## Question No. 1

Find the duration of the project from the given table.

| Activity | Duration | Predecessor |
| :---: | :---: | :---: |
| A | 5 | NIL |
| B | 8 | A |
| C | 7 | A |
| D | 9 | C |
| E | 11 | B, C |
| F | 3 | E |
| G | 4 | C |
| H | 3 | D, G |
| I | 9 | H, F |
| J | 7 | H, I |

$(A) \bigcirc 28$ days
$(B) \bigcirc 39$ days
(C) $\bigcirc 32$ days
(D) $\bigcirc 43$ days (Correct Answer) (Chosen option)

## Question No. 2

Marks: 1.00
Bookmark

Select the INCORRECT statement.
$(A) \bigcirc$ Comparative estimation compares the experience of two experts (Correct Answer) (Chosen option)
(B) $\bigcirc$ Bottom-up estimate gives results better than the top-down estimate
(C) $\bigcirc$ Parametric model estimating method can be used to get the days-perworkstation
(D) $\bigcirc$ Top-down estimate makes use of a high-level work breakdown structure

## Question No. 3

Marks: 1.00
Bookmark
The equation used for the determination of compression index for undisturbed soil is given by:
(A) $\bigcirc$

$$
C_{c}=0007\left(w_{L}-10 \%\right)
$$

(B) $\bigcirc$
(A) $\bigcirc$ IS 456
(B) $\bigcirc$ IS 1035 (Part32)
(C) $\bigcirc$ IS 10500 (2012) (Chosen option)
(D) $\bigcirc$ IS 1172: 1993 (Correct Answer)

## Question No. 5

Marks: 1.00

## Bookmark

Select the INCORRECT statement for the cashbook.
$(A) \bigcirc$ Petty cash book is generally used to keep the record of small amount expenses
(B) $\bigcirc$ Cashbook records all the payments and receipts chronologically
(C) $\bigcirc$ Cashbook performs the functions of the journal but not of the ledger (Correct Answer) (Chosen option)
(D) $\bigcirc$ Cashbook verifies the correctness of cash in hand and bank

## Question No. 6

Marks: 1.00
Bookmark
Indian Roads Congress (IRC) was formed in the year $\qquad$
$(A) \bigcirc 1958$
(B) $\bigcirc 1938$
(C) $\bigcirc 1947$
(D) $\bigcirc 1934$ (Correct Answer) (Chosen option)

## Question No. 7

Marks: 1.00
Bookmark

A core cutter having volume $1000 \mathrm{~cm}^{3}$ weighing 1000 g is used to determine the in-situ density of an embankment. The weight of core cutter full of soil is 2850 g . What is the insitu density of the soil?
(A) $\bigcirc 1.85 \mathrm{~g} / \mathrm{cm}^{3}$ (Correct Answer) (Chosen option)
(B) $\bigcirc 1.65 \mathrm{~g} / \mathrm{cm}^{3}$
(C) $\bigcirc 1.95 \mathrm{~g} / \mathrm{cm}^{3}$
(D) $\bigcirc 1.90 \mathrm{~g} / \mathrm{cm}^{3}$

## Question No. 8

Marks: 1.00
Bookmark

The component of the total force in the direction of motion is called $\qquad$
$(\mathrm{A}) \bigcirc$ cylinder
$(B) \bigcirc$ lift
(C) $\bigcirc$ drag (Correct Answer) (Chosen option)

Question No. 10
Marks: 1.00

Identify the CORRECT order of engineering surveys for highway alignment.
(A) $\bigcirc$ Map study, Reconnaissance survey, Preliminary survey and Final location and Detailed surveys (Correct Answer) (Chosen option)
(B) $\bigcirc$ Reconnaissance survey, Final location and detailed surveys, Map study and Preliminary survey
(C) $\bigcirc$ Final location and detailed surveys, Map study, Reconnaissance survey, Preliminary survey
(D) $\bigcirc$ Preliminary survey, Final location and Detailed surveys, Map study and Reconnaissance survey

Question No. 11
Marks: 1.00
Bookmark
In the laboratory, the density of the soil is checked by:
(A) $\bigcirc$ Le-chatelier apparatus
(B) $\bigcirc$ Casagrande apparatus
(C) $\bigcirc$ Modified Proctor Compaction (Correct Answer) (Chosen option)
(D) $\bigcirc$ Direct Shear Test

## Question No. 12

Marks: 1.00
Bookmark
The maximum shear stress at the neutral axis for the rectangular section is given by:
(A) $\bigcirc 1.8 \mathrm{Tavg}$
(B) $\bigcirc 2.5 \mathrm{~T}$ avg
(C) $\bigcirc 2.0 \mathrm{Tavg}$
(D) $\bigcirc 1.5 \mathrm{~T}_{\mathrm{avg}}$ (Correct Answer) (Chosen option)

