

Telangana State Council Higher Education

Notations :

- Options shown in green color and with ✓ icon are correct.
- Options shown in red color and with ✗ icon are incorrect.

Question Paper Name :	Civil Engineering 1st Jun 2026 Shift 2
Subject Name :	Civil Engineering
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Civil Engineering

Group Number :	1
Group Id :	10513147
Group Maximum Duration :	0
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Show Attended Group? :	No
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Break time :	0
Group Marks :	120

Mathematics

Section Id :	105131103
Section Number :	1
Section type :	Online

Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	10
Section Marks :	10
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	105131103
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 1051316001 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Let A be a real symmetric matrix. $\lambda_1, \lambda_2 (\lambda_1 \neq \lambda_2)$ be two eigen values of A and X_1, X_2 are respectively the eigen vectors of A corresponding to λ_1 and λ_2 , then $X_1^T X_2 =$

Options :

- ✗ $X_2^T X_1 \neq 0$
- ✗ $X_1 X_2^T X_1 = 0$
- ✗ $X_2 X_1^T X_2 = 0$
- ✓ $X_2^T X_1 = 0$

Question Number : 2 Question Id : 1051316002 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The system of equations $x + 4y + 6z = 20$, $x + y + z = 6$ and $x + \lambda y + 6z = 20$ has

Options :

- ✓ Solution for any value of λ
- ✗ No solution for $\lambda = 4$
- ✗ Unique solution for $\lambda = 4$
- ✗ Infinite solutions for $\lambda \neq 4$

Question Number : 3 Question Id : 1051316003 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $f(x, y, z) = e^{1-y\cos x} + yze^{\frac{-1}{1+x^2}}$, then $\frac{\partial f}{\partial y}$ at $(0, 1, e)$ is

Options :

1. ✖ 1
2. ✖ e
3. ✖ e^{-1}
4. ✔ 0

Question Number : 4 Question Id : 1051316004 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Let $\vec{F} = x^2yz\vec{i} + y^2z\vec{j} + zx^3y\vec{k}$ be a vector point function. Let S be the surface of the sphere $x^2 + y^2 + z^2 = a^2$. Then $\oint_S \text{Curl } \vec{F} \cdot \vec{N} ds =$

($\vec{N}$ is any unit outward normal vector to S)

Options :

1. ✖ $2\pi a^2$
2. ✖ $\frac{4}{3}\pi a^3$
3. ✖ 4π
4. ✔ 0

Question Number : 5 Question Id : 1051316005 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the Laplace transform of $f(t)$ and $f'(t)$ exist and $F(s)$ is Laplace transform of $f(t)$ then $\lim_{s \rightarrow \infty} sF(s) =$

Options :

1. ✖ $f(0)f'(0)$
2. ✖ $f(0)+f'(0)$
3. ✖ $f'(0)$
4. ✔ $f(0)$

Question Number : 6 Question Id : 1051316006 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Let $f(t) = \begin{cases} \sin t, & 0 \leq t \leq \pi \\ 0, & t > \pi \end{cases}$. Laplace transform of $f(t)$ is

Options :

1. ✖ $\frac{1}{s^2+1}$
2. ✖ $\frac{e^{-\pi s}}{s^2+1} (s > 0)$
3. ✔ $\frac{e^{-\pi s}+1}{s^2+1} (s > 0)$
4. ✖ $\frac{e^{-\pi s}+e^{-\pi}}{s^2+1} (s > 0)$

Question Number : 7 Question Id : 1051316007 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Let X be a discrete random variable, μ be its mean, $P(X=x)$ is the probability function. The variance of X is

Options :

1. ✖ $\sum x^2 P(X=x) - \sum x (P(X=x))^2$
2. ✖ $\sum (x-\mu) P(X=x)$
3. ✔ $\sum x^2 P(X=x) - \mu^2$
4. ✖ $\sum x^2 P(X=x) - (\sum x)^2$

Question Number : 8 Question Id : 1051316008 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a Poisson distribution, $P(X=x+k) = \frac{\lambda^k}{f(x)} P(X=x)$, then $f(x) =$

Options :

1. ✖ $\frac{e^{-\lambda} \lambda^x}{x!}$
2. ✖ $\frac{e^{-\lambda} \lambda^{x+k}}{(x+k)!}$
3. ✔ $(x+k)(x+k-1).....(x+1)$
4. ✖ $\frac{(x+k)(x+k-1).....(x+1)}{x!}$

Question Number : 9 Question Id : 1051316009 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $\frac{dy}{dx} = xy + x$, $x \in \mathbb{R}$ and $y(0) = 1$, then $y(0.2)$ with step size $h = 0.1$ using Euler's method is

Options :

1. ✖ 1.01

2. ✖ 1.1

3. ✔ 1.02

4. ✖ 1.2

Question Number : 10 Question Id : 1051316010 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the initial guess of the solution of $1 + x - x^3 = 0$ is $x_0 = 1$, then the 2nd approximate root of $1 + x - x^3 = 0$ using Newton Raphson method is

Options :

1. ✖ 2

2. ✖ $\frac{3}{2}$

3. ✔ $\frac{31}{23}$

4. ✖ $\frac{15}{8}$

Civil Engineering

Section Id :	105131104
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory

Number of Questions :	110
Number of Questions to be attempted :	110
Section Marks :	110
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	105131104
Question Shuffling Allowed :	Yes

