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National Testing Agency

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Pollutants and Water Supply

Group Number :	1
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Group Marks :	100
Is this Group for Examiner? :	No

Pollutants and Water Supply-I

Section Id :	512452851
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	100

Number of Questions to be attempted : 100
Section Marks : 100
Mark As Answered Required? : Yes
Sub-Section Number : 1
Sub-Section Id : 512452922
Question Shuffling Allowed : Yes

**Question Number : 1 Question Id : 51245215547 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0**

Component/(s) of Environment is/are

1. Atmosphere
2. Hydrosphere
3. Both 1 and 2
4. None of the above

Options :

- 51245249433. 1
- 51245249434. 2
- 51245249435. 3
- 51245249436. 4

**Question Number : 2 Question Id : 51245215548 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0**

Conservative pollutants are those substances which are not lost by

1. Decay
2. Chemical reaction
3. Deposition
4. All of the above

Options :

51245249437. 1

51245249438. 2

51245249439. 3

51245249440. 4

Question Number : 3 Question Id : 51245215549 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Methemoglobinemia is caused by

1. Nitrates
2. Fluorides
3. Lead
4. Pesticides

Options :

51245249441. 1

51245249442. 2

51245249443. 3

51245249444. 4

Question Number : 4 Question Id : 51245215550 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Factor/(s) contributing to the environmental pollution is/are

1. Population explosion
2. Industrialization
3. Urbanization
4. All of the above

Options :

51245249445. 1

51245249446. 2

51245249447. 3

51245249448. 4

Question Number : 5 Question Id : 51245215551 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

In the composition of air,

1. Nitrogen is about 78% by volume
2. Oxygen is about 78% by volume
3. Carbon dioxide is about 78% by volume
4. None of the above

Options :

51245249449. 1

51245249450. 2

51245249451. 3

51245249452. 4

Question Number : 6 Question Id : 51245215552 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Pollutant which is NOT emitted directly in lower atmosphere is

1. Nitrogen oxides
2. Sulfur oxides
3. Ozone
4. Particulates

Options :

51245249453. 1

51245249454. 2

51245249455. 3

51245249456. 4

Question Number : 7 Question Id : 51245215553 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Collection technique/(s) which is/are commonly employed for particulates is/are

1. Gravity Technique
2. Filtration Technique
3. Absorption
4. All of the above

Options :

- 51245249457. 1
- 51245249458. 2
- 51245249459. 3
- 51245249460. 4

Question Number : 8 Question Id : 51245215554 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Ultra-Violet (UV) radiation from the sun is filtered by

1. CO₂
2. NO₂
3. O₃
4. SO₂

Options :

- 51245249461. 1
- 51245249462. 2
- 51245249463. 3
- 51245249464. 4

Question Number : 9 Question Id : 51245215555 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Chlorofluoro carbon molecules or freons are used in

1. Foam insulation
2. Air conditioning
3. Solvents
4. All of the above

Options :

- 51245249465. 1
- 51245249466. 2
- 51245249467. 3
- 51245249468. 4

Question Number : 10 Question Id : 51245215556 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The pollution at source can be reduced by

1. Changing the location of the industry
2. Changing the type of the fuel for the industry
3. Changing the process of manufacturing
4. All of the above

Options :

- 51245249469. 1
- 51245249470. 2
- 51245249471. 3
- 51245249472. 4

Question Number : 11 Question Id : 51245215557 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Minimum particle size that can be removed by spray towers is

1. 10 μ m
2. 2.5 μ m
3. 1.5 μ m
4. 0.5 μ m

Options :

- 51245249473. 1
- 51245249474. 2
- 51245249475. 3
- 51245249476. 4

Question Number : 12 Question Id : 51245215558 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Catalytic convertors, which help in oxidizing CO and HC into CO₂, are generally made of

1. Platinum metal
2. Palladium metal
3. Both 1 and 2
4. None of the above

Options :

- 51245249477. 1
- 51245249478. 2
- 51245249479. 3
- 51245249480. 4

Question Number : 13 Question Id : 51245215559 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Assumption/(s) that is/are underlying Gaussian plume model

