

Question Paper Preview

Subject Name: Civil Engineering

Display Number Panel: Yes
Group All Questions: No

Question Number : 1 Question Id : 7621614801 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\lim_{x \rightarrow \infty} \frac{x - \sin x}{x + \cos x}$ is

Options :

- 1
- 1
- ∞
- $-\infty$

Question Number : 2 Question Id : 7621614802 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the Eigen values of $A = \begin{bmatrix} 2 & 3 \\ x & y \end{bmatrix}$ are 4 and 8 then the values x and y are

Options :

- $x = 4, y = 10$
- $x = 5, y = 8$
- $x = -3, y = 9$
- $x = -4, y = 10$

Question Number : 3 Question Id : 7621614803 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The greatest value of the directional value of the function $f(x, y, z) = x^2yz^3$ at $(2, 1, -1)$ is

Options :

- $\sqrt{11}$
- $3\sqrt{11}$
- $4\sqrt{11}$

4. $6\sqrt{11}$

Question Number : 4 Question Id : 7621614804 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The solution of $\sin px \cos y = \cos px \sin y + p$, where $p = \frac{dy}{dx}$ is

Options :

1. $y = c \sin x + \cos^{-1} x$
2. $y = cx - \sin^{-1} x + c$
3. $y = cx - \cos^{-1} c$
4. $y = cx + \sin^{-1} c$

Question Number : 5 Question Id : 7621614805 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The general solution of $(D^2 + 9) Y = \sin 3x$ is

Options :

1. $Y = c_1 \cos 3x + c_2 \sin 3x + \frac{\sin 3x}{9}$
2. $Y = c_1 \cos 3x + c_2 \sin 3x - \frac{x \cos 3x}{6}$
3. $Y = c_1 \cos 3x + c_2 \sin 3x + \frac{x \cos 3x}{6}$
4. $Y = c_1 \cos 3x + c_2 \sin 3x - \frac{x \sin 3x}{6}$

Question Number : 6 Question Id : 7621614806 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The critical points of $f(x) = 3x^4 - 4x^3 - 12x^2 + 3$ in $[-2, 3]$ are

Options :

1. $-2, 0, 1$
2. $1, 0, 3$
3. $-2, -1, 2$
4. $-1, 1, 3$

Question Number : 7 Question Id : 7621614807 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $u(x, y) = \lambda x^2 - y^2 + xy$ is harmonic, then the value of λ is

Options :

1. 3
2. 1
3. -3
4. -1

Question Number : 8 Question Id : 7621614808 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The fixed (invariant) points of the transformation $f(z) = \frac{1+z}{1-z}$ are

Options :

1. ± 1
2. $1 \pm i$
3. $\pm i$
4. $2 \pm i$

Question Number : 9 Question Id : 7621614809 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Laplace transform of $\cos^2 t$ [i.e. $L(\cos^2 t)$] is

Options :

1. $\frac{2}{s^2+4}$
2. $\frac{1}{2s} + \frac{s}{2(s^2+4)}$
3. $\frac{1}{2} + \frac{s}{2(s^2+4)}$
4. $\frac{s}{2(s^2+4)}$

Question Number : 10 Question Id : 7621614810 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If X is a random variable following Binomial distribution with mean 2.4 and variance 1.44, then the number (n) of trials is

Options :

1. 6
2. 8
3. 10
4. 12

Display Number Panel:

Yes

Group All Questions:

No

Question Number : 11 Question Id : 7621614811 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The process of finding the resultant of a force system is called _____ of forces.

