Q:) The ratio between the area of crop irrigated and quantity of water required during its entire period of the growth, is known as:

A : Delta

B : Duty

C : Base period

D : Crop period

Q:) The main function of a diversion head works of a canal from a river is:

A : To remove silt

B : To control floods

C : To raise water level

D : To store Water

Q:) The maximum permissible total solid content in water for domestic purposes should not exceed:

A : 300 ppm

B : 400 ppm

C : 500 ppm

D : 1000 ppm

Q:) A soil sample is having a specific gravity of 2.6 and avoid ratio of 0.78. The water content in percentage required to fully saturate the soil at that void ratio is:

A : 0.1

B : 0.3

C : 0.5

D : 0.7

Q:) The ratio of the unconfined compressive strength of undisturbed soil to the unconfined compressive strength of soil in a remolded state, is called:

A : Sensitivity

B : Thixotropic

C : Relative strength

D : None of the above

Q:) The ratio of settlement at any time, t to the final settlement is known as:

A : Compression ratio

B : Coefficient of consolidation

C : Compression index

D : Degree of consolidation

Q:) Select the correct statement:

A : Both negative skin friction and skin frictional resistance are caused by relative settlement of soil

B : Both negative skin friction and skin frictional resistance are caused by relative settlement of pile

C : Negative skin friction is caused by relative settlement of soil and skin frictional resistance is caused by relative settlement of pile

D : Negative skin friction is caused by relative settlement of pile and skin frictional resistance is caused by relative settlement of soil.

Q:) A phreatic line is defined as the line within a dam section below which there are:

A : Positive equipotential lines

B : Positive hydrostatic pressure

C : Negative hydrostatic pressure

D : Negative equipotential lines

Q:) The arrangement of supporting an existing structure by providing supports underneath, is known as:

A : Shoring

B : Underpinning

C : Jacking

D : Piling

Q:) The road foundation for modern highways construction, was developed by:

A : Teague

B : Telford

C : Telford and Macadam simultaneously

D : Macadam

Q:) The addition of pozzolana to Portland cement may cause:

A : Decrease in early strength

B : Increase in early strength

C : Decrease in curing time

D : Increase in permeability

Q:) For a satisfactory workable concrete with a constant water cement ratio, increase in aggregate cement ratio:

A : Decrease the strength of concrete

B : Does not change the strength of concrete

C : Increase the strength of concrete

D : None of these

Q:) The tolerance in the width of mould of a class I brick is about:

A : $\pm 3\ mm$

B : $\pm 6\ mm$

C : $\pm 10\ mm$

D : $\pm 12\ mm$

Q:) The slump recommended for mass concrete is about:

A : 50 mm to 100 mm

B : 25 mm to 75 mm

C : 100 mm to 125 mm

D : None of these

Q:) Preventive maintenance for a building work means:

A : Taking action before break-down

B : Breakdown maintenance

C : Taking action after break-down

D : None of these

Q:) The height between two floors is 3.00 m and risers are of 150 mm. Assuming two flights between the floors, the number of treads will be:

A : 18

B : 19

C : 20

D : 21

Q:) Flying shores are used to strengthen

A : Single wall

B : Two adjacent walls

C : Tall walls

D : Any of the above

Types of shoring

1 Raking shores

2 Flying shores

3 Dead shores

What is Shoring??

- **The construction of a temporary structure to support temporarily an unsafe structure**
- Support walls laterally

1. Raking Shores

Clip slide

- In this method, inclined members known as rakers are used to give lateral supports to walls

2. Flying Shores

- **a system of providing temporary supports to the party walls of the two buildings where the intermediate building is to be pulled down and rebuilt**
- All types of arrangements of supporting the unsafe structure in which the shores do not reach the ground come under this category

3. Dead Shores

Clip slide

- Dead shore is the system of shoring which is used to render vertical support to walls and roofs, floors, etc when the lower part of a wall has been removed
- for the purpose of providing an opening in the wall or to rebuild a defective load bearing wall in a structure

Q:) When large openings are to be made in existing wall, the type of temporary work used is