## Question No. 13

Marks: 1.00
Bookmark
Distance of an object from survey line is called:
$(A) \bigcirc$ Chainage
(B) Offset (Correct Answer) (Chosen option)
(C) $\bigcirc$ Main line distance
(D) $\bigcirc$ Base line distance

Question No. 14
$(A) \cup$ mechanical means
(B) $\bigcirc$ sinking wells
(C) $\bigcirc$ gravity (Correct Answer) (Chosen option)
(D) $\bigcirc$ pumping

## Question No. 16

Marks: 1.00
Bookmark
Which one of the following factors does the loss of headwater depend on?
$(A) \bigcirc$ Elevation of the highest point of delivery
$(B) \bigcirc$ The type of valves used
(C) $\bigcirc$ Material use for service pipes
(D) $\bigcirc$ Its length, number of bends and speed of water (Correct Answer) (Chosen option)

## Question No. 17

Marks: 1.00
Bookmark
What should be the span/depth ratio for simply supported beam to limit the vertical deflection?
(A) $\bigcirc 20$ (Correct Answer) (Chosen option)
$(B) \bigcirc 28$
(C) $\bigcirc 7$
(D) $\bigcirc 26$

## Question No. 18

Marks: 1.00
Bookmark
Determine the factor when the hydrostatic force on one of the vertical sides of the beaker decreases when the height of the liquid column is reduced to one-fourth.
(A) $\bigcirc$ 1/16 (Correct Answer)
(B) $\bigcirc 1 / 8$
(C) $\bigcirc 1 / 4$ (Chosen option)
(D) $\bigcirc 1 / 2$

Question No. 19
Marks: 1.00
Bookmark
The IS-Code which is used for the manufacture of glazed earthenware urinals in India is:
(A) $\bigcirc$ IS 771:1979 (Correct Answer)
(B) $\bigcirc$ IS 1172:1993
(C) $\bigcirc$ IS 3114:1994
(D) $\bigcirc$ IS 1742:1983 (Chosen option)

A cantilever of length 6 m carries a point load of 48 kN at its centre. The cantilever is propped rigidity at the free end. Determine the reaction at the rigid prop.
(A) $\bigcirc 20 \mathrm{kN}$
(B) $\bigcirc 30 \mathrm{kN}$ (Chosen option)
(C) $\bigcirc 15$ kN (Correct Answer)
(D) $\bigcirc 25 \mathrm{kN}$

Question No. 22
Marks: 1.00
Bookmark
First level managers of construction projects are largely influenced by:
(A) $\bigcirc$ Strategic issues (Chosen option)
$(B) \bigcirc$ Long range issues
(C) $\bigcirc$ Shareholder issues
(D) $\bigcirc$ Short range issues (Correct Answer)

Question No. 23
Marks: 1.00
Bookmark
The resultant vector is formed by $\qquad$ of the two vectors.
(A) $\bigcirc$ addition (Correct Answer) (Chosen option)
(B) $\bigcirc$ square root
(C) $\bigcirc$ subtraction
(D) $\bigcirc$ square

## Question No. 24

Marks: 1.00
Bookmark
Shear span is called the zone where:
$(A) \bigcirc$ Shear force is constant (Correct Answer) (Chosen option)
$(B) \bigcirc$ Shear force is zero
(C) $\bigcirc$ Bending moment is constant
(D) $\bigcirc$ Bending moment changes

## Question No. 25

Marks: 1.00
Bookmark
Pipes in the series network, the water level should be transferred from:
(A) $\bigcirc$ No such restrictions (Correct Answer)
(B) $\bigcirc$ Higher level to lower level (Chosen option)
(C) $\bigcirc$ Lower level to lower level
$\qquad$ is caused by natural rising of warmer lighter air in colder denser surroundings.
(A) $\bigcirc$ Frontal precipitation
(B) Orographic precipitation
(C) $\bigcirc$ Cyclonic precipitation
(D) $\bigcirc$ Convective precipitation (Correct Answer) (Chosen option)

## Question No. 28

Marks: 1.00
Bookmark
In surveying, working from whole to part leads to:
(A) $\bigcirc$ Minimization of errors (Correct Answer) (Chosen option)
(B) $\bigcirc$ Maximization of errors
(C) $\bigcirc$ Uncontrollable errors
(D) $\bigcirc$ Complete minimization of errors

## Question No. 29

Marks: 1.00
Bookmark
The length of National Highways as per 3rd 20-year (Lucknow) road plan is:
(A) $\bigcirc$ Area of the country/40
(B) $\bigcirc$ Area of the country/75
(C) $\bigcirc$ Area of the country $/ 25$
(D) $\bigcirc$ Area of the country/50 (Correct Answer) (Chosen option)

## Question No. 30

Marks: 1.00
Bookmark
The water utilized by plants is available in soils mainly in the form of:
(A) $\bigcirc$ Chemical water
(B) Capillary water (Correct Answer) (Chosen option)
(C) $\bigcirc$ Hydroscopic water
(D) $\bigcirc$ Gravity water