1. Influence of surface obstructions is negligible
2. Plume contents are not reflected from the ground and back to the air
3. Both 1 and 2
4. None of the above

Options :

- 51245249481. 1
- 51245249482. 2
- 51245249483. 3
- 51245249484. 4

Question Number : 14 Question Id : 51245215560 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

As per the Resource Conservation and Recovery Act (RCRA), USA, hazardous waste possesses characteristics of

1. Corrosivity
2. Reactivity
3. Toxicity
4. All of the above

Options :

- 51245249485. 1
- 51245249486. 2
- 51245249487. 3
- 51245249488. 4

Question Number : 15 Question Id : 51245215561 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The soil structure and fertility is adversely affected due to

1. Herbicides
2. Insecticides
3. Fungicides
4. All of the above

Options :

- 51245249489. 1
- 51245249490. 2
- 51245249491. 3
- 51245249492. 4

Question Number : 16 Question Id : 51245215562 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Transfer stations in Solid Waste Management may prove to be economical

1. If some materials are to be recycled
2. If the final disposal/treatment location is far away from the city
3. By avoiding traveling from the same street
4. None of the above

Options :

- 51245249493. 1
- 51245249494. 2
- 51245249495. 3
- 51245249496. 4

Question Number : 17 Question Id : 51245215563 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

In the composting process,

1. Organic components of solid waste are chemically decomposed
2. Inorganic components of solid waste are chemically decomposed
3. Organic components of solid waste are biologically decomposed
4. Inorganic components of solid waste are biologically decomposed

Options :

- 51245249497. 1
- 51245249498. 2
- 51245249499. 3
- 51245249500. 4

Question Number : 18 Question Id : 51245215564 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Leachate is a

1. Non contaminated liquid
2. Contaminated liquid
3. Contaminated gas
4. Non contaminated gas

Options :

- 51245249501. 1
- 51245249502. 2
- 51245249503. 3
- 51245249504. 4

Question Number : 19 Question Id : 51245215565 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Minimum Dissolved Oxygen (DO) required to sustain fish life in river is

1. 3.0 mg/l
2. 4.0 mg/l
3. 1.0 mg/l
4. None of the above

Options :

- 51245249505. 1
- 51245249506. 2
- 51245249507. 3
- 51245249508. 4

Question Number : 20 Question Id : 51245215566 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

In drinking water, the preferred TDS level is

1. 500 mg/l
2. 1000 mg/l
3. 50 mg/l
4. None of the above

Options :

- 51245249509. 1
- 51245249510. 2
- 51245249511. 3
- 51245249512. 4

Question Number : 21 Question Id : 51245215567 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

DDT (dichloro diphenyl trichloro ethane) is a widely used

1. Insecticide
2. Herbicide
3. Pesticide
4. None of the above

Options :

- 51245249513. 1
- 51245249514. 2
- 51245249515. 3
- 51245249516. 4

Question Number : 22 Question Id : 51245215568 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

A 20.0 ml sample of water mixed with dilution water to fill the BOD bottle of 300 ml was found to have an initial DO of 7.0 mg/l. After 5 days of incubation its DO was 4.5 mg/l. BOD₅ at 20°C is

1. 37.5 mg/l
2. 10.5 mg/l
3. 0.67 mg/l
4. None of the above

Options :

- 51245249517. 1
- 51245249518. 2
- 51245249519. 3
- 51245249520. 4

Question Number : 23 Question Id : 51245215569 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Choose the correct statement from the following.

1. COD measures all organics present in water
2. COD is more than BOD
3. Both 1 and 2
4. None of the above

Options :

- 51245249521. 1
- 51245249522. 2
- 51245249523. 3
- 51245249524. 4

Question Number : 24 Question Id : 51245215570 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Dengue is a _____ disease.

1. Water borne
2. Water washed
3. Water based
4. Water related

Options :

- 51245249525. 1
- 51245249526. 2
- 51245249527. 3
- 51245249528. 4

Question Number : 25 Question Id : 51245215571 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The Environment Act came into force in the year

1. 1986
2. 1981
3. 1974
4. None of the above

Options :

- 51245249529. 1
- 51245249530. 2
- 51245249531. 3
- 51245249532. 4

Question Number : 26 Question Id : 51245215572 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Fill in the blank

If the conductivity is multiplied by a factor _____, it gives a close approximation of the dissolved solids in mg/l.