Options :

1. Magnitude
2. Composition
3. Direction
4. Vector

Question Number : 12 Question Id : 7621614812 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Free body diagram is useful to

Options :

1. understand problem
2. analyse the problem
3. create idea
4. develop thinking

Question Number : 13 Question Id : 7621614813 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For a system in equilibrium, the derivative of its potential energy is zero. This statement is

Options :

1. completely true
2. completely false
3. partly true
4. partly false

Question Number : 14 Question Id : 7621614814 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The coefficient of friction, where θ is the angle of friction, equals to

Options :

1. $\sin \theta$
2. $\tan \theta$
3. $\cot \theta$
4. $\sec \theta$

Question Number : 15 Question Id : 7621614815 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The velocity ratio of an inclined plane of angle θ with horizontal is

Options :

1. $\frac{1}{\cos \theta}$

2. $\frac{1}{\tan \theta}$

3. $\frac{1}{\sin^2 \theta}$

4. $\frac{1}{\sin \theta}$

Question Number : 16 Question Id : 7621614816 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The relation between angular velocity ' ω ' and revolutions per second ' n ' is

Options :

1. $\omega = 3\pi n$

2. $\omega = 2\pi n$

3. $\omega = \pi n$

4. $\omega = \pi n/2$

Question Number : 17 Question Id : 7621614817 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A large force acting over a short period of time is called

Options :

1. Impulse

2. Moment

3. Momentum

4. Power

Question Number : 18 Question Id : 7621614818 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The statement "In the work energy method, the velocity can be obtained directly without the need to obtain acceleration" is

Options :

1. completely true

2. completely false

3. partly true

4. partly false

Question Number : 19 Question Id : 7621614819 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Virtual work refers to

Options :

1. Virtual work done by actual forces

2. Virtual work done by virtual forces
3. Actual work done by actual forces
4. Actual work done by Virtual forces

Question Number : 20 Question Id : 7621614820 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Bending moment at supports in case of simply supported beams is always

Options :

1. greater than zero and less than unity
2. more than unity
3. Zero
4. negative

Question Number : 21 Question Id : 7621614821 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a cantilever with uniformly distributed load the variation of shearing force follows a

Options :

1. Linear law
2. Parabolic law
3. Square law
4. Exponential law

Question Number : 22 Question Id : 7621614822 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The relation between three elastic constants (E and N & K) is

Options :

1. $E = \frac{3KN}{(9K + N)}$
2. $E = \frac{9KN}{(3K - N)}$
3. $E = \frac{9KN}{(3K + N)}$
4. $E = \frac{3KN}{(9K - N)}$

Question Number : 23 Question Id : 7621614823 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the normal cross section of a member is subjected to a tensile force 'P', the resulting normal stress in an oblique plane inclined at an angle ' θ ' to the cross sectional plane will be.

Options :

1. $\frac{P}{A} \sin^2 \theta$
2. $\frac{P}{A} \cos^2 \theta$
3. $\frac{P}{2A} \sin 2\theta$
4. $\frac{P}{2A} \cos 2\theta$

Question Number : 24 Question Id : 7621614824 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A Mohr's circle reduces to a point when the body is subjected to

Options :

1. Pure shear
2. Uniaxial stress only
3. Equal and opposite normal stresses on two mutually perpendicular planes, which are free of shear.
4. Equal normal stresses on two mutually perpendicular planes which are free of shear.

Question Number : 25 Question Id : 7621614825 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A steel wire of 20 mm diameter is bent into a circular shape of 10 m radius. If $E = 2 \times 10^5$ MPa, the maximum stress induced is

Options :

1. 100 MPa
2. 200 MPa
3. 400 MPa
4. 600 MPa

Question Number : 26 Question Id : 7621614826 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The strength of the beam mainly depends on

Options :

1. Bending moment
2. Centre of gravity of the section
3. Section modulus
4. Its weight

Question Number : 27 Question Id : 7621614827 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In case of a circular section the section modulus is given by

Options :

1. $\frac{\pi d^2}{16}$

2. $\frac{\pi d^3}{16}$

3. $\frac{\pi d^3}{32}$

4. $\frac{\pi d^4}{64}$

Question Number : 28 Question Id : 7621614828 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The ratio of equivalent length of the column to the minimum radius of gyration is called