Question No. 31
Marks: 1.00
Bookmark

The objective of two-point problem which is solved with the resection method is:
$(A) \bigcirc$ Given location of two points, locating the station occupied by the plane table (Correct Answer)
(B) $\bigcirc$ Locating the plane table station point (Chosen option)

The variable head permeability test was conducted on a soil sample of 4.2 cm diameter and 18.5 cm length. The head fell from 1.20 m to 0.60 m in 20 minutes. If the crosssectional area of the stand pipe was $1 \mathrm{~cm}^{2}$ then the coefficient of permeability is:
(A) $\bigcirc 1.71 \times 10^{-4} \mathrm{~cm} / \mathrm{sec}$
(B) $\bigcirc 3.71 \times 10^{-4} \mathrm{~cm} / \mathrm{sec}$
(C) $\bigcirc 5.71 \times 10^{-4} \mathrm{~cm} / \mathrm{sec}$ (Chosen option)
(D) $\bigcirc 7.71 \times 10^{-4} \mathrm{~cm} / \mathrm{sec}$ (Correct Answer)

## Question No. 34

Marks: 1.00
Bookmark
From where did the first passenger train run in South India?
(A) $\bigcirc$ Perambur (Chosen option)
(B) $\bigcirc$ Royapuram (Correct Answer)
(C) Bengaluru
(D) $\bigcirc$ Khopoli

Question No. 35
Marks: 1.00

The short offsets in chain survey are the ones whose length is $\qquad$
(A) $\bigcirc 21$ to 25 m
(B) $\bigcirc>25 \mathrm{~m}$
(C) 15 to 20 m
(D) $\bigcirc 15 \mathrm{~m}$ (Correct Answer) (Chosen option)

## Question No. 36

Marks: 1.00

What is the minimum area of distribution bars required for slabs where steel Fe415 is used?
(A) $\bigcirc 0.12 \%$ of gross area of slab (Correct Answer) (Chosen option)
(B) $\bigcirc 4 \%$ of gross area of slab
(C) $\bigcirc 6 \%$ of gross area of slab
(D) $\bigcirc 0.15 \%$ of gross area of slab

## Question No. 37

(A) $\cup$ Constant (Correct Answer)
(B) $\bigcirc$ Parabolic
(C) $\bigcirc$ Linear (Chosen option)
(D) $\bigcirc$ Cubic

## Question No. 39

Marks: 1.00
Bookmark
What is the content of Lime in Portland cement?
$(A) \bigcirc 17-25 \%$
(B) $\bigcirc 20-30 \%$
(C) $\bigcirc$ 60-67\% (Correct Answer) (Chosen option)
(D) $\bigcirc 12-20 \%$

Question No. 40<br>Marks: 1.00

The seepage velocity of the soil sample having porosity value 0.373 and discharge velocity $1.435 \times 10^{-2} \mathrm{~cm} / \mathrm{sec}$ is:
(A) $\bigcirc 2.5 \times 10^{-2} \mathrm{~cm} / \mathrm{sec}$
(B) $1.2 \times 10^{-2} \mathrm{~cm} / \mathrm{sec}$
(C) $0.535 \times 10^{-2} \mathrm{~cm} / \mathrm{sec}$
(D) $\bigcirc 3.85 \times 10^{-2} \mathrm{~cm} / \mathrm{sec}$ (Correct Answer) (Chosen option)

Question No. 41 Marks: 1.00

If the irrigation efficiency is $80 \%$, conveyance losses are $20 \%$ and the actual depth of watering is 16 cm , the depth of water required in centimeter at the canal outlet is:
(A) $\bigcirc 15$
(B) $\bigcirc 25$ (Correct Answer)
(C) $\bigcirc 20$ (Chosen option)
(D) $\bigcirc 10$

## Question No. 42

Marks: 1.00
Bookmark

When river flows in two or more channels around alluvial islands, it is known as:
(A) $\bigcirc$ Stable river
(B) $\bigcirc$ Degrading river
(C) $\bigcirc$ Braided river (Correct Answer) (Chosen option)
(D) $\bigcirc$ Aggrading river

Which of the following is INCORRECT for the slow sand filter?
(A) $\bigcirc$ Coagulation is not required for a slow sand filter
(B) $\bigcirc$ In slow sand filter loss of head is initial 15 cm to 100 cm final
(C) $\bigcirc$ The rate of filtration for the slow sand filters is $\mathbf{3 0 0 0}$ to $\mathbf{6 0 0 0}$ litres per hour per $\mathrm{m}^{2}$ (Correct Answer) (Chosen option)
(D) $\bigcirc$ Method for cleaning used for rapid sand filter is scrapping of top layer

## Question No. 45

Marks: 1.00
Bookmark
The area of a certain district is 14000 sq.km and there are 15 towns as per 1981 census.
What is the length of NH and SH respectively?
(A) $\bigcirc 280$ km and 657.5 m (Correct Answer) (Chosen option)
(B) $\bigcirc 250 \mathrm{~km}$ and 557.5 km
(C) $\bigcirc 290 \mathrm{~km}$ and 757.5 km
(D) $\bigcirc 260 \mathrm{~km}$ and 457.5 km