1. 0.650
2. 0.065
3. 6.500
4. 1.650

Options :

- 51245249533. 1
- 51245249534. 2
- 51245249535. 3
- 51245249536. 4

Question Number : 27 Question Id : 51245215573 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Permanent hardness is due to the presence of

1. Bicarbonates of Magnesium
2. Carbonates of Calcium
3. Sulphates of Calcium
4. All of the above

Options :

51245249537. 1
51245249538. 2
51245249539. 3
51245249540. 4

Question Number : 28 Question Id : 51245215574 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Fluorosis is due to

1. Excessive amount of fluorides
2. Excessive amount of chlorides
3. Excessive amount of sulphates
4. Excessive amount of carbon dioxides

Options :

51245249541. 1
51245249542. 2
51245249543. 3
51245249544. 4

Question Number : 29 Question Id : 51245215575 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Bacteria, which are rod or cylinder shaped are known as

1. Bacilli
2. Cocci
3. Spirilla
4. None of the above

Options :

- 51245249545. 1
- 51245249546. 2
- 51245249547. 3
- 51245249548. 4

Question Number : 30 Question Id : 51245215576 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following disease(s) is due to pathogenic bacteria?

1. Typhoid fever
2. Dysentery
3. Tuberculosis
4. All of the above

Options :

- 51245249549. 1
- 51245249550. 2
- 51245249551. 3
- 51245249552. 4

Question Number : 31 Question Id : 51245215577 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The BOD₅ in ppm is given by the relation

1. BOD₅ = Loss of Oxygen / Dilution Factor
2. BOD₅ = Loss of Oxygen x Dilution Factor
3. BOD₅ = Dilution Factor / Loss of Oxygen
4. None of the above

Options :

- 51245249553. 1
- 51245249554. 2
- 51245249555. 3
- 51245249556. 4

Question Number : 32 Question Id : 51245215578 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

pH is expressed as

1. Co
2. Unit
3. mg/l
4. All of the above

Options :

- 51245249557. 1
- 51245249558. 2
- 51245249559. 3
- 51245249560. 4

Question Number : 33 Question Id : 51245215579 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

A single catch sample collected from the sampling spot at any instant to determine the character of the sample at that particular instant is known as

1. Grab sample
2. Composite sample
3. Integrated sample
4. None of the above

Options :

- 51245249561. 1
- 51245249562. 2
- 51245249563. 3
- 51245249564. 4

Question Number : 34 Question Id : 51245215580 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The adherence of dissolved, colloidal or finely divided solids on the surface of solid bodies, with which they are brought into contact is

1. Absorption
2. Adsorption
3. Activation
4. None of the above

Options :

- 51245249565. 1
- 51245249566. 2
- 51245249567. 3
- 51245249568. 4

Question Number : 35 Question Id : 51245215581 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

For a planned water supply scheme, we have to think of

1. Requirement
2. Source
3. Quality
4. All of the above

Options :

- 51245249569. 1
- 51245249570. 2
- 51245249571. 3
- 51245249572. 4

Question Number : 36 Question Id : 51245215582 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Factor(s), which affect(s) per capita requirement of water is/are

1. Climatic condition
2. Status and habits of residents
3. Mode of water supply
4. All of the above

Options :

- 51245249573. 1
- 51245249574. 2
- 51245249575. 3
- 51245249576. 4

Question Number : 37 Question Id : 51245215583 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The maximum daily consumption is taken as

1. 250% of the average
2. 180% of the average
3. 150% of the average
4. None of the above

Options :

51245249577. 1
51245249578. 2
51245249579. 3
51245249580. 4

Question Number : 38 Question Id : 51245215584 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

As per normal procedure, water works is designed for a period of

1. 30 years
2. 20 years
3. 40 years
4. 10 years

Options :

51245249581. 1
51245249582. 2
51245249583. 3
51245249584. 4

Question Number : 39 Question Id : 51245215585 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Factor/(s) affecting design period is/are