Question Number : 11 Question Id : 1051316011 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The following support will restrict the movement of the rigid body in all the directions

Options :

1. ✓ Built-in-support
2. ✗ Knife edge support
3. ✗ Hinge support
4. ✗ Roller support

Question Number : 12 Question Id : 1051316012 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A car is moving along straight horizontal road with speed of 20 m/s. If the coefficient of friction between tyres and roads is 0.4, then the shortest distance in which the car can stop is

(Take $g = 10 \text{ m/s}^2$)

Options :

1. ✗ 60 m
2. ✗ 40 m
3. ✗ 80 m
4. ✓ 50 m

Question Number : 13 Question Id : 1051316013 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Locate the centroid of a semicircle arc about its horizontal base, which is symmetric about its vertical axis and diameter of the arc is 18π cm.

Options :

1. ✖ 36 cm
2. ✖ 24 cm
3. ✔ 18 cm
4. ✖ 12 cm

Question Number : 14 Question Id : 1051316014 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the horizontal effort P is applied to a body of weight W and is about to move up on the rough inclined plane whose angle of inclination with the horizontal is α , then the effort $P =$

(Where μ = coefficient of friction between the plane and the body, ϕ = friction angle)

Options :

1. ✖ $P = W \tan \alpha$
2. ✔ $P = W \tan (\alpha + \phi)$
3. ✖ $P = W (\sin \alpha + \mu \cos \alpha)$
4. ✖ $P = W (\cos \alpha + \mu \sin \alpha)$

Question Number : 15 Question Id : 1051316015 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The ratio of moment of inertia of a triangle and that of rectangle having same base and height with respect to their bases will be

Options :

1. ✖ 4 : 1
2. ✔ 1 : 4
3. ✖ 12 : 1
4. ✖ 1 : 12

Question Number : 16 Question Id : 1051316016 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Two bars of different materials and same size are subjected to the same tensile force. If the bars have unit elongation in the ratio of 2:5, then the ratio of modulus of elasticity of the two materials will be

Options :

1. ✖ 2:5
2. ✔ 5:2
3. ✖ 4:3
4. ✖ 3:4

Question Number : 17 Question Id : 1051316017 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A body is subjected to a tensile stress of 1200 MPa on one plane and another tensile stress of 600 MPa on a plane at right angles to the former. It is also subjected to shear stress of 400 MPa on the same planes. The maximum normal stress will be

Options :

1. ✖ 400 MPa
2. ✖ 500 MPa

- 3. ✖ 900 MPa
- 4. ✔ 1400 MPa

Question Number : 18 Question Id : 1051316018 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A cantilever of length L carries a point load W at the free end. The bending moment diagram will be

Options :

- 1. ✔ Triangle with maximum ordinate at the fixed end
- 2. ✖ Parabola with maximum ordinate at the fixed end
- 3. ✖ Triangle with maximum ordinate at the free end
- 4. ✖ Parabola with maximum ordinate at the center of the beam

Question Number : 19 Question Id : 1051316019 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In the linear arch an imaginary line that shows the path of compressive forces curving through the arch's center is known as

Options :

- 1. ✔ Line of thrust
- 2. ✖ Line of arch
- 3. ✖ Axis of the arch
- 4. ✖ The springing line

Question Number : 20 Question Id : 1051316020 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The force of friction between the dam and soil to avoid sliding of masonry dam should be more than the water pressure per meter length by atleast

Options :

1. ✖ 3 times
2. ✔ 1.5 times
3. ✖ 2 times
4. ✖ 2.5 times

Question Number : 21 Question Id : 1051316021 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For a linear structural system, minimization of potential energy yields

Options :

1. ✔ Compatibility conditions
2. ✖ Constitutive relations
3. ✖ Equilibrium equations
4. ✖ Strain-displacement relations

Question Number : 22 Question Id : 1051316022 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A uniform beam of length $2L$ and flexural rigidity EI is fixed at both the ends.

What is the moment required at the centre of the span for unit rotation?

Options :

1. ✖ $\frac{2EI}{L}$
2. ✖

$$\frac{4EI}{L}$$

3. ✖ $\frac{6EI}{L}$

4. ✔ $\frac{8EI}{L}$

Question Number : 23 Question Id : 1051316023 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the unknown forces in a system can be determined by the equations of equilibrium alone, then it is called as

Options :

1. ✖ Indeterminate structure
2. ✔ Determinate structure
3. ✖ Degree of indeterminate structure
4. ✖ Degree of redundant structure

Question Number : 24 Question Id : 1051316024 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Match the following

LIST-I		LIST-II	
A	Slope deflection method	I	Force method
B	Moment distribution method	II	Displacement method
C	Method of three moments		
D	Castigliano's second theorem		

The correct answer is

Options :

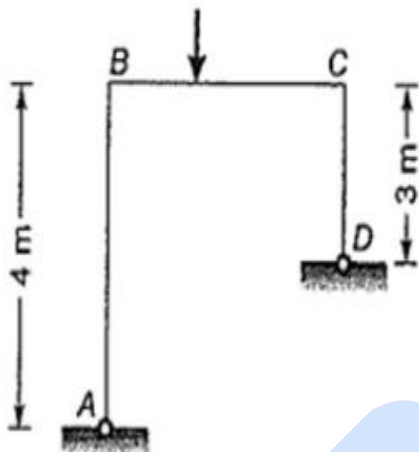
1. ✖ A – I, B – II, C – I, D – II

2. ✖ A – I, B – I, C – II, D – II
3. ✔ A – II, B – II, C – I, D – I
4. ✖ A – II, B – I, C – II, D – I

Question Number : 25 Question Id : 1051316025 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For the frame as shown in the figure below, the final end moment M_{BC} has been calculated as -40 kN-m. What is the end moment M_{CD} ?