## Question No. 46

Marks: 1.00
Bookmark
Calculate the weight of 1 m length and 16 mm diameter steel rod (Unit weight of steel is $7850 \mathrm{Kg} / \mathrm{m}^{3}$ ).
(A) $\bigcirc 1.67 \mathrm{Kg}$
(B) $\bigcirc 1.78 \mathrm{Kg}$
(C) $\bigcirc 1.58 \mathrm{Kg}$ (Correct Answer) (Chosen option)
(D) $\bigcirc 1.42 \mathrm{Kg}$

## Question No. 47

Marks: 1.00

## Bookmark

Composite sleeper index (CSI) is measured to demonstrate the timber's:
(A) $\bigcirc$ Toughness and wear resistance
(B) $\bigcirc$ Strength and Toughness
(C) $\bigcirc$ Hardness and strength (Correct Answer) (Chosen option)
(D) $\bigcirc$ Wear resistance and hardness

## Question No. 48

Marks: 1.00
Bookmark
Reynold's model law is the law in which models are based on:
(A) $\bigcirc$ Pipe flow
(B) $\bigcirc$ ReyonId's number (Correct Answer) (Chosen option)

The minimum length of Intermediate Sight Distance (ISD) provided in hill roads is:
(A) $\bigcirc 2$ time the Stopping Sight Distance (Correct Answer) (Chosen option)
(B) $\bigcirc 3$ time the Stopping Sight Distance
(C) $\bigcirc$ Equal the Stopping Sight Distance
(D) $\bigcirc 4$ time the Stopping Sight Distance

## Question No. 51

Marks: 1.00
Bookmark
The strength of jump is commanded by:
(A) $\bigcirc$ Downstream velocity
(B) $\bigcirc$ Froude Number (Correct Answer) (Chosen option)
(C) $\bigcirc$ Bed slope
(D) $\bigcirc$ Upstream velocity

## Question No. 52

Marks: 1.00
Bookmark

Which level of managers is responsible for setting the goal of the company and defining the vision and mission of the organization?
$(A) \bigcirc$ Second level managers
$(B) \bigcirc$ Middle managers
(C) $\bigcirc$ First level managers
(D) $\bigcirc$ Executive managers (Correct Answer) (Chosen option)

## Question No. 53

Marks: 1.00
Bookmark
In R.C.C. members, if a beam is over-reinforced and loaded up to destruction, the failure will occur due to $\qquad$
(A) $\bigcirc$ buckling
(B) $\bigcirc$ cracks
(C) $\bigcirc$ shrinkage of concrete
(D) $\bigcirc$ crushing of concrete (Correct Answer) (Chosen option)

## Question No. 54

Marks: 1.00
Bookmark

Principal plane is independent of $\qquad$ stress.
(C) $\bigcirc$ IS: 800-2007
(D) $\bigcirc$ IS: 383-1970

## Question No. 56

Marks: 1.00
Bookmark
The first experimental slow sand filter was constructed by John Gibb at Paisley in Scotland in the year $\qquad$
$(A) \bigcirc 1821$
(B) $\bigcirc 1800$
(C) 1823
(D) $\bigcirc 1804$ (Correct Answer) (Chosen option)

## Question No. 57

Marks: 1.00
Bookmark
The width of carriageway of two lanes, without raised kerbs is $\qquad$
(A) $\bigcirc 7.5 \mathrm{~m}$
(B) $\bigcirc 3.75 \mathrm{~m}$
(C) $\bigcirc 7.0 \mathrm{~m}$ (Correct Answer) (Chosen option)
(D) $\bigcirc 5.5 \mathrm{~m}$

## Question No. 58

Marks: 1.00
Bookmark
$\ldots \ldots$ aggregates provide good durability to concrete.
(A) $\bigcirc$ Friction
(B) $\bigcirc$ Plastic
(C) $\bigcirc$ Inelastic
(D) $\bigcirc$ Elastic (Correct Answer) (Chosen option)

## Question No. 59

Marks: 1.00
Bookmark
Additional transverse reinforcement is provided at faces if depth of member subjected to torsion exceeds mm .
(A) $\bigcirc 450$ (Correct Answer) (Chosen option)
(B) $\bigcirc 300$
(C) $\bigcirc 750$
(D) $\bigcirc 700$

A plan or map represents:
(A) $\bigcirc$ Area on a horizontal plane (Correct Answer) (Chosen option)
$(B) \bigcirc$ Area on a curved plane
(C) $\bigcirc$ Area on a vertical plane
(D) $\bigcirc$ Area on an inclined plane

