Q : Consider the following statement in the context of properties of bitumens

Statement-1: The softening point of bitumen is the time taken by the balls in the ring-and-ball apparatus to touch the lower plate of the apparatus.

Statement-2: Oxidation leads to softening of the bitumen.

Which of the following is CORRECT ? [ UPPCL AE 2018 ]

A : Statement - 1 is True and Statement - 2 is False

B : Both statement are False

C : Both statement are True

D : Statement - 1 False and Statement - 2 is True

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EVEREXAM

Q : In the context of use of OPC and other cementitious materials used in concrete consider the following statements: [ UPPCL AE 2018 ]

A : Both statements are True

B : Statement - 1 is False and statement - 2 is True

C : Statement - 1 is True and statement - 2 is False

D : Both statement are False