Options :

1. ✖ + 40 kN-m
2. ✖ - 40 kN-m
3. ✖ + 30 kN-m
4. ✔ - 30 kN-m

Question Number : 26 Question Id : 1051316026 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Ultimate strength of cement is influenced by

Options :

1. ✖ Tricalcium silicate
2. ✔ Dicalcium silicate
3. ✖ Tricalcium aluminate
4. ✖ Tetracalciumalumino-ferrite

Question Number : 27 Question Id : 1051316027 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A good brick, when immersed in water bath for 24 hours, should not absorb more than

Options :

1. ✔ 20% of its dry weight
2. ✖ 30% of its saturated weight
3. ✖ 10% of its dry weight
4. ✖ 20% of its saturated weight

Question Number : 28 Question Id : 1051316028 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The defect which develops due to uncontrolled and non-uniform loss of moisture from wood is known as

Options :

1. ✖ Knot
2. ✖ Shake
3. ✔ Warping
4. ✖ Cross grain

Question Number : 29 Question Id : 1051316029 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For a given activity, the optimistic time, pessimistic time and the most probable time estimates are 5, 17 and 8 days respectively. The expected time is

Options :

1. ✖ 8 days
2. ✔ 9 days
3. ✖ 10 days
4. ✖ 15 days

Question Number : 30 Question Id : 1051316030 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The Slack time in PERT analysis

Options :

1. ✖ Can never be greater than zero
2. ✖ Is always zero for critical activities
3. ✖ Can never be less than zero
4. ✔ Is minimum for critical events

Question Number : 31 Question Id : 1051316031 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Flexural collapse in over reinforced beams is due to

Options :

1. ✖ Primary compression failure
2. ✔ Secondary compression failure

- 3. ✖ Primary tension failure
- 4. ✖ Bond failure

Question Number : 32 Question Id : 1051316032 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In the limit state approach, the spacing of main reinforcement primarily controls

Options :

- 1. ✖ Collapse
- 2. ✔ Cracking
- 3. ✖ Deflection
- 4. ✖ Durability

Question Number : 33 Question Id : 1051316033 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The chances of diagonal tension cracks in R.C.C. members reduce when

Options :

- 1. ✔ Axial compression and shear force act simultaneously
- 2. ✖ Axial tension and shear force act simultaneously
- 3. ✖ Only shear force acts
- 4. ✖ Flexural and shear force acts

Question Number : 34 Question Id : 1051316034 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Vertical prestressing is done to reduce

Options :

1. ✖ Frictional losses
2. ✖ Creep losses
3. ✔ Principal tensile stress
4. ✖ Anchorage Slip loss

Question Number : 35 Question Id : 1051316035 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Workability of concrete mix having very low water-cement ratio has to be ascertained by

Options :

1. ✖ Slump test
2. ✖ Bending test
3. ✖ Compression test
4. ✔ Compaction factor test

Question Number : 36 Question Id : 1051316036 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a steel plate with bolted connection, the rupture of the net section is a mode of failure under

Options :

1. ✔ Tension
2. ✖ Compression
3. ✖ Flexure

4. ✖ Shear**Question Number : 37 Question Id : 1051316037 Question Type : MCQ Option Shuffling : Yes****Display Question Number : Yes****Correct Marks : 1 Wrong Marks : 0**

In a plate girder, the web plate is connected to the flange plates by fillet welding. The size of the fillet welds is designed to safely resist

Options :

1. ✖ The bending stress in the flange
2. ✖ The vertical shear force at the section
3. ✔ The horizontal shear force between the flanges and the web plate
4. ✖ The forces causing the buckling

Question Number : 38 Question Id : 1051316038 Question Type : MCQ Option Shuffling : Yes**Display Question Number : Yes****Correct Marks : 1 Wrong Marks : 0**

In the design of lacing system for a built-up steel column, the maximum allowable slenderness ratio of lacing bar is

Options :

1. ✖ 120
2. ✔ 145
3. ✖ 180
4. ✖ 250

Question Number : 39 Question Id : 1051316039 Question Type : MCQ Option Shuffling : Yes**Display Question Number : Yes****Correct Marks : 1 Wrong Marks : 0**

When designing steel structures, one must ensure that the local buckling in webs do not take place. This check may not be very critical when using rolled steel sections because

Options :

1. ✖ Quality control at the time of manufacturing of rolled section is very good
2. ✖ Web depths available are small
3. ✖ Web stiffeners are in built in rolled sections
4. ✔ Depth to thickness ratio (of the web) are appropriately adjusted

Question Number : 40 Question Id : 1051316040 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following element of a pitched roof industrial steel building, primarily resists lateral load parallel to the ridge?