A : Raking shore

B : Flying shore

C : Dead shore

D : Underpinning

Q:) Water requirement per day per bed in a hospital is

A : 45 litres

B : 135 litres

C : 270 litres

D : 340 litres

Q:) When fat lime is slaked, its volume

A : Decreases to 50%

B : Remains same

C : Increases by 2 to 2.5 times

D : Increases by 4 times after slaking

Q:) Fineness modulus is

A : The ratio of fine aggregates to coarse aggregate

B : The ratio of fine aggregates to total aggregate

C : An index which gives the mean size of the aggregates used in a mix

D : None of the above

Q:) The compressive strength of high duty bricks should be more than

A : 40 N/mm^2

B : 20 N/mm^2

C : 5 N/mm^2

D : 3.5 N/mm^2

Q:) Match List-I with List-II and select the correct answer using the codes given below the Lists:

List-I (Types of benchmarks)	List-II (Fixed by)
A. GTS benchmark	1. A survey team at the end of day work
B. Permanent benchmark	2. The Survey of India
C. Arbitrary benchmark	3. State PWD
D. Temporary benchmark	4. A survey team in the beginning of a project

Codes:

A : A-3, B-2, C-4, D-1

B : A-3, B-2, C-1, D-4

C : A-2, B-3, C-1, D-4

D : A-2, B-3, C-4, D-1

Q:) Pick up the correct feature of accidental error in surveying.

A : Positive and negative errors will occur with equal frequency

B : Small errors occur more frequently

C : Large errors occur

D : All of the above

Q:) Match List-I with List-II and select the correct answer using the codes given below the Lists:

List-I (Type of impurity)	List-II (Process used for removal)
A. Bulky floating and suspended matter	1. Floatation tanks
B. Oil and grease	2. Racks and screens
C. Suspended solids	3. Biological growth (slimes)
D. Colloidal and dissolved organic matter	4. Chemical flocculation

Codes:

A : A-1, B-2, C-3, D-4

B : A-1, B-2, C-4, D-3

C : A-2, B-3, C-1, D-4

D : A-2, B-1, C-4, D-3

Q:) Drain values/scour valves in a water distribution system are provided at

A : High-end points

B : Low-end points

C : Regular intervals in a pipeline

D : All of the above

Q:) The disinfection efficiency of chlorine in water treatment

A : Is not dependent on pH value

B : Is increased by increased pH value

C : Remains constant at all pH value

D : Is reduced by increased pH value

Q:) The BOD removal efficiency in percentage, during primary treatment, under normal conditions is about

A : 0.65

B : 0.85

C : 0.3

D : zero

Q:) Bulking sludge refers to having

A : f/m < 0.3/d

B : 0.3/d < f/m < 0.6/d

C : f/m = zero

D : f/m > 0.6/d

Q:) End of speed limit is

A : Regulatory sign

B : Warning sign

C : Informatory sign

D : None of the above

Q:) The rate of filtration of a slow sand filter ranges from

A : 10 to 100 L/h/m^2

B : 10 to 200 L/h/m^2

C : 200 to 400 L/hm^2

D : 400 to 1000 L/h/m^2

Q:) The maximum spacing of laterals in a rapid sand filter can be

A : 10 cm

B : 30 cm

C : 50 cm

D : 100 cm

Q:) If W is total BOD, V is filter volume and F is recirculation factor in a trickling filter, then unit organic loading is obtained by

A : $u = \frac{WF}{V}$

B : $u = \frac{VF}{W}$

C : $u = \frac{WV}{F}$

D : $u = \frac{W}{VF}$

Q:) In water supply pipes, wrought iron and cast iron pipes have relationship as

A : Life of wrought iron pipes > life of cast iron pipes

B : Life of cast iron pipes > life of wrought iron pipes

C : Both life spans are equal

D : Life of wrought iron pipes = 2 (life of cast iron pipes)

Q:) What is the most common medium for sediment transport?