Options :

1. Poission's ratio

2. Slenderness ratio

3. Factor of safety

4. Buckling factor

Question Number : 29 Question Id : 7621614829 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose most suitable choice for the following: The shafts are designed on the basis of

Options :

1. Strength only

2. Rigidity only

3. Stiffness only

4. Both strength and rigidity

Question Number : 30 Question Id : 7621614830 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The diameter of kernel of the hollow circular section is given by

Options :

1. $\frac{2D^2+d^2}{4D}$

2. $\frac{D^2 + d^2}{D}$
3. $\frac{D^2 + d^2}{2D}$
4. $\frac{D^2 + d^2}{4D}$

Question Number : 31 Question Id : 7621614831 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Matrix method of structural analysis is based on replacing the intermediate structure by a

Options :

1. Fictitious structure
2. Determinate structure
3. Mathematical model
4. Stable structure

Question Number : 32 Question Id : 7621614832 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Sway analysis of a portal frame becomes necessary when

Options :

1. only loading is unsymmetrical
2. only cross sections of members are unequal
3. only support joints are different
4. loading is unsymmetrical, cross sections of members are unequal and support joints are different

Question Number : 33 Question Id : 7621614833 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Beams built of more than one material, rigidly connected to act monolithically as a single material is called

Options :

1. Compound beams
2. Determinate beams
3. Composite beams
4. Indeterminate beams

Question Number : 34 Question Id : 7621614834 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The ratio of the modulus of a square section of side 'a' and a circular section of diameter 'a' is

Options :

1. $\frac{8}{3\pi}$
2. $\frac{16}{\pi}$
3. $\frac{16}{3\pi}$
4. $\frac{8}{\pi}$

Question Number : 35 Question Id : 7621614835 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

When a simple beam of span 'l' is acted on by a bending couple 'M' at one end, the maximum deflection is given by

Options :

1. $\frac{Ml^2}{9EI}$
2. $\frac{Ml^2}{\sqrt{3EI}}$
3. $\frac{Ml}{9\sqrt{3EI}}$
4. $\frac{Ml^2}{9\sqrt{3EI}}$

Question Number : 36 Question Id : 7621614836 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

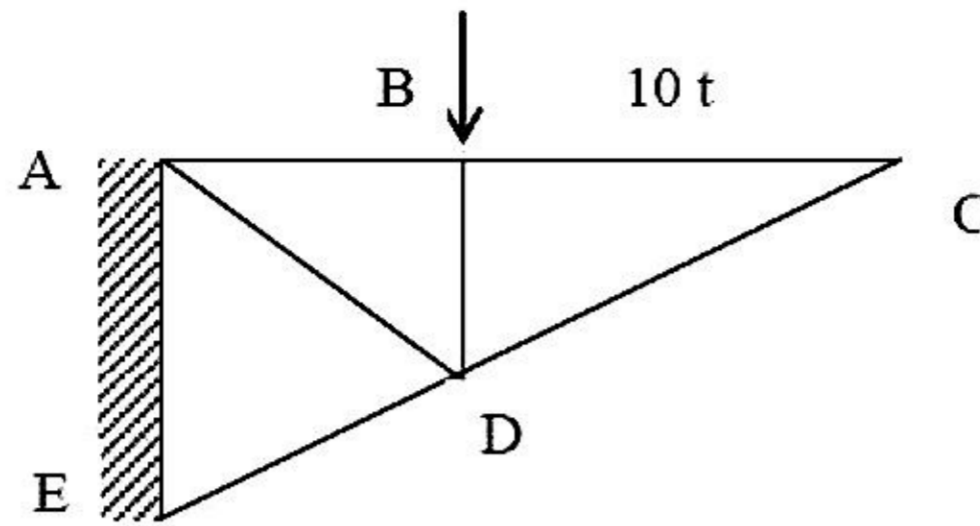
If a three hinged semi-circular arch of Span 'l' and radius 'r' is loaded uniformly with 'ω' per unit run throughout the span, the horizontal thrust is