Options :

1. ✔ Bracings
2. ✖ Purlins
3. ✖ Truss
4. ✖ Columns

Question Number : 41 Question Id : 1051316041 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The water forms a thin film around soil particles due to loose chemical bonds of adsorption is termed as

Options :

1. ✖ Capillary water
2. ✖ Gravity water

- 3. ✓ Hygroscopic water
- 4. ✗ Field capacity

Question Number : 42 Question Id : 1051316042 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A sand sample has a porosity of 30% and specific gravity of solids as 2.6. What is its degree of saturation at moisture content of 4.94 %?

Options :

- 1. ✗ 40 %
- 2. ✗ 35 %
- 3. ✓ 30 %
- 4. ✗ 25 %

Question Number : 43 Question Id : 1051316043 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

As per the Indian Standard soil classification system, a sample of clay with liquid limit of 40% is classified as

Options :

- 1. ✗ CH
- 2. ✓ CI
- 3. ✗ CL
- 4. ✗ CL-ML

Question Number : 44 Question Id : 1051316044 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The total, neutral and effective vertical stresses (in t/m^2) at a depth of 5m below the surface of a fully saturated soil deposit with saturated density of 2 t/m^2 would, respectively be

Options :

1. ✖ 5, 5 and 10
2. ✖ 5, 10 and 5
3. ✖ 10, 5 and 10
4. ✔ 10, 5 and 5

Question Number : 45 Question Id : 1051316045 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A stratified soil deposit has three layers of thicknesses $z_1 = 4$, $z_2 = 1$, $z_3 = 2$ units and the corresponding permeabilities of $k_1 = 2$, $k_2 = 1$ and $k_3 = 4$ units, respectively. The average permeability perpendicular to the bedding planes will be

Options :

1. ✖ 4
2. ✔ 2
3. ✖ 8
4. ✖ 16

Question Number : 46 Question Id : 1051316046 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

When a dry sand specimen tested in a triaxial test at 50 kPa, cell pressure gave a deviation stress 100 kPa at failure. The angle of internal friction of sand is

Options :

1. ✖ 15°

2. ✓ 30°

3. ✗ 45°

4. ✗ 56°

Question Number : 47 Question Id : 1051316047 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A soil yielded a maximum dry unit weight of 18 kN/m^3 at a moisture content of 16% during a Standard Proctor Test. What is the degree of saturation of the soil if its specific gravity is 2.7? (Take $\gamma_w = 10 \text{ kN/m}^3$)

Options :

1. ✗ 98.42%

2. ✓ 86.40%

3. ✗ 84.32%

4. ✗ 75.71%

Question Number : 48 Question Id : 1051316048 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the Boussinesq's vertical stress at a point 1 m directly below a concentrated load of 200 kN applied at the ground surface?

Options :

1. ✗ 53.1 kN/m^2

2. ✓ 95.54 kN/m^2

3. ✗ 47.7 kN/m^2

4. ✗ 23.85 kN/m^2

Question Number : 49 Question Id : 1051316049 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A clay layer of thickness 4 m is sandwiched between two pervious layers. The maximum drainage path in the clay layer is

Options :

1. ✓ 2 m
2. ✗ 4 m
3. ✗ 1 m
4. ✗ 0.4 m

Question Number : 50 Question Id : 1051316050 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the coefficient of permeability is doubled and the coefficient of volume compressibility is simultaneously halved, the coefficient of consolidation

Options :

1. ✗ Increase by 2 times
2. ✗ Decrease by 2 times
3. ✓ Increase by 4 times
4. ✗ Decrease by 4 times

Question Number : 51 Question Id : 1051316051 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a Mohr's diagram, a point above Mohr's envelope indicates

Options :

1. ✓ Imaginary condition

2. ✖ Safe condition
3. ✖ Imminent failure condition
4. ✖ Condition of maximum obliquity

Question Number : 52 Question Id : 1051316052 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The un-confined compressive strength of a soil in an un-disturbed and disturbed state is found to be 100 kPa and 50 kPa respectively. What is the sensitivity of the soil?

Options :

1. ✖ 0.50
2. ✖ 0.20
3. ✖ 1.50
4. ✔ 2.00

Question Number : 53 Question Id : 1051316053 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The width and depth of a footing are 2 m and 1.5 m respectively. The water table at the site is at a depth of 3 m below the ground level. The water table correction factor for the calculation of the bearing capacity of soil is

Options :

1. ✔ 0.750
2. ✖ 1.000
3. ✖ 0.925
4. ✖ 0.875

Question Number : 54 Question Id : 1051316054 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Match the following

Boring methods		Field conditions	
A	Auger Boring	I	Below water table in all soil types except hard soils and rocks
B	Wash Boring	II	Large diameter bore holes over 150 mm in size
C	Percussion Drilling	III	Exploration for shallow foundations and highways
D	Rotary Drilling	IV	Bouldery and gravelly strata

The correct answer is

Options :

1. ✓ A-III, B-I, C-IV, D-II
2. ✗ A-I, B-II, C-IV, D-III
3. ✗ A-II, B-III, C-IV, D-I
4. ✗ A-III, B-I, C-II, D-IV

Question Number : 55 Question Id : 1051316055 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The effect of cohesion on a soil is to