## Question No. 62

Marks: 1.00
Bookmark
Which of the following techniques makes a great effort to measure the quality for near perfection?
(A) $\bigcirc$ Design of experiments
(B) $\bigcirc$ Six Sigma (Correct Answer) (Chosen option)
(C) $\bigcirc$ Benchmarking
(D) $\bigcirc$ Control Charts

## Question No. 63

Marks: 1.00
Bookmark
The primary objective of surveying is:
$(A) \bigcirc$ Measurement of angles
(B) $\bigcirc$ Levelling (Chosen option)
(C) $\bigcirc$ Fixing boundaries
(D) $\bigcirc$ Preparation of plan or map (Correct Answer)

Question No. 64
Marks: 1.00
Bookmark
Continuity equation and Bernoulli's equation are based on law of conservation of
$\qquad$ respectively.
(A) $\bigcirc$ momentum and mass
(B) $\bigcirc$ momentum and energy
(C) $\bigcirc$ mass and momentum
(D) $\bigcirc$ mass and energy (Correct Answer) (Chosen option)

## Question No. 65

Marks: 1.00
Bookmark
What percentage of magnesia is allowed in ordinary Portland cement?
$(A) \bigcirc 8 \%$
(B) $\bigcirc 3 \%$
(C) $\bigcirc 10 \%$
(D) $\bigcirc$ 6\% (Correct Answer) (Chosen option)

## Question No. 67

The ratio of the square root of inertia force to surface tension force is known as:
(A) $\bigcirc$ Froude number
(B) $\bigcirc$ Euler number (Chosen option)
(C) $\bigcirc$ Weber number (Correct Answer)
(D) $\bigcirc$ Reyonld's number

## Question No. 68

Marks: 1.00

## Bookmark

Who is known as the father of Indian Railways?
(A) $\bigcirc$ Lord Lytton
(B) $\bigcirc$ Lord William Bentinck (Chosen option)
(C) $\bigcirc$ Lord Curzon
(D) $\bigcirc$ Lord Dalhousie (Correct Answer)

## Question No. 69 <br> Marks: 1.00

## Bookmark

A ladder network is useful in case of $\qquad$ works.
(A) $\bigcirc$ small
(B) $\bigcirc$ continuous (Chosen option)
(C) $\bigcirc$ repetitive (Correct Answer)
(D) $\bigcirc$ large

## Question No. 70

Marks: 1.00
Which of the following statements about Activity-based costs (ABC) is INCORRECT?
(A) $\bigcirc$ ABC is more likely to end up with a big difference from traditional pricing systems if the company produces a single product instead of many. (Correct Answer)
(B) $\bigcirc$ ABC is beneficial for the distribution of marketing and distribution costs.
(C) $\bigcirc$ ABC differs from traditional pricing systems in that the products are not split between them. (Chosen option)
(D) $\bigcirc$ In ABC, cost drivers are what cause costs to be incurred.

Question No. 71
Marks: 1.00
Bookmark
If ' $v$ ' is the discharge velocity and ' $n$ ' is porosity, then seepage velocity is given by:
(A) $O$

Question No. 72
Marks: 1.00

Shear reinforcement spacing is given as:
(A)

$$
S v=\begin{gathered}
\text { As0.91fy } \\
0.4 B
\end{gathered}
$$

(B) O

$$
S v=\begin{gathered}
\text { As0.45fy } \\
0.4 \mathrm{~B}
\end{gathered}
$$

(C) O
As0.25fy

Sv
0.4B
(D) O

$$
\text { SV } \frac{\text { As0.87fy }}{0.4 B} \text { (Correct Answer) (Chosen option) }
$$

Question No. 73
Marks: 1.00
Bookmark
A beaker contains water up to a height of $h / 3$. Find the location of centre of pressure.
(A) $\bigcirc \mathrm{h} / 4$
(B) $\bigcirc 18 \mathrm{~h} / 4$
(C) $\bigcirc \mathrm{h} / 18$
(D) $\bigcirc$ 2h/9 (Correct Answer) (Chosen option)

## Question No. 74

Marks: 1.00
Bookmark
The actual penetration of penetrometer needle for the bitumen grade of 30/40 is:
(A) 3 cm to 4 cm
(B) $\bigcirc 3 \mathrm{~mm}$ to 4 mm (Correct Answer)
(C) $30 \mathrm{~mm} / 40 \mathrm{~mm}$
(D) $\bigcirc 30 \mathrm{~mm}$ to 40 mm (Chosen option)

## Question No. 75

Marks: 1.00
Bookmark
(C) $\bigcirc 12-15 \%$
(D) $\bigcirc 50-60 \%$

## Question No. 77

Marks: 1.00

## Bookmark

Which of the following techniques is NOT a demand forecasting method?
$(A) \bigcirc$ Rolling average method
(B) $\bigcirc$ Critical path method (Correct Answer) (Chosen option)
(C) $\bigcirc$ Exponential smoothing method
(D) $\bigcirc$ Weighted average moving method