Options :

1. ωl
2. ωr
3. $\frac{\omega r}{2}$
4. $\frac{\omega l}{2}$

Question Number : 37 Question Id : 7621614837 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The force in the member 'BC' of the cantilever truss shown in figure is



Options :

1. 10 t tensile
2. 10 t compressive
3. 20 t compressive
4. 0

Question Number : 38 Question Id : 7621614838 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The concrete on which preliminary tests are done for designing a mix is called

Options :

1. Lean mix
2. Rich mix
3. Controlled mix concrete
4. Test Concrete

Question Number : 39 Question Id : 7621614839 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The approximate ratio of strengths of cement concrete at 28 days and 7 days curing is

Options :

1. 1.5
2. 2
3. 3
4. 1.3

Question Number : 40 Question Id : 7621614840 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The deflection criteria for beams may be assumed to be satisfied (IS456-2000), if the span to effective depth ratio of a continuous beam ($l \leq 10 m$) is not greater than

Options :

1. 20

2. 24
3. 30
4. 26

Question Number : 41 Question Id : 7621614841 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the target strength of M20 grade concrete?

Options :

1. 20 MPa
2. 30 MPa
3. 27 MPa
4. 33 MPa

Question Number : 42 Question Id : 7621614842 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Doubly reinforced beams are preferred when the

Options :

1. Breadth is restricted
2. Depth and breadth are restricted
3. Depth is restricted
4. Bending moment is large

Question Number : 43 Question Id : 7621614843 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the minimum grade of concrete according to IS456-2000?

Options :

1. M15
2. M20
3. M25
4. M30

Question Number : 44 Question Id : 7621614844 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The load carrying capacity of a column designed by the working stress method is 600 kN. Then what is its collapse load?

Options :

1. 600 kN
2. 690 kN
3. 900 kN
4. 1800 kN

Question Number : 45 Question Id : 7621614845 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Minimum clear cover for the main steel in an RC Slab is

Options :

1. 10 mm
2. 15 mm
3. 20 mm
4. 25 mm

Question Number : 46 Question Id : 7621614846 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which section is good from the ductility point of view?

Options :

1. Under reinforced section
2. Balanced Section
3. Over reinforced section
4. Section with special steel

Question Number : 47 Question Id : 7621614847 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

High grade of concrete is preferred for pre-stressed concrete for controlling

Options :

1. Ductility
2. Brittleness
3. Shrinkage
4. Creep

Question Number : 48 Question Id : 7621614848 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In conventional prestressing, the diagonal tension in concrete

Options :

1. Does not get affected
2. Decreases
3. Increases
4. Depends on the prestressing method

Question Number : 49 Question Id : 7621614849 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a cantilever beam carrying vertical loads, the main reinforcement is provided

Options :

1. As vertical stirrups
2. As helical reinforcement
3. Below the neutral axis
4. Above the neutral axis

Question Number : 50 Question Id : 7621614850 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the moment of force about a point is zero, the point lies on the line of action of

Options :

1. resultant only
2. force only
3. magnitude only
4. resultant , force and magnitude

Question Number : 51 Question Id : 7621614851 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For a beam subjected to lateral loads, a preferred rolled steel section is

Options :

1. I-section
2. I-section with a channel over the top flange
3. Circular section
4. H- section

Question Number : 52 Question Id : 7621614852 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A Steel column carries an axial load of 100 kN. If the channels of the column are laced, the load carried by the lacing may be taken as

Options :

1. 5 kN
2. 10 kN
3. 2 kN
4. 2.5 kN

Question Number : 53 Question Id : 7621614853 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A plate used for connecting two or more steel members is called

Options :

1. Base plate
2. Template

3. Batten
4. Gusset plate

Question Number : 54 Question Id : 7621614854 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Minimum thickness of an unstiffened web plate of a plate girder is