Options :

1. ✗ Reduce both active and passive earth pressure intensities
2. ✗ Increase both active and passive earth pressure intensities
3. ✓ Reduce active earth pressure intensity but to increase passive earth pressure intensity
4. ✗ Increase active earth pressure intensity but to reduce passive earth pressure intensity

Question Number : 56 Question Id : 1051316056 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The contact pressure distribution below a rigid footing on the surface of a clay soil is

Options :

1. ✖ Uniform for the full width
2. ✔ Maximum at the edges and minimum at the center
3. ✖ Maximum at the center and minimum at the edges
4. ✖ Maximum at half of the length

Question Number : 57 Question Id : 1051316057 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A plate load test was conducted in clay on a 300 mm diameter plate. If the plate settlement was 18 mm at a pressure of 100 kPa, then the settlement (in mm) of a 2 m wide rectangular footing at the same pressure will be

Options :

1. ✖ 15
2. ✖ 30
3. ✖ 60
4. ✔ 120

Question Number : 58 Question Id : 1051316058 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If an infinite slope of clay at a depth 5 m has cohesion of 1 t/m² and unit weight of 2 t/m³, then the stability number will be

Options :

1. ✔ 0.1

2. ✖ 0.2

3. ✖ 0.3

4. ✖ 0.4

Question Number : 59 Question Id : 1051316059 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A 30 cm diameter friction pile is embedded 10 m into a homogeneous consolidated clay deposit. Unit skin friction developed between clay and pile shaft is 7 t/m^2 and adhesion factor is 0.7. Assuming end bearing is zero, the safe load for factor of safety of 3 will be

Options :

1. ✖ 7.7 t

2. ✖ 15.4 t

3. ✔ 22 t

4. ✖ 11 t

Question Number : 60 Question Id : 1051316060 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The load carrying capacity of an individual friction pile is 200 kN. What is the total load carrying capacity of a group of 9 such piles with group efficiency factor of 0.8?

Options :

1. ✖ 1800 kN

2. ✖ 1640 kN

3. ✔ 1440 kN

4. ✖ 900 kN

Question Number : 61 Question Id : 1051316061 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The ratio of specific weight of a liquid to the specific weight of pure water at a standard temperature is called

Options :

1. ✖ Density of liquid
2. ✔ Specific gravity of liquid
3. ✖ Compressibility of liquid
4. ✖ Surface tension of liquid

Question Number : 62 Question Id : 1051316062 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A vertical wall of height 6 m is subjected to a pressure by a liquid of height 4 m on one of its sides. The total pressure from the liquid surface acts at a distance of

Options :

1. ✖ $\frac{4}{3}$ m
2. ✖ 2 m
3. ✔ $\frac{8}{3}$ m
4. ✖ 4 m

Question Number : 63 Question Id : 1051316063 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The metacentric height is the distance between the

Options :

1. ✖ Centre of gravity of the floating body and the centre of buoyancy
2. ✔ Centre of gravity of the floating body and the metacentre
3. ✖ Metacentre and centre of buoyancy
4. ✖ Original centre of buoyancy and new centre of buoyancy

Question Number : 64 Question Id : 1051316064 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The power transmitted through the pipe is maximum when the head lost due to friction is equal to

Options :

1. ✖ One-fourth of the total supply head
2. ✔ One-third of the total supply head
3. ✖ One-half of the total supply head
4. ✖ Two-third of the total supply head

Question Number : 65 Question Id : 1051316065 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For a given discharge, the critical flow depth in an open channel depends on

Options :

1. ✔ Channel geometry only
2. ✖ Channel geometry and bed slope
3. ✖ Channel geometry, bed slope and roughness
4. ✖ Channel geometry, bed slope, roughness and Reynolds number

Question Number : 66 Question Id : 1051316066 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The Euler's number is the ratio of the inertia force to the

Options :

1. ✓ Pressure force
2. ✗ Elastic force
3. ✗ Surface tension force
4. ✗ Viscous force

Question Number : 67 Question Id : 1051316067 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In order to avoid cavitation in centrifugal pumps

Options :

1. ✓ The suction pressure should be high
2. ✗ The delivery pressure should be high
3. ✗ The suction pressure should be low
4. ✗ The delivery pressure should be low

Question Number : 68 Question Id : 1051316068 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Inconsistency of rainfall data can be checked by

Options :

1. ✗ Normal ratio method
2. ✗ Mass curve method

3. ✓ Double-mass curve method
4. ✗ Depth duration frequency curve

Question Number : 69 Question Id : 1051316069 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Steep rise in the flow-mass curve during a certain period indicates

Options :

1. ✗ Very high evaporation losses during that period
2. ✓ Flash floods during that period
3. ✗ Sudden spurt in irrigation demand during that period
4. ✗ Sudden rise in demand for water to meet hydropower generation

Question Number : 70 Question Id : 1051316070 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A 6-hour rainstorm with hourly intensities of 7, 18, 25, 17, 11 and 3 mm/hour produced a runoff of 39 mm. Then, ϕ -index (in mm/hour) is

Options :

1. ✗ 3
2. ✗ 8
3. ✓ 7
4. ✗ 10

Question Number : 71 Question Id : 1051316071 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A peak flow of a flood hydrograph due to a six-hour storm is $470 \text{ m}^3/\text{s}$. The corresponding average depth of rainfall is 8 cm. Assume infiltration loss of 0.25 cm/hour and a constant base flow of $15 \text{ m}^3/\text{s}$. What is the peak discharge of 6 hour unit hydrograph for this catchment?