1. Useful life of pipes, equipment and structures
2. The anticipated rate of growth
3. Efficiency of component units
4. All of the above

Options :

- 51245249585. 1
- 51245249586. 2
- 51245249587. 3
- 51245249588. 4

Question Number : 40 Question Id : 51245215586 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Design period for Storage Dams is

1. 100 years
2. 50 years
3. 20 years
4. 10 years

Options :

- 51245249589. 1
- 51245249590. 2
- 51245249591. 3
- 51245249592. 4

Question Number : 41 Question Id : 51245215587 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

A city has a population of 150000. An average consumption is 150 l/c/d, then

1. Maximum daily demand is 8,10,00,000 litres
2. Maximum daily demand is 4,05,00,000 litres
3. Maximum daily demand is 2,02,00,000 litres
4. Maximum daily demand is 1,05,00,000 litres

Options :

- 51245249593. 1
- 51245249594. 2
- 51245249595. 3
- 51245249596. 4

Question Number : 42 Question Id : 51245215588 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Withdrawal of water from a reservoir is

1. Draft
2. Drawdown
3. Intake
4. None of the above

Options :

- 51245249597. 1
- 51245249598. 2
- 51245249599. 3
- 51245249600. 4

Question Number : 43 Question Id : 51245215589 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Point/(s) to be considered in selecting a particular source of water

1. The quality of water
2. General topography of the intervening area
3. Elevation of the source of supply
4. All of the above

Options :

- 51245249601. 1
- 51245249602. 2
- 51245249603. 3
- 51245249604. 4

Question Number : 44 Question Id : 51245215590 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

If vegetation is in sufficient density to cause stagnation in the flow of the water, then

1. Water may be expected to be quite clear
2. Coloured water may result
3. Water has high turbidity
4. None of the above

Options :

- 51245249605. 1
- 51245249606. 2
- 51245249607. 3
- 51245249608. 4

Question Number : 45 Question Id : 51245215591 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Impounded surface water is

1. Water from lakes
2. Water from ponds
3. Water from reservoirs
4. All of the above

Options :

- 51245249609. 1
- 51245249610. 2
- 51245249611. 3
- 51245249612. 4

Question Number : 46 Question Id : 51245215592 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Odour in surface water supplies is due to presence of volatile oils present as minute droplets

1. Zooplankton
2. Phytoplankton
3. Both 1 and 2
4. None of the above

Options :

- 51245249613. 1
- 51245249614. 2
- 51245249615. 3
- 51245249616. 4

Question Number : 47 Question Id : 51245215593 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Natural purification of flowing water is due to

1. Dilution
2. Sedimentation
3. Sunlight
4. All of the above

Options :

- 51245249617. 1
- 51245249618. 2
- 51245249619. 3
- 51245249620. 4

Question Number : 48 Question Id : 51245215594 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The volume of water stored in the reservoir between the minimum pool level and the normal pool level is

1. Dead storage
2. Surcharge storage
3. Valley storage
4. Useful storage

Options :

- 51245249621. 1
- 51245249622. 2
- 51245249623. 3
- 51245249624. 4

Question Number : 49 Question Id : 51245215595 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The amount of water that can be drawn from a reservoir in any specified time interval is known as

1. Reservoir yield
2. Capacity of reservoir
3. Useful storage
4. None of the above

Options :

- 51245249625. 1
- 51245249626. 2
- 51245249627. 3
- 51245249628. 4

Question Number : 50 Question Id : 51245215596 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

A water intake consists of

1. Intake structure
2. A conduit with protection work
3. Inlets
4. All of the above

Options :

- 51245249629. 1
- 51245249630. 2
- 51245249631. 3
- 51245249632. 4

Question Number : 51 Question Id : 51245215597 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

When a small quantity of water is to be drawn

1. Intake well
2. Pipe intakes
3. Weir intakes
4. Floating pontoon intake

Options :

- 51245249633. 1
- 51245249634. 2
- 51245249635. 3
- 51245249636. 4

Question Number : 52 Question Id : 51245215598 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The yield has great fluctuations

1. In case of first class springs
2. In case of second class springs
3. In case of third class springs
4. None of the above

Options :