Options :

1. $\frac{d}{85}$
2. $\frac{d}{75}$
3. $\frac{d}{100}$
4. $\frac{d}{125}$

Question Number : 55 Question Id : 7621614855 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The web of a plate girder does not need stiffening, if the depth to thickness ratio is less than

Options :

1. 185
2. 85
3. 200
4. 250

Question Number : 56 Question Id : 7621614856 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Textural classifications are merely based on

Options :

1. Consistency limit
2. Grain size
3. Grain size and Consistency
4. Plasticity index

Question Number : 57 Question Id : 7621614857 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The minimum number of observations wells required to determine the permeability of a stratum in the field by pumping test is

Options :

1. One
2. Three
3. Two
4. Four

Question Number : 58 Question Id : 7621614858 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Interlocking contributes a significant part of the shear strength in the case of _____ sands.

Options :

1. Loose
2. Dense
3. Rigid
4. Flexible

Question Number : 59 Question Id : 7621614859 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The maximum contact pressure on a rigid footing on a cohesion less soil occurs at the

Options :

1. Centre of the footing
2. Corner of the footing
3. Sub base of the footing
4. Between centre and corner of the footing

Question Number : 60 Question Id : 7621614860 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The method of mechanical stabilization widely used for base and surface courses for low cost roads is called

Options :

1. Mehra's method
2. Coulomb's method
3. Rankine's method
4. Matrix method

Question Number : 61 Question Id : 7621614861 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The time displacement relationship is shown by means of

Options :

1. magnitude only

2. response only
3. direction only
4. both magnitude and direction

Question Number : 62 Question Id : 7621614862 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A simple, but common, type of foundation for a machine is

Options :

1. A type
2. B type
3. C type
4. Block type

Question Number : 63 Question Id : 7621614863 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the initial excess pore pressure is 'u₁' and that at a particular instant is 'u', the present consolidation 'U' is

Options :

1. $U = \left(1 - \frac{u}{u_1}\right) \cdot 100$
2. $U = \left(\frac{u}{u_1}\right) \cdot 100$
3. $U = \left(1 - \frac{u}{u_1}\right)$
4. $U = \left(1 + \frac{u}{u_1}\right) \cdot 100$

Question Number : 64 Question Id : 7621614864 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A clay deposit suffers a total settlement of 4 cm with one way drainage; with two way drainage, it suffers a total settlement of

Options :

1. 4 cm
2. 8 cm
3. 2 cm
4. 16 cm

Question Number : 65 Question Id : 7621614865 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Taylor's stability number, N, is given by

Options :

1. $\frac{e_m}{\gamma H}$
2. $\frac{\gamma H}{e_m}$
3. $\frac{\gamma e_m}{H}$
4. $\frac{e_m H}{\gamma}$

Question Number : 66 Question Id : 7621614866 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

According to Terzaghi, the curved surface of sliding in passive case approximates a

Options :

1. Base value
2. Logarithmic spiral
3. Direct value
4. Medium value

Question Number : 67 Question Id : 7621614867 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The ratio of the energy after impact to the energy of a pile driving hammer before impact is known as the _____ of the hammer.

Options :

1. Efficiency
2. Factor
3. Magnitude
4. Power

Question Number : 68 Question Id : 7621614868 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a compaction test, the equation of the zero air voids line is given by

Options :

1. $\gamma_d = \frac{G\gamma\omega}{1+Se}$
2. $\gamma_d = \frac{G\gamma\omega}{1+\omega G}$

3.
$$\gamma_d = \frac{\omega G}{(e + \gamma \omega.S)}$$

4.
$$\gamma_d = \frac{\omega G}{1 + Se}$$

Question Number : 69 Question Id : 7621614869 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Considering the standard symbols that are used in fluid mechanics, what is the ratio of weight and mass

Options :

1. g
2. ρ
3. α
4. μ

Question Number : 70 Question Id : 7621614870 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the value of the coefficient of discharge of a venturimeter?