Options :

1. ✖ $60 \text{ m}^3/\text{s}$
2. ✔ $70 \text{ m}^3/\text{s}$
3. ✖ $80 \text{ m}^3/\text{s}$
4. ✖ $90 \text{ m}^3/\text{s}$

Question Number : 72 Question Id : 1051316072 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The base period is 100 days and the duty of the canal is 1000 hectares per cumecs, the depth of water will be

Options :

1. ✖ 0.864 cm
2. ✖ 8.64 cm
3. ✔ 86.4 cm
4. ✖ 864 cm

Question Number : 73 Question Id : 1051316073 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

During a particular stage of the growth of a crop, consumptive use of water is 2 to 8 mm/day. If the amount of water available in the soil is 25% of 80 mm depth of water. What is the minimum and maximum frequency of irrigation?

Options :

1. ✖ 2.5 days and 20 days
2. ✔ 2.5 days and 10 days
3. ✖ 5 days and 10 days
4. ✖ 5 days and 20 days

Question Number : 74 Question Id : 1051316074 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For medium silt whose average grain size is 0.16 mm, Lacey's silt factor is likely to be

Options :

1. ✖ 0.30
2. ✖ 0.45
3. ✔ 0.70
4. ✖ 1.32

Question Number : 75 Question Id : 1051316075 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The spacing of tile drains to relieve water-logged land is directly proportional to

Options :

1. ✖ Depth of drain below the ground surface
2. ✖ Depth of impervious strata from the drain
3. ✖ Depth of drain below the water level
4. ✔ Coefficient of permeability of the soil to be drained

Question Number : 76 Question Id : 1051316076 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The factor having the maximum effect on per capita demand of water supply of a given town is

Options :

1. ✖ Method of charging of the consumption
2. ✖ Quality of water
3. ✖ System of supply-intermittent or continuous
4. ✔ Industrial demand

Question Number : 77 Question Id : 1051316077 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Two reservoirs at different levels are connected by two parallel pipes of diameter '2d' and 'd'. The ratio of the flows in the larger to smaller pipe is

Options :

1. ✖ $\sqrt{2}:1$
2. ✖ 2:1
3. ✖ 4:1
4. ✔ $4\sqrt{2}:1$

Question Number : 78 Question Id : 1051316078 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Zero hardness of water is achieved by

Options :

1. ✖ Using lime soda process

2. ✖ Excess lime treatment
3. ✔ Ion exchange method
4. ✖ Using excess alum dosage

Question Number : 79 Question Id : 1051316079 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A river is the source of water for water supply to a town. Its water is very turbid and polluted. The correct sequence of steps for treating the river water would be

Options :

- Pre-sedimentation → pre-chlorination → coagulation → sedimentation → filtration →
1. ✔ post chlorination
 2. ✖ Coagulation → sedimentation → post-chlorination
 3. ✖ Coagulation → filtration → sedimentation → post-chlorination
 4. ✖ Sedimentation → post-chlorination

Question Number : 80 Question Id : 1051316080 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The filters which produce water of higher bacteriological quality is

Options :

1. ✔ Slow sand filter
2. ✖ Rapid sand filter
3. ✖ Pressure filter
4. ✖ Dual media filter

Question Number : 81 Question Id : 1051316081 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

How much bleaching powder is needed to chlorinate 5000 litres of water whose chlorine demand is 2 mg/l, assuming that the bleaching powder has 25% available chlorine?

Options :

1. ✘ 4 g
2. ✔ 40 g
3. ✘ 140 g
4. ✘ 400 g

Question Number : 82 Question Id : 1051316082 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The treatment which employs mechanical and hydraulic separation principles is known as

Options :

1. ✔ Primary treatment
2. ✘ Secondary treatment
3. ✘ Tertiary treatment
4. ✘ Aeration process

Question Number : 83 Question Id : 1051316083 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The ultimate BOD value of a waste

Options :

1. ✘ Increases with temperature

2. ✖ Decreases with temperature
3. ✔ Remains the same at all temperatures
4. ✖ Doubles with every 10°C rise in temperature

Question Number : 84 Question Id : 1051316084 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Fresh sludge has moisture content of 99% and, after thickening, its moisture content is reduced to 96%. The reduction in volume of sludge is

Options :

1. ✖ 3%
2. ✖ 5%
3. ✔ 75%
4. ✖ 97%

Question Number : 85 Question Id : 1051316085 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a high rate trickling filter, the problem of ponding can be solved by

Options :

1. ✖ Flooding and raking
2. ✖ Chlorination and supply of air
3. ✖ Flooding and supply of air
4. ✔ Raking and chlorination

Question Number : 86 Question Id : 1051316086 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which one of the following plume behaviours occurs when atmospheric inversion begins from the ground level and continues?