- 51245249637. 1
- 51245249638. 2
- 51245249639. 3
- 51245249640. 4

Question Number : 53 Question Id : 51245215599 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Wells, which rest on an impervious layer and draw their supply from the pervious formation lying below through a bore hole made into the impervious layer, are

1. Deep wells
2. Shallow wells
3. Infiltration gallery
4. None of the above

Options :

- 51245249641. 1
- 51245249642. 2
- 51245249643. 3
- 51245249644. 4

Question Number : 54 Question Id : 51245215600 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

In an unconfined aquifer,

1. Water table is the upper surface of the zone of saturation
2. When a well is drilled or dug into a homogeneous aquifer, the water table initially is horizontal in the well
3. Both 1 and 2
4. None of the above

Options :

- 51245249645. 1
- 51245249646. 2
- 51245249647. 3
- 51245249648. 4

Question Number : 55 Question Id : 51245215601 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Jack well is

1. A structure constructed at surface water source to facilitate withdrawal of water
2. A place or location where the water table intersects surface of the ground
3. A component of an intake, which is an enclosed concrete or masonry structure where control valves pump is placed to withdraw water through penstocks from water source
4. None of the above

Options :

- 51245249649. 1
- 51245249650. 2
- 51245249651. 3
- 51245249652. 4

Question Number : 56 Question Id : 51245215602 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Physical Treatment Process/(es) of water is/are

1. Screening and straining
2. Adsorption
3. Fixed film systems
4. All of the above

Options :

- 51245249653. 1
- 51245249654. 2
- 51245249655. 3
- 51245249656. 4

Question Number : 57 Question Id : 51245215603 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Biological Treatment Process of water is

1. Ion Exchange
2. Filtration
3. Oxidation pond
4. Gas Transfer

Options :

- 51245249657. 1
- 51245249658. 2
- 51245249659. 3
- 51245249660. 4

Question Number : 58 Question Id : 51245215604 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Grit/(s) is/are removed in

1. Primary settling basins
2. Secondary settling basins
3. Grit chamber
4. None of the above

Options :

- 51245249661. 1
- 51245249662. 2
- 51245249663. 3
- 51245249664. 4

Question Number : 59 Question Id : 51245215605 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Settling tendencies of particles are controlled by

1. Velocity of flow
2. Shape and size of particles
3. Viscosity of water
4. All of the above

Options :

- 51245249665. 1
- 51245249666. 2
- 51245249667. 3
- 51245249668. 4

Question Number : 60 Question Id : 51245215606 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Surface loading is equal to

1. Q/BL
2. BL/Q
3. BLQ
4. None of the above

Options :

- 51245249669. 1
- 51245249670. 2
- 51245249671. 3
- 51245249672. 4

Question Number : 61 Question Id : 51245215607 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Surface area, required in an ideal settling tank to ensure removal of all discrete particles with a settling velocity of 0.0028 m/sec from a flow of 550 m³/ h, will be

1. A = 544.600 m²
2. A = 54.460 m²
3. A = 5.446 m²
4. None of the above

Options :

- 51245249673. 1
- 51245249674. 2
- 51245249675. 3
- 51245249676. 4

Question Number : 62 Question Id : 51245215608 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

There is decrease in efficiency of sedimentation tanks when following condition/(s) is/are present

1. Excessive suspended solids
2. Coincidence of peak output with peak turbidity
3. Low coefficient of fineness
4. All of the above

Options :

- 51245249677. 1
- 51245249678. 2
- 51245249679. 3
- 51245249680. 4

Question Number : 63 Question Id : 51245215609 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Impurities present in water in the form of solid are classified based on their size as

1. Coarse solids
2. Colloidal solids
3. Fine solids
4. All of the above

Options :

- 51245249681. 1
- 51245249682. 2
- 51245249683. 3
- 51245249684. 4

Question Number : 64 Question Id : 51245215610 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Water is coagulated with low doses of coagulants in case of

1. High Turbidity - Low Alkalinity of Water
2. High Turbidity - High Alkalinity of Water
3. Low Turbidity - High Alkalinity of Water
4. Low Turbidity - Low Alkalinity Water

Options :

- 51245249685. 1
- 51245249686. 2
- 51245249687. 3
- 51245249688. 4

Question Number : 65 Question Id : 51245215611 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

In filtration, purification of water takes place under which one of the following processes?