Options :

1. 0.50
2. 0.62
3. 0.75
4. 0.98

Question Number : 71 Question Id : 7621614871 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Name of the type of flow, if $dv/ds = 0$.

Options :

1. Uniform flow
2. Non-uniform flow
3. Steady flow
4. Unsteady flow

Question Number : 72 Question Id : 7621614872 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the non-dimensional number that results when the ratio of inertia force to gravity force is considered?

Options :

1. Reynolds number
2. Froude number
3. Mach number

4. Euler number

Question Number : 73 Question Id : 7621614873 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which model law is to be considered during the model studies pertaining to supersonic areoplanes?

Options :

1. Weber model law
2. Froude model law
3. Mach model law
4. Euler model law

Question Number : 74 Question Id : 7621614874 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Hydraulic jump is

Options :

1. Uniform flow
2. Gradually varied flow
3. Rapidly varied flow
4. Critical flow

Question Number : 75 Question Id : 7621614875 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Bulk modulus of elasticity 'K' of a fluid in terms of mass density (ρ), and in terms of pressure intensity (p) would be

Options :

1. $K = \frac{1}{\rho} \frac{\partial p}{\partial \rho}$

2. $K = \frac{1}{\rho} \frac{\partial \rho}{\partial p}$

3. $K = \rho \frac{\delta \rho}{\delta p}$

4. $K = \rho \frac{\partial p}{\partial \rho}$

Question Number : 76 Question Id : 7621614876 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In case of a turbulent flow, loss of head is proportional to

Options :

1. (Velocity)¹

2. $(\text{Velocity})^2$
3. $(\text{Velocity})^{0.7}$
4. $(\text{Velocity})^{0.5}$

Question Number : 77 Question Id : 7621614877 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In the case of flow over critical slopes, normal depth line and critical depth line

Options :

1. coincide
2. do not coincide
3. are vertical
4. are not possible

Question Number : 78 Question Id : 7621614878 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Water getting into the interstices of soil particles is called

Options :

1. Infiltration
2. Runoff
3. Evaporation
4. Transpiration

Question Number : 79 Question Id : 7621614879 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

By using the price current meter, which of the following parameters of the stream gaging can be measured?

Options :

1. Electric current in amperes
2. Discharge
3. Velocity
4. Depth

Question Number : 80 Question Id : 7621614880 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Hundred times the ratio of the volume of ground water held against gravity drainage and the total volume of the material drained is known as

Options :

1. Retention
2. Specific retention

3. Net retention
4. Gross-retention

Question Number : 81 Question Id : 7621614881 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is a canal escape?

Options :

1. It is a structure constructed at the intersection of a canal and a natural stream of water along at the same level as that canal
2. It is a device through which silt in a canal is allowed to escape.
3. It is a channel meant for allowing the surplus water from the canal into a nearby drainage
4. It is term used for breaching the canal bank and the consequent of water.

Question Number : 82 Question Id : 7621614882 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If water supplied continuously (at the rate of one cumec) to an area which is to be irrigated for a base period (B) of a crop matures an area D, then 'D' is called

Options :

1. Irrigated area
2. Duty
3. Delta
4. Command area

Question Number : 83 Question Id : 7621614883 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If ' Δ ' represents delta in meters, 'D' represents duty in hectares per cumec and 'B' represents base period of a crop in days, then, the equation connecting them would be

Options :

1. $\Delta = \frac{8.64B}{D}$
2. $\Delta = \frac{864B}{D}$
3. $\Delta = \frac{864D}{B}$
4. $\Delta = \frac{8.64D}{B}$

Question Number : 84 Question Id : 7621614884 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The area on which irrigation is possible out of the GCA (Gross command area) is called

Options :

1. Area to be irrigated
2. Cultivable Command area
3. Net irrigated area
4. Grass irrigated area

Question Number : 85 Question Id : 7621614885 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What type of canal is aligned along the natural watershed line ?