## Question No. 78

Marks: 1.00
Bookmark
Penetration value of Bitumen is expressed in:
(A) $\bigcirc 1 / 10^{\text {th }} \mathrm{mm}$ (Correct Answer) (Chosen option)
(B) $\bigcirc \mathrm{cm}$
(C) $\bigcirc \mathrm{mm}^{2}$
(D) $\bigcirc \mathrm{cm}^{2}$

Question No. 79 Marks: 1.00
Bookmark
The porosity $(\mathrm{n})$ of a given soil sample is defined as the ratio of volume of the voids to the $\qquad$ of the given soil mass.
$(A) \bigcirc$ total volume (Correct Answer) (Chosen option)
(B) $\bigcirc$ volume of solids
(C) $\bigcirc$ volume of air
(D) $\bigcirc$ volume of water

## Question No. 80

Marks: 1.00

## Bookmark

The given table lists the project's activities, precedence relationships and duration. Find the critical path of the project.
(A) $\bigcirc$ P-R-U-V
(B) $\bigcirc P-R-T-U$
(C) $O Q-S-T-U$
(D) $\bigcirc$ Q-S-U-W (Correct Answer) (Chosen option)

## Question No. 81

Marks: 1.00
Bookmark
The ratio of the actual discharge from an orifice to the theoretical discharge from the orifice is known as:
(A) $\bigcirc$ Co-efficient of viscocity
(B) $\bigcirc$ Co-efficient of discharge (Correct Answer) (Chosen option)
(C) $\bigcirc$ Co-efficient of contraction
(D) $\bigcirc$ Co-efficient of velocity

Question No. 82
Marks: 1.00
Bookmark
Calculate the base width of gravity dam for no tension condition if height of dam is 150 meter, specific gravity of dam material 2.4. (Consider zero uplift pressure)
(A) $\bigcirc 96.82$ meter (Correct Answer) (Chosen option)
(B) 150 meter
(C) 100 meter
(D) $\bigcirc 95.82$ meter

## Question No. 83

Marks: 1.00

## Bookmark

For a slab size $3.5 \times 4.5 \mathrm{~m}$ subjected to live load $4.5 \mathrm{KN} / \mathrm{m}^{2}$ and effective thickness as 150 mm , determine the short span moment when edges of slab are simply supported and corners are not held down and moment coefficients for short span and long span are 0.0912 and 0.0558 . Use M30 concrete and Fe 15 steel.
(A) $\bigcirc 10 \mathrm{KNm} / \mathrm{m}$
(B) $\bigcirc 15 \mathrm{KNm} / \mathrm{m}$ (Correct Answer) (Chosen option)
(C) $\bigcirc 5 \mathrm{KNm} / \mathrm{m}$
(D) $O 2.75 \mathrm{KNm} / \mathrm{m}$

## Question No. 84

Marks: 1.00
Bookmark

The gradual closure of valve condition is $\qquad$
(A)
$\mathrm{T}={ }^{2 L}$
(B) $\bigcirc 10.53 \mathrm{GPa}$ (Correct Answer) (Chosen option)
(C) $\bigcirc 15.53 \mathrm{Gpa}$
(D) $\bigcirc 27.39 \mathrm{MPa}$

## Question No. 86

Marks: 1.00
Bookmark
In a sewer, why the main circular circumferential reinforcement has been provided near the inner surface of the pipes?
(A) $\bigcirc$ To withstand the internal force causing Hoops tension (Correct Answer) (Chosen option)
(B) $\bigcirc$ To withstand the flexural force
(C) $\bigcirc$ To resist erosion and abrasion
(D) $\bigcirc$ To withstand the longitudinal stresses

## Question No. 87

Marks: 1.00

## Bookmark

Jet distance measurement is expressed as:
(A) 0

$$
c_{v} \frac{x}{4}
$$

(B) $\bigcirc$

$$
C_{v}-\frac{x}{2 n} \quad \text { (Chosen option) }
$$

(C) $\bigcirc \quad C_{v}=\frac{x}{n}$
(D) $\bigcirc C_{v}=\frac{x}{\sqrt{4 y-h}}$ (Correct Answer)

## Question No. 88

Marks: 1.00

GOLF technique of inventory control is mainly based on:
(A) $\bigcirc$ Benefit/Cost ratio (Chosen option)
(B) $\bigcirc$ Materials (Correct Answer)
(C) $\bigcirc$ Profit
(D) $\bigcirc$ Loss

## Question No. 89

Marks: 1.00
Bookmark

A vertical line which is perpendicular to the level line is called:
$(B) \bigcirc 0.669$
(C) $\bigcirc 0.318$ (Correct Answer) (Chosen option)
(D) $\bigcirc 0.728$

## Question No. 91

Marks: 1.00

Deflection along longer span of one way slab is:
(A) $\bigcirc$ kinematics
$(B) \bigcirc$ kinetics
(C) $\bigcirc$ statics (Correct Answer) (Chosen option)
(D) $\bigcirc$ dynamics