1. Mechanical Straining
2. Flocculation and Sedimentation
3. Biological Metabolism
4. All of the above

Options :

- 51245249689. 1
- 51245249690. 2
- 51245249691. 3
- 51245249692. 4

Question Number : 66 Question Id : 51245215612 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

By which one of the following processes, 'Disease-causing micro-organisms are reduced to such low levels that no infection or disease results when the water is used for domestic purposes including drinking water'?

1. Sterilization
2. Disinfection
3. Both 1 and 2
4. None of the above

Options :

- 51245249693. 1
- 51245249694. 2
- 51245249695. 3
- 51245249696. 4

Question Number : 67 Question Id : 51245215613 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Primary action of chlorination is destruction/inactivation of bacteria. Secondary action/(s) include/(s)

1. Oxidation of iron
2. Destruction of some taste
3. Control of algae
4. All of the above

Options :

- 51245249697. 1
- 51245249698. 2
- 51245249699. 3
- 51245249700. 4

Question Number : 68 Question Id : 51245215614 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Disinfection efficiency is influenced by

1. pH range of water
2. Time of contact
3. Effect of flow temperature
4. All of the above

Options :

- 51245249701. 1
- 51245249702. 2
- 51245249703. 3
- 51245249704. 4

Question Number : 69 Question Id : 51245215615 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The point at which this free chlorine begins to form is called

1. Breakpoint chlorination
2. Super chlorination
3. De chlorination
4. Residual chlorine

Options :

- 51245249705. 1
- 51245249706. 2
- 51245249707. 3
- 51245249708. 4

Question Number : 70 Question Id : 51245215616 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Bleaching powder contains how much Chlorine, by weight?

1. 10% to 15%
2. 20% to 25%
3. 30% to 35%
4. None of the above

Options :

- 51245249709. 1
- 51245249710. 2
- 51245249711. 3
- 51245249712. 4

Question Number : 71 Question Id : 51245215617 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

When two chemical compounds are mixed in an aqueous medium, which of the following chemical reaction/(s) occur/(s)?

1. Precipitation
2. Neutralization
3. Oxidation and reduction
4. All of the above

Options :

- 51245249713. 1
- 51245249714. 2
- 51245249715. 3
- 51245249716. 4

Question Number : 72 Question Id : 51245215618 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Calculate the dosage of pure Sodium hydroxide (NaOH) required for neutralizing effluent with an acidity equivalent to 7 mg/l of Sulphuric acid, H_2SO_4 .

1. 571.00 mg/l NaOH
2. 57.10 mg/l NaOH
3. 5.71 mg/l NaOH
4. 0.57 mg/l NaOH

Options :

- 51245249717. 1
- 51245249718. 2
- 51245249719. 3
- 51245249720. 4

Question Number : 73 Question Id : 51245215619 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Reverse osmosis is used for

1. Separation of dissolved salts
2. Separation of suspended salts
3. Both 1 and 2
4. None of the above

Options :

- 51245249721. 1
- 51245249722. 2
- 51245249723. 3
- 51245249724. 4

Question Number : 74 Question Id : 51245215620 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Water supply project consists of works for

1. Collection of water
2. Purification and treatment
3. Distribution of water to the consumers
4. All of the above

Options :

- 51245249725. 1
- 51245249726. 2
- 51245249727. 3
- 51245249728. 4

Question Number : 75 Question Id : 51245215621 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Reservoirs may be constructed by which of the following material(s)?