Options :

1. Contour canal
2. Ridge canal
3. Side slope canal
4. Protective

Question Number : 86 Question Id : 7621614886 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What type of dam is constructed using the hydraulic fill method?

Options :

1. Arch dam
2. Concrete gravity dam
3. Masonry gravity dam
4. Earthen dam

Question Number : 87 Question Id : 7621614887 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The ratio of the quality of water stored at the root zone of crops to the quality of water delivered into the field is called

Options :

1. Efficiency of water application, η_a
2. Efficiency of water storage, η_s
3. Efficiency of water use, η_u
4. Efficiency of water conveyance, η_e

Question Number : 88 Question Id : 7621614888 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The presence of calcium chloride and magnesium chloride in water causes

Options :

1. Odour

2. Turbidity
3. Hardness
4. Coagulation

Question Number : 89 Question Id : 7621614889 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The P^H -value of sewage is determined with the aid of

Options :

1. Potensio meter
2. Turbidi meter
3. Imhoff cone
4. Calori meter

Question Number : 90 Question Id : 7621614890 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Waste water from kitchens and bathrooms of residential buildings is called

Options :

1. Sewage
2. Domestic effluent
3. Sullage
4. Sludge

Question Number : 91 Question Id : 7621614891 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The hydraulic means radius of a circular sewer of diameter 'D' is given by

Options :

1. $\frac{D}{4}$
2. $\frac{D}{2}$
3. $\frac{D}{3}$
4. $\frac{D}{6}$

Question Number : 92 Question Id : 7621614892 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The periodicity of cleaning of grit chambers in sewage treatment plants is generally

Options :

1. 15 days

2. 10 days
3. 5 days
4. 2 days

Question Number : 93 Question Id : 7621614893 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The relative stability of a sewage sample, with a dissolved oxygen content equal to the total oxygen required to satisfy its BOD, is

Options :

1. 1%
2. Zero
3. 50%
4. 100%

Question Number : 94 Question Id : 7621614894 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Air binding may occur in

Options :

1. Aerators
2. Sludge digestion chambers
3. Sewers
4. Filters

Question Number : 95 Question Id : 7621614895 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Minimum dissolved oxygen required to support aquatic life is

Options :

1. 8 ppm
2. 2 ppm
3. 4 ppm
4. 12 ppm

Question Number : 96 Question Id : 7621614896 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The ratio of the 5-day BOD of sewage to its ultimate BOD is approximately

Options :

1. $3/5$
2. $3/4$
3. $2/3$
4. $4/5$

Question Number : 97 Question Id : 7621614897 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A Sewer is designed to attain self-cleaning velocity at

Options :

1. Minimum hourly flow
2. Peak hourly flow
3. Average hourly flow
4. Average daily flow

Question Number : 98 Question Id : 7621614898 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Under normal conditions, the percentage of BOD removal during primary treatment is about

Options :

1. 30%
2. 10%
3. 70%
4. 85%

Question Number : 99 Question Id : 7621614899 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Land disposal of solid wastes may require

Options :

1. Leachate control only
2. Gas control only
3. Incineration only
4. Leachate and Gas control

Question Number : 100 Question Id : 7621614900 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Separation of solid wastes of different densities is done by

Options :

1. Air Classifiers
2. Screens
3. Shredders
4. Magnetic devices

Question Number : 101 Question Id : 7621614901 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The primary pollutant caused by incomplete combustion of organic matter is

Options :

1. Carbon dioxide
2. Sulphur dioxide
3. Carbon monoxide
4. Sulphur trioxide

Question Number : 102 Question Id : 7621614902 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The range of sound level of a jet aircraft at take-off stage is around

Options :