## Question No. 92

Marks: 1.00
Bookmark
A beam of span 10 m is carrying a point load of 200 N force at a distance of 4 m from A . Determine the beam reactions.
(A) $\bigcirc R A=80 \mathrm{~N}$ and $R B=120 \mathrm{~N}$
(B) $\bigcirc R A=60 \mathrm{~N}$ and $R B=100 \mathrm{~N}$
(C) $\bigcirc R A=120 \mathrm{~N}$ and $\mathrm{RB}=80 \mathrm{~N}$ (Correct Answer) (Chosen option)
(D) $\bigcirc R A=100 \mathrm{~N}$ and $R B=60 \mathrm{~N}$

## Question No. 93

Marks: 1.00
Bookmark
Which is NOT a property of vector quantity?
(A) $\bigcirc$ It has both magnitude and direction
(B) $\bigcirc$ It can be resolved in any direction
(C) $\bigcirc$ It is only one dimensional (Correct Answer) (Chosen option)
(D) $\bigcirc$ It is used to represent the motion of an object

## Question No. 94

Marks: 1.00
Bookmark
Continuity equation and Bernoulli's equation are based on law of conservation of
$\qquad$ respectively.
(A) $\bigcirc$ major
(B) $\bigcirc$ minor
(C) $\bigcirc$ primary
(D) $\bigcirc$ principal (Correct Answer)

The efficiency and effectiveness of a trap will depend upon which one of the following?
(A) $\bigcirc$ The layout of the house plumbing system
(B) $\bigcirc$ Depth of the water seal (Correct Answer) (Chosen option)
(C) $\bigcirc$ Ventilation of house drain
(D) $\bigcirc$ The size of the lateral sewers

## Question No. 97

Marks: 1.00
Bookmark
In a tacheometry survey of distance formula, the additive constant is expressed as:
(A) $\bigcirc$ (Focal length of objective lens) + (Distance from objective lens to vertical axis) (Correct Answer) (Chosen option)
(B) $\bigcirc$ (Focal length of objective lens) - (Distance from objective lens to vertical axis)
(C) $\bigcirc$ (Distance from objective lens to vertical axis) / (Focal length of objective lens)
(D) $\bigcirc$ (Focal length of objective lens) / (Distance from objective lens to vertical axis)

## Question No. 98

Marks: 1.00
Bookmark
What is the permissible tensile stress for high concrete gravity dam under worst conditions?
(A) $\bigcirc 50 \mathrm{~kg} / \mathrm{cm}^{2}$ (Chosen option)
(B) $500 \mathrm{~kg} / \mathrm{m}^{2}$
(C) $500 \mathrm{KN} / \mathrm{m}^{2}$ (Correct Answer)
(D) $\bigcirc 5000 \mathrm{KN} / \mathrm{m}^{2}$

## Question No. 99

Marks: 1.00

## Bookmark

The ratio of the weight density of a fluid to the weight density of a standard fluid is known as:
(A) $\bigcirc$ Kinematic viscosity
(B) $\bigcirc$ Specific volume
(C) $\bigcirc$ Specific gravity (Correct Answer) (Chosen option)
(D) $\bigcirc$ Viscosity

Question No. 100
Marks: 1.00
Bookmark
Shear centre is also known as centre of $\qquad$
(A) $\bigcirc$ section
(B) $\bigcirc$ twist (Correct Answer) (Chosen option)
(D) $\bigcirc$ spacing (Correct Answer)

## Question No. 102

Marks: 1.00
Bookmark
Which of the following fluid properties has no dimensions?
(A) $\bigcirc$ Volume
(B) $\bigcirc$ Specific gravity (Correct Answer) (Chosen option)
(C) $\bigcirc$ Viscosity
(D) $\bigcirc$ Specific weight

Question No. 103
Marks: 1.00
Bookmark
As per IS code method of two-way slab design with continuous edges, positive moment coefficient is how much times of corresponding negative moment coefficient?
$(A) \bigcirc 4 / 3$
(B) $\bigcirc 0$
(C) $\bigcirc 2 / 3$
(D) $\bigcirc$ 3/4 (Correct Answer) (Chosen option)

Question No. 104
Marks: 1.00

When was the first train started from Indian to Pakistan?
(A) $\bigcirc 1951$ (Correct Answer) (Chosen option)
(B) $\bigcirc 1947$
(C) 1957
(D) $\bigcirc 1960$

Question No. 105
Marks: 1.00
Bookmark
For Kharif season, the capacity factor usually varies from:
(A) $\bigcirc$ 0.6-0.8
(B) $\bigcirc$ 0.6-0.7 (Chosen option)
(C) $\bigcirc 0.3-0.4$
(D) $\bigcirc$ 0.9-0.95 (Correct Answer)

Question No. 106
Marks: 1.00
Bookmark
Gravitational law of attraction is given by:
(B) There are vertical curves
(C) $\bigcirc$ Steel sleepers are used
(D) $\bigcirc$ There are horizontal curves