A : Ice

B : Human

C : Wind

D : Water

Q:) Bearings are provided in the bridges to

A : Allow translation and rotation in bridges

B : Transfer forces from super-structure to substructure

C : Tsolate superstructure from substructure

D : All of the above

Q:) A window that projects outside the external walls of a room is:

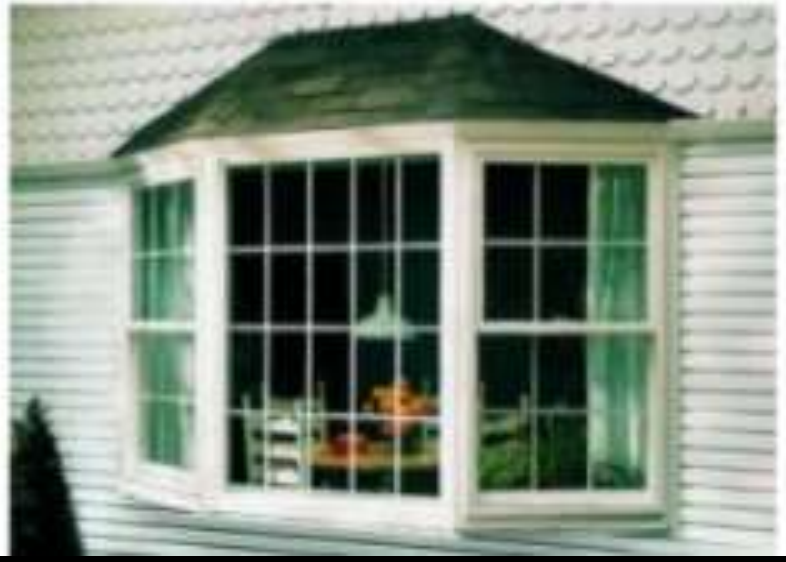
A : Gable window

B : Sash window

C : Dormer window

D : Bay window

BAY WINDOWS. Are specially designed windows which create a niche in a home filled with light. Typically, they highlight a stunning view such as the ocean or a sweeping meadow, and they are often designed with window seats so that people can sit in the windows and enjoy a book.



Q:) The staff readings taken at stations A, B, C, D from a single setup of the level are 0.535, 1.105, 2.155, 1.785. The station B is:

A : Below A and D

B : Above C and D

C : Between C and D

D : None of the above

Q:) The standard unit of turbidity of water is that which is produced by 1 mg of _____ dissolved in one litre of distilled water.

A : Finely divided silica

B : Platinum cobalt

C : Potassium permanganate

D : Formazin

Q:) BOD of effluent from secondary biological treatment of sewage is:

A : 0 to 5% of the original

B : 5 to 10% of the original

C : 25 to 40% of the original

D : 50 to 60% of the original

Q:) The volumetric strain per unit increase in effective stress of soil is defined as:

A : Compression index

B : Volume compressibility

C : Coefficient of compressibility

D : Consolidation

Q:) The intensity of vertical stress at depth z below a concentrated load Q, by Boussines equation is:

A : $\sigma_z = 0.5775 \frac{Q}{z^2}$

B : $\sigma_z = 0.4775 Q z^2$

C : $\sigma_z = 0.4775 \frac{Q}{z^2}$

D : $\sigma_z = 0.5775 Q z^2$

Q:) Which among the following is a step used for changing the direction of a stair?

A : Flight

B : Nosing

C : Landing

D : Winder

Q:) Among the following, in which type of canal, flow occurs only when there is a rise of flow in river?

A : Inundation canal

B : Contour canal

C : Ridge canal

D : Side slope canal

Q:) What is defined as the ratio of volume of air voids to the total volume of soil mass and is expressed as percentage?

A : Void ratio

B : Porosity

C : Percentage air voids

D : Air content

Q:) What is the side slope of a Cipoletti weir?

A : 1 horizontal to 2 vertical

B : 2 horizontal to 1 vertical

C : 4 horizontal to 1 vertical

D : 1 horizontal to 4 vertical

Q:) what is known as the force per unit area required to penetrate into a soil mass with a circular plunger of 50 mm diameter at a rate of 1.25 mm/minute?

A : Bearing capacity

B : Modulus of rupture

C : CBR

D : Aggregate crushing value

Q:) A wooden pile is being driven with a drop hammer weighing 18 kN and having a free fall of 1 m. The penetration in the last blow is 5 mm. Determine the load carrying capacity of pile according to the Engineering News formula

A : 100 kN

B : 90 kN

C : 110 kN

D : 180 kN

Q:) Dry density of which sample is expected to be high?

A : Organic clay

B : Dense sand

C : Bentonite

D : Stiff clay

Q:) What is known as a watertight enclosure made up of sheet pile walls, usually temporary, built around a working area for the purpose of excluding water during construction?

A : Cofferdam

B : Bulkhead

C : Penstock

D : Box caisson

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