1. Reinforced concrete
2. Steel
3. Masonry
4. All of the above

Options :

- 51245249729. 1
- 51245249730. 2
- 51245249731. 3
- 51245249732. 4

Question Number : 76 Question Id : 51245215622 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Contingency storage is required in case of

1. Population growth
2. Fire
3. Repair of pipe bursts on mains
4. None of the above

Options :

- 51245249733. 1
- 51245249734. 2
- 51245249735. 3
- 51245249736. 4

Question Number : 77 Question Id : 51245215623 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Sump is

1. A graph of cumulative run off versus time
2. A depression that receives water or any liquid
3. Small elevated service tanks of diameter around 10 to 15 metres
4. None of the above

Options :

- 51245249737. 1
- 51245249738. 2
- 51245249739. 3
- 51245249740. 4

Question Number : 78 Question Id : 51245215624 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Pumping of water from the purification plant or from a source to the distributing system is

1. Low lift service
2. High lift service
3. Deep well pump
4. Booster pump

Options :

- 51245249741. 1
- 51245249742. 2
- 51245249743. 3
- 51245249744. 4

Question Number : 79 Question Id : 51245215625 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Speed reduction mechanism is required by

1. Centrifugal pump
2. Reciprocating pump
3. Both 1 and 2
4. None of the above

Options :

- 51245249745. 1
- 51245249746. 2
- 51245249747. 3
- 51245249748. 4

Question Number : 80 Question Id : 51245215626 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Mechanical efficiency of a centrifugal pump is

1. Manometric head/ Head imparted by impeller to water
2. Power at the impeller/ Power at the shaft
3. All mentioned in 1 and 2
4. None of the above

Options :

- 51245249749. 1
- 51245249750. 2
- 51245249751. 3
- 51245249752. 4

Question Number : 81 Question Id : 51245215627 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The Outlet Construction Coefficient depends on

1. Distance between the two neighboring blade tips measured along the periphery, at the outlet
2. The blade angle at the outlet
3. The blade thickness
4. All of the above

Options :

- 51245249753. 1
- 51245249754. 2
- 51245249755. 3
- 51245249756. 4

Question Number : 82 Question Id : 51245215628 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Cause can be attended when pump starts but may not deliver water and raise its head

1. Rotation of the wheel may be taking place in the wrong direction
2. The impeller might have got clogged
3. Pump is not primed properly
4. Speed may be smaller than the required value

Options :

- 51245249757. 1
- 51245249758. 2
- 51245249759. 3
- 51245249760. 4

Question Number : 83 Question Id : 51245215629 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Slip of a pump is given by

1. Q_{th}/Q_{act}
2. Q_{act}/Q_{th}
3. $Q_{th} - Q_{act}$
4. $Q_{th} \times Q_{act}$

Options :

- 51245249761. 1
- 51245249762. 2
- 51245249763. 3
- 51245249764. 4

Question Number : 84 Question Id : 51245215630 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Efficiency of a hydraulic ram depends on

1. Losses in the pipe
2. Losses in the valve box
3. Ratio of h/H
4. All of the above

Options :

- 51245249765. 1
- 51245249766. 2
- 51245249767. 3
- 51245249768. 4

Question Number : 85 Question Id : 51245215631 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

For maximum discharge or maximum velocity of Rectangular shape channel,

1. $b = d/2$ and $m = 2d$
2. $b = 2d$ and $m = d/2$
3. $b = d$ and $m = d/2$
4. $b = 2d$ and $m = d$

Options :

51245249769. 1
51245249770. 2
51245249771. 3
51245249772. 4

Question Number : 86 Question Id : 51245215632 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

A water passage of rectangular cross section is to carry 12 cumecs of water at a velocity of 2.5 m/sec. For most economical section, d and b will be respectively

1. 3.10 m and 3.10 m
2. 1.55 m and 6.20 m
3. 1.55 m and 3.10 m
4. 1.55 m and 1.55 m

Options :

51245249773. 1
51245249774. 2
51245249775. 3
51245249776. 4

Question Number : 87 Question Id : 51245215633 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Darcy's Formula is

1. $h_f = 4Lv^2/2gd$
2. $h_f = 4fLv/2gd$
3. $h_f = 4fv^2/2gd$
4. $h_f = 4fLv^2/2gd$

Options :

51245249777. 1
51245249778. 2
51245249779. 3
51245249780. 4

Question Number : 88 Question Id : 51245215634 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Loss of head due to velocity of water at outlet equals to

1. v^2/g
2. $0.5v^2/2g$
3. $0.5v^2/2g$
4. $v^2/2g$

Options :

51245249781. 1
51245249782. 2
51245249783. 3
51245249784. 4

Question Number : 89 Question Id : 51245215635 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