1. 80 – 90 dB
2. 90 – 100 dB
3. 100 – 110 dB
4. 70 - 80 dB

Question Number : 103 Question Id : 7621614903 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In calculating the sight distance, the height of an obstruction above the road surface is assumed as

Options :

1. 100 cm
2. 75 cm
3. 120 cm
4. 50 cm

Question Number : 104 Question Id : 7621614904 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For multi-lane highways, IRC recommends a lane width of

Options :

1. 3 m
2. 3.2 m
3. 3.5 m
4. 3.75 m

Question Number : 105 Question Id : 7621614905 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The steepest gradient on a high way is the

Options :

1. Ruling gradient
2. Exceptional Gradient
3. Minimum gradient

4. Limiting gradient

Question Number : 106 Question Id : 7621614906 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The points at which a curve starts and ends are called the points of

Options :

1. Curvature
2. Tangency
3. Start and End
4. Transition

Question Number : 107 Question Id : 7621614907 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A binder coat placed on an existing surface in order to provide bond with any new construction to be laid on top is called

Options :

1. Base coat
2. Track coat
3. Seal coat
4. Prime coat

Question Number : 108 Question Id : 7621614908 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The removal of material from the road surface by rubbing action or grinding is called

Options :

1. Pot hole
2. Abrasion
3. Scaling
4. Crushing

Question Number : 109 Question Id : 7621614909 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The length of the road way between adjacent radial routes around a traffic round about is called

Options :

1. Chord length
2. Arc length
3. Wearing length
4. Radial length

Question Number : 110 Question Id : 7621614910 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The wheels of rolling stock are provided with flanges on

Options :

1. The outer side only
2. The inner side only
3. Both inner and outer side
4. Neither inner side nor outer side

Question Number : 111 Question Id : 7621614911 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The force which resists the movement of a train is called

Options :

1. Frictional force
2. Track modulus
3. Tractive resistance
4. Hauling resistance

Question Number : 112 Question Id : 7621614912 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Disc signals are provided for the purpose of

Options :

1. Slowing down vehicles
2. Indicating lack of Platform
3. Indicating caution
4. Shunting operations

Question Number : 113 Question Id : 7621614913 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The equilibrium super elevation in cm for a broad gauge track (in terms of V: km/design speed, R: radius of curve)

Options :

1. $1.35V^2/R$
2. V^2/R
3. $0.80 V^2/R$
4. $0.60 V^2/R$

Question Number : 114 Question Id : 7621614914 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

When the true value of a quantity is not known, the best estimate of its value is called

Options :

1. Most probable value
2. Probable value
3. Most accurate value
4. Accurate value

Question Number : 115 Question Id : 7621614915 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The whole circle bearing corresponding to a reduced bearing of $N45^{\circ} 15' E$ is

Options :

1. $135^{\circ} 15'$
2. $225^{\circ} 15'$
3. $45^{\circ} 15'$
4. $315^{\circ} 15'$

Question Number : 116 Question Id : 7621614916 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The imaginary line passing through the intersection of the cross-hairs and the optical centre of the objective is known as the

Options :

1. Line of Collimation
2. Line of sight
3. Axis of telescope
4. Axis of the objective

Question Number : 117 Question Id : 7621614917 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The anallatic lens provided in a tachometer is

Options :

1. Plano-convex lens
2. Concave lens
3. Convex lens
4. Plane lens

Question Number : 118 Question Id : 7621614918 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The most accurate instrument for measuring horizontal and vertical angles is

Options :

1. Theodolite
2. Dumpy level meter

3. Plano meter
4. Grapho meter

Question Number : 119 Question Id : 7621614919 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The most accurate method of setting out of circular curve with a Theodolite is

Options :

1. Rankine's method
2. Gales method
3. Abraham's method
4. Coulomb's method

Question Number : 120 Question Id : 7621614920 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Differences in elevation between consecutive points on a vertical curve are called

Options :

1. Line Gradient
2. Chord Gradient
3. Side Gradient
4. Vertical Gradient