Options :

1. ✖ Looping
2. ✖ Fumigation
3. ✖ Coning
4. ✔ Fanning

Question Number : 87 Question Id : 1051316087 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In urban air pollution, the most poisonous gas is supposed to be carbon monoxide. It is hazardous because it

Options :

1. ✖ Affects our sense of smell
2. ✖ Is carcinogenic in nature
3. ✔ Combines with hemoglobin
4. ✖ Causes blindness

Question Number : 88 Question Id : 1051316088 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What type of noise can be abated by providing lining on walls and ceiling with sound absorbing materials?

Options :

1. ✖ Source noise

2. ✓ Reflection noise
3. ✗ Structural noise
4. ✗ Direct air-borne noise

Question Number : 89 Question Id : 1051316089 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What will be the resultant decibel level when two sources make noise of equal decibels?

Options :

1. ✗ Decibel level will be the same
2. ✓ Decibel level will increase by 3 decibels
3. ✗ Decibel level will decrease by 3 decibels
4. ✗ Decibel level will be equal to the sum of decibels of the two sources

Question Number : 90 Question Id : 1051316090 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following statements are not correct related to ecology?

Options :

- All the physical, chemical and biological factors that a species needs in order to live and reproduce is called ecological niche
1. ✗
 2. ✗ The boundary zone between two ecosystems is known as ecotone
 3. ✗ The forests in the Arctics are known as tundra

- A biome usually has no distinct climate and life forms adapted to that climate. Biome is less extensive and simple than an ecosystem
4. ✓

Question Number : 91 Question Id : 1051316091 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The maximum super elevation to be provided on a road curve is 1 in 15. If the rate of change of super elevation is specified as 1 in 120 and the road width is 10m, then the minimum length of the transition curve on either end will be

Options :

1. ✖ 180 m
2. ✖ 125 m
3. ✔ 80 m
4. ✖ 30 m

Question Number : 92 Question Id : 1051316092 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which one of the following factors is not taken into account for computing braking distance?

Options :

1. ✔ Reaction time
2. ✖ Speed
3. ✖ Coefficient of longitudinal friction
4. ✖ Gradient

Question Number : 93 Question Id : 1051316093 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A vehicle was stopped in two seconds by fully jamming the breaks. The skid marks measured 9.8 metres. The average skid resistance coefficient will be

Options :

1. ✖ 0.7

2. ✓ 0.5

3. ✗ 0.4

4. ✗ 0.25

Question Number : 94 Question Id : 1051316094 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A summit curve is formed at the intersection of a 3% up gradient and 5% down gradient. The deviation angle is

Options :

1. ✗ 0.03

2. ✓ 0.08

3. ✗ 0.02

4. ✗ 0.04

Question Number : 95 Question Id : 1051316095 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

While driving at a speed of 30 kmph (with available friction 0.4) down the grade, the driver requires a braking distance twice that required for stopping the vehicle when he travels up the same grade. The grade is

Options :

1. ✗ 7%

2. ✗ 10.6%

3. ✓ 13.3%

4. ✗ 33.3%

Question Number : 96 Question Id : 1051316096 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A 3% downgrade curve is followed by a 1% upgrade curve and rate of change of grade adopted is 0.1% per 20 m length. The length of the respective vertical curve is

Options :

1. ✓ 800 m
2. ✗ 400 m
3. ✗ 200 m
4. ✗ 100 m

Question Number : 97 Question Id : 1051316097 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

When a train passes on curves which have no super elevation, it will give thrust on the

Options :

1. ✗ Inner rail
2. ✗ Outer rail
3. ✗ Inner side of inner rail
4. ✓ Inner side of outer rail

Question Number : 98 Question Id : 1051316098 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The maximum limit of superelevation prescribed by Indian railways on broad gauge is

Options :

1. ✗ 76.2 mm
2. ✗ 83.2 mm
3. ✗ 101.6 mm

4. ✓ 165.1 mm

Question Number : 99 Question Id : 1051316099 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following factor is not considered for estimating the runway length required for aircraft landing?

Options :

1. ✗ Normal maximum temperature
2. ✗ Airport elevation
3. ✓ Maximum landing weight
4. ✗ Effective runway gradient

Question Number : 100 Question Id : 1051316100 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The size of hangar in airport is guided by

Options :

1. ✗ Speed, direction of wind and visibility
2. ✗ Weight of aircraft and turning needs
3. ✗ The fuelling capacity and storage space
4. ✓ The length, wingspan and height of aircraft

Question Number : 101 Question Id : 1051316101 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Traffic capacity is the

Options :

1. ✓ Ability of roadway to accommodate volume in terms of vehicles per hour
Number of vehicles occupying unit length of roadway at a given instant expressed as
2. ✗ vehicles per km
3. ✗ Capacity of lane to accommodate vehicles width wise (across the road)
4. ✗ Maximum attainable speed of the vehicles

Question Number : 102 Question Id : 1051316102 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Travel time and delay studies on a preselected section of a highway are conducted by

Options :

1. ✓ Fast moving car method
2. ✗ Enoscope
3. ✗ Radar
4. ✗ Traffic contours

Question Number : 103 Question Id : 1051316103 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which one of the following methods is most commonly used to measure the thickness of asphalt in the road construction?

Options :

1. ✗ Weighing method
2. ✗ Ultrasonic test
3. ✓ Core drilling

4. ✖ Visual inspection

Question Number : 104 Question Id : 1051316104 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which one of the following traffic survey schemes is most relevant when deciding on locating major routes in a city?