## Question No. 108

Marks: 1.00

## Bookmark

What is the permissible maximum annual average concentration of $\mathrm{SO}_{2}$ for residential areas, as per the new revised Indian ambient air quality standard?
(A) $\bigcirc 0.019$ ppm at $20^{\circ} \mathrm{C}$ (Correct Answer)
(B) $\bigcirc 0.029 \mathrm{ppm}$ at $24^{\circ} \mathrm{C}$ (Chosen option)
(C) 0.79 ppm at $20^{\circ} \mathrm{C}$
(D) $\bigcirc 0.19 \mathrm{ppm}$ at $15^{\circ} \mathrm{C}$

## Question No. 109

Marks: 1.00

## Bookmark

What is the major drawback of steel pipes?
$(A) \bigcirc$ These pipes cannot withstand high negative (or vacuum) pressures (Correct Answer) (Chosen option)
(B) $\bigcirc$ To some extent these pipes are flexible and therefore they can be laid easily on curves
(C) $\bigcirc$ Withstand high internal pressure
(D) $\bigcirc$ Light in weight

## Question No. 110

Marks: 1.00

When was the first passenger train run in India?
(A) $\bigcirc 17$ April 1853
(B) $\bigcirc 16$ April 1853 (Correct Answer)
(C) $\bigcirc 8$ April 1853
(D) $\bigcirc 15$ April 1853 (Chosen option)

Question No. 111
Marks: 1.00
Bookmark
Which one of the following is NOT the main purpose of road side shoulder?
(A) $\bigcirc$ Shoulders act as service lanes for vehicles
(B) $\bigcirc$ To provide structural stability and support to the edges
(C) Shoulders serve as emergency lanes for vehicles
(D) $\bigcirc$ Eliminate the protection of pavement edges from traffic damage (Correct
3. Finishing
4. Super-structure
(C)

1. Sub-structure
2. Design
3. Super-structure
4. Finishing
(D) $\bigcirc$ 1. Design
5. Sub-structure
6. Super-structure
7. Finishing (Correct Answer) (Chosen option)

Question No. 113 Marks: 1.00
Bookmark
Which of the following devices is used to transfer the wagons/locomotives from parallel tracks without any necessity of shunting?
(A) $\bigcirc$ Triangle
(B) Turn table
(C) $\bigcirc$ Traverser (Correct Answer) (Chosen option)
(D) $\bigcirc$ Scotch block

## Question No. 114

Marks: 1.00

## Bookmark

The compacted soil sample has 250 g mass and $1.89 \mathrm{~g} / \mathrm{cm}^{3}$ density using $12 \%$ water content. If the specific gravity of the soil is 2.74 and density of water is $1 \mathrm{~g} / \mathrm{cm}^{3}$, the degree of saturation is approximately $\qquad$
(A) $\bigcirc 47 \%$
$(B) \bigcirc 71 \%$
(C) $\bigcirc 53 \%$ (Correct Answer)
(D) $\bigcirc 39 \%$ (Chosen option)

## Question No. 115

Marks: 1.00

## Bookmark

When a river starts meandering, the sediment carrying capacity
(A) $\bigcirc$ First increases and ultimately decreases (Chosen option)
(B) $\bigcirc$ Remains unaffected as the plan shape changes continuously
(C) $\bigcirc$ First decreases and ultimately increases (Correct Answer)
(D) $\bigcirc$ Changes erratically all-time leaving permanent braids

What is the depth of neutral axis for a beam whose width is 200 mm and effective depth is 400 mm have tension reinforcement of $2-20 \mathrm{~mm}$ dia bars of Fe 415 and concrete of grade M25. (Use LSM)?
(A) $\bigcirc 200 \mathrm{~mm}$
(B) $\bigcirc 192$ mm (Correct Answer) (Chosen option)
(C) $\bigcirc 184 \mathrm{~mm}$
(D) $\bigcirc 126 \mathrm{~mm}$

## Question No. 118

Marks: 1.00
Bookmark

In Sexagesimal system, one circumference is equal to $\qquad$
(A) $\bigcirc 90^{\circ}$
(B) $360^{\circ}$ (Correct Answer)
(C) $270^{\circ}$ (Chosen option)
(D) $\bigcirc 180^{\circ}$

## Question No. 119 <br> Marks: 1.00

Bookmark
For prestressed concrete, which code is to be used?
(A) $\bigcirc$ IS 10262:1982
(B) $\bigcirc$ IS 3370-1965
(C) $\bigcirc$ IS $456: 2000$
(D) $\bigcirc$ IS 1343:1980 (Correct Answer) (Chosen option)

## Question No. 120

Marks: 1.00
Bookmark
Heel divergence is:
(A) $\bigcirc$ Equal to width of rail head
(B) Always less than flangeway clearance
(C) $\bigcirc$ Equal to flangeway clearance
(D) $\bigcirc$ Always greater than flangeway clearance (Correct Answer) (Chosen option)