When discharge is through pipes in series,

1. Total head loss $h_f = \text{Loss of head in pipe1} + \text{Loss of head in pipe2} + \dots$
2. $Q = Q_1 = Q_2 = \dots$
3. Both 1 and 2
4. None of the above

Options :

- 51245249785. 1
- 51245249786. 2
- 51245249787. 3
- 51245249788. 4

Question Number : 90 Question Id : 51245215636 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The pressure rise due to water hammer depends upon

1. Length of pipe
2. Elastic properties of the material of the pipe
3. None of the above
4. Both 1 and 2

Options :

- 51245249789. 1
- 51245249790. 2
- 51245249791. 3
- 51245249792. 4

Question Number : 91 Question Id : 51245215637 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Joints provided in metal pipe lines at suitable intervals to take into account the change in pipe lengths due to temperature variations are

1. Flanged Joints
2. Spigot and Socket Joints
3. Expansion Joints
4. Collared Joints

Options :

- 51245249793. 1
- 51245249794. 2
- 51245249795. 3
- 51245249796. 4

Question Number : 92 Question Id : 51245215638 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Working Pressure is

1. The head available at any particular point in the distribution system
2. Maximum pressure, which the pipe can withstand without any leakage when tested for hydrostatic pressure in accordance with the standard methods of testing
3. Actual maximum pressure to which the pipe will be subjected during its operation
4. Maximum pressure for which the pipe has been designed

Options :

- 51245249797. 1
- 51245249798. 2
- 51245249799. 3
- 51245249800. 4

Question Number : 93 Question Id : 51245215639 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Large diameter pipes taking water from source to distribution reservoirs and from distribution reservoirs to the feeder main are called

1. Trunk Mains
2. The Principal Feeder Mains
3. The Network Mains
4. None of the above

Options :

- 51245249801. 1
- 51245249802. 2
- 51245249803. 3
- 51245249804. 4

Question Number : 94 Question Id : 51245215640 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

For double storey buildings, minimum residual pressure to be provided at the ferrule points should be

1. 17 m above ground level
2. 12 m above ground level
3. 7 m above ground level
4. None of the above

Options :

- 51245249805. 1
- 51245249806. 2
- 51245249807. 3
- 51245249808. 4

Question Number : 95 Question Id : 51245215641 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The distribution system is not designed for residual pressure more than

1. 52 meters
2. 42 meters
3. 32 meters
4. 22 meters

Options :

- 51245249809. 1
- 51245249810. 2
- 51245249811. 3
- 51245249812. 4

Question Number : 96 Question Id : 51245215642 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

A small curved flexible pipe for making connection between ferrule and service pipe

1. Bib cock
2. Goose Neck
3. Stop Cock
4. None of the above

Options :

- 51245249813. 1
- 51245249814. 2
- 51245249815. 3
- 51245249816. 4

Question Number : 97 Question Id : 51245215643 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Rate of flow in Flushing cisterns is

1. 4.5 litre/minute
2. 9.0 litre/minute
3. 13.5 litre/minute
4. None of the above

Options :

- 51245249817. 1
- 51245249818. 2
- 51245249819. 3
- 51245249820. 4

Question Number : 98 Question Id : 51245215644 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Average healthy adult body is

1. 45% to 75% water
2. 35% to 45% water
3. 75% to 95% water
4. None of the above

Options :

- 51245249821. 1
- 51245249822. 2
- 51245249823. 3
- 51245249824. 4

Question Number : 99 Question Id : 51245215645 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which one of the following is a water borne disease caused by a virus?

1. Hepatitis A
2. Poliomyelitis
3. Both 1 and 2
4. None of the above

Options :

- 51245249825. 1
- 51245249826. 2
- 51245249827. 3
- 51245249828. 4

Question Number : 100 Question Id : 51245215646 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Aquitard is

1. A formation that may contain water but is incapable of transmitting significant quantities
2. A semi-pervious geologic formation transmitting water at a very slow rate as compared to aquifer
3. An impervious formation that neither contains nor transmits water
4. None of the above

Options :

- 51245249829. 1
- 51245249830. 2
- 51245249831. 3
- 51245249832. 4