Options :

1. ✖ Traffic volume survey
2. ✔ Origin and destination survey
3. ✖ Speed survey
4. ✖ Traffic capacity survey

Question Number : 105 Question Id : 1051316105 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

When two roads with two-lane, two-way traffic, cross at an uncontrolled intersection, the total number of potential major conflict points would be

Options :

1. ✖ 32
2. ✖ 24
3. ✔ 16
4. ✖ 4

Question Number : 106 Question Id : 1051316106 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

With reference to pavements, which of these following statements is not correct?

Options :

Flexible pavements are more suitable than rigid pavements in regions where subgrade

1. ✓ strength is uneven

Rigid pavements are more suitable than flexible pavements in regions where subgrade

2. ✗ strength is uneven

Load carrying capacity of rigid pavements depends more on the properties of concrete

3. ✗ than the strength of subgrade

Compared to flexible pavements, rigid pavements are more affected by temperature

4. ✗ variations

Question Number : 107 Question Id : 1051316107 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which one of the following binders is recommended for a wet and cold climate?

Options :

1. ✗ 80/100 penetration asphalt

2. ✗ Tar

3. ✗ Cutback

4. ✓ Emulsion

Question Number : 108 Question Id : 1051316108 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The consistency and flow resistance of a sample of bitumen can be determined through the following test?

Options :

1. ✓ Viscosity test

2. ✗ Penetration test

- 3. ✖ Ductility Test
- 4. ✖ Softening Point

Question Number : 109 Question Id : 1051316109 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which one of the following pairs is not correctly matched?

Options :

- 1. ✖ Horizontal curves – Super elevation
- 2. ✖ O and D studies - Desire lines
- 3. ✖ Los Angeles test - Hardness of aggregates
- 4. ✔ Soundness Test-Purity of Bitumen

Question Number : 110 Question Id : 1051316110 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Radius of relative stiffness of cement concrete pavement does not depend upon

Options :

- 1. ✖ Modulus of subgrade reaction
- 2. ✔ Wheel load
- 3. ✖ Modulus of Elasticity of Concrete
- 4. ✖ Poisson's ratio of concrete

Question Number : 111 Question Id : 1051316111 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Offsets are

Options :

1. ✖ Lateral measurements made with respect to main survey lines
2. ✔ Perpendiculars erected from chain lines
3. ✖ Taken to avoid unnecessary walking between stations
4. ✖ Measurements which are not made at right angles to the chain line

Question Number : 112 Question Id : 1051316112 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The length of a survey line when measured with a chain of 20 m nominal length was found to be 841.5 m. If the chain used is 0.1 m too long, the correct length of the measured line is

Options :

1. ✔ 845.7 m
2. ✖ 837.39 m
3. ✖ 843.6 m
4. ✖ 839.4 m

Question Number : 113 Question Id : 1051316113 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following set of terms does not relate to operation of a theodolite?

Options :

1. ✖ Transiting and inverting
2. ✖ Face left and right
3. ✖ Right swing and left swing

4. ✓ Gauging and sounding

Question Number : 114 Question Id : 1051316114 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A sailor, standing on the deck of a ship, just sees the light beam from a lighthouse of the shore. If the height of the sailor's eye and of the light beam at the lighthouse, above the sea level, are 9 m and 25 m respectively, what is the approximate distance between the sailor and the lighthouse?

Options :

1. ✗ 27km

2. ✓ 31km

3. ✗ 35km

4. ✗ 39km

Question Number : 115 Question Id : 1051316115 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For better accuracy in measuring and plotting the sides of a triangle by triangulation, the angles of the triangle

Options :

1. ✗ Should not be more than 30°

2. ✓ Should not be less than 30° or more than 120°

3. ✗ Are not restricted in magnitude

4. ✗ Should not be less than 120°

Question Number : 116 Question Id : 1051316116 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a tilted aerial photograph, if the swing is 230° , then the rotation angle is equal to

Options :

1. ✖ 140°
2. ✖ 130°
3. ✔ 50°
4. ✖ 25°

Question Number : 117 Question Id : 1051316117 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A road section of length 1km scales 8 cm on a vertical photograph. The focal length of the camera is 160 mm. If the terrain is fairly level, then the flying height will be

Options :

1. ✖ 20 m
2. ✔ 2000 m
3. ✖ 20 km
4. ✖ 200 km

Question Number : 118 Question Id : 1051316118 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which one of the following is not strictly a method of remote sensing?

Options :

1. ✖ Thermal and multi spectral scanning
2. ✖ Microwave sensing
3. ✔ Earth resource satellite

4. ✖ Stereoscopy

Question Number : 119 Question Id : 1051316119 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

To uniquely determine the position of the user using GPS, one needs to receive signals from at least

Options :

1. ✖ 1 satellite
2. ✖ 2 satellite
3. ✖ 3 satellite
4. ✔ 4 satellite

Question Number : 120 Question Id : 1051316120 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The observations made over the same area on different dates to monitor ground features like crop growth is called

Options :

1. ✔ Temporal resolution
2. ✖ Radiometric resolution
3. ✖ Spatial resolution
4. ✖ Spectral resolution