

PSPCL JE

**Previous Year Paper
(Civil)
19 Dec, 2019 Shift 1**



Punjab State Power Corporation Limited

Roll No.	
Participant Name	
Test Center Name	
Test Date	19/12/2019
Test Time	10:00 AM - 12:00 PM
Subject	JUNIOR ENGINEER CIVIL

Section : Discipline

Q.1 The latitude of a 50 m line having bearing S 40° W is _____.

- Ans
- ☒ 1. 38.3 m
 - ☒ 2. -38.3m
 - ☒ 3. 32.13 m
 - ☒ 4. -32.13 m

Question ID : 99836761523

Status : Answered

Chosen Option : 4

Q.2 The ability of water saturated material to endure repeated freezing and thawing with considerable decrease of mechanical strength is known as:

- Ans
- ☒ 1. frost resistance
 - ☒ 2. weathering resistance
 - ☒ 3. water permeability
 - ☒ 4. hygroscopicity

Question ID : 99836761516

Status : Answered

Chosen Option : 2

Q.3 Soil has a bulk unit weight of 20.11KN/m³ and water content of 15%. Calculate the water content if the soil partially dries to unit weight of 19.42KN/m³ and the voids ratio remains unchanged.

- Ans
- ☒ 1. 10%
 - ☒ 2. 20%
 - ☒ 3. 13%
 - ☒ 4. 11%

Question ID : 99836761530

Status : Answered

Chosen Option : 4

Q.4 Which type of notch is suitable for measuring low discharge and gives more accurate

results?

- Ans
- ☒ 1. Steeped notch
 - ☒ 2. Triangular notch
 - ☒ 3. Rectangular notch
 - ☒ 4. Trapezoidal notch

Question ID : 99836761550

Status : Answered

Chosen Option : 2

Q.5 The process of determining the plotted position of the station occupied by the plane table, by means of sights taken towards known points, locations of which have been plotted is known as ____.

- Ans
- ☒ 1. resection
 - ☒ 2. traversing
 - ☒ 3. radiation
 - ☒ 4. intersection

Question ID : 99836761526

Status : Answered

Chosen Option : 1

Q.6 What does it mean if the pO (odour intensity) value is 5?

- Ans
- ☒ 1. Distinct odour
 - ☒ 2. Extremely strong odour
 - ☒ 3. Faint odour
 - ☒ 4. Strong and intense odour

Question ID : 99836761541

Status : Not Answered

Chosen Option : --

Q.7 The formula for dry density γ_d in terms of bulk unit weight γ and water content W is:

- Ans
- ☒ 1. $\gamma_d = \frac{(\gamma - 1)}{1 + W}$
 - ☒ 2. $\gamma_d = \frac{\gamma}{1 + W}$
 - ☒ 3. $\gamma_d = \frac{1 + W}{\gamma}$
 - ☒ 4. $\gamma_d = \frac{\gamma}{W}$

Question ID : 99836761536

Status : Answered

Chosen Option : 2

Q.8 If the declination is to the east, then the true bearing can be calculated from the observed magnetic bearing by the relation:

- Ans
- ☒ 1. True bearing = Magnetic bearing + declination
 - ☒ 2. True bearing = Magnetic bearing $\pm$ declination

- ☒ 3. True bearing = Magnetic bearing — declination
- ☒ 4. True bearing = Declination — magnetic bearing

Question ID : 99836761520
Status : Answered
Chosen Option : 1

Q.9 The concentration of boron can be determined by calorimetric and titrimetric methods. In the presence of boron, a solution of carminic acid in concentrated sulphuric acid changes from bright red to _____ colour.

- Ans ☒ 1. blue
- ☒ 2. white
- ☒ 3. brick red
- ☒ 4. orange

Question ID : 99836761542
Status : Not Answered
Chosen Option : --

Q.10 As per IS: 2720 (Part VII) – 1980/87, the weight of the rammer in modified proctor test is:

- Ans ☒ 1. 4.9 kg
- ☒ 2. 2.6 kg
- ☒ 3. 2.5 kg
- ☒ 4. 3.8 kg

Question ID : 99836761534
Status : Answered
Chosen Option : 1

Q.11 The varnishes that are methylated spirit of wine as a solvent in which soft resins such as lac or shellac are dissolved is known as _____.

- Ans ☒ 1. spirit varnishes
- ☒ 2. water varnishes
- ☒ 3. oil varnishes
- ☒ 4. turpentine varnishes

Question ID : 99836761506
Status : Answered
Chosen Option : 1

Q.12 A classification of hydraulic turbines according to the type of energy at an inlet includes _____.

- Ans ☒ 1. tangential flow turbine
- ☒ 2. reaction turbine
- ☒ 3. medium head turbine
- ☒ 4. mixed flow turbine

Question ID : 99836761557
Status : Not Answered
Chosen Option : --

Q.13 When the natural state of the cohesionless soil is in its densest state, then the density index, I_D is:

- Ans
- ☒ 1. $I_D > 1$
 - ☒ 2. $I_D = 1$
 - ☒ 3. $I_D = 0$
 - ☒ 4. I_D varies between 2 and 1

Question ID : 99836761528

Status : Answered

Chosen Option : 2

Q.14 A rectangular channel of width 4 m has a bed slope of 1 in 1500. Find the maximum discharge through the channel. Assume the channel is most economical. Take Chezy's constant $C = 50$.

- Ans
- ☒ 1. $11.53 \text{ m}^3/\text{s}$
 - ☒ 2. $10.32 \text{ m}^3/\text{s}$
 - ☒ 3. $8.45 \text{ m}^3/\text{s}$
 - ☒ 4. $15.54 \text{ m}^3/\text{s}$

Question ID : 99836761554

Status : Answered

Chosen Option : 3

Q.15 A vane, 10 cm long and 8 cm in diameter, was pressed into soft clay at the bottom of a bore hole. Torque was applied and gradually increased to 45 N-m when failure took place. Subsequently, the vane rotated rapidly so as to completely remould the soil. If the remoulded soil was sheared at a torque of 18 N-m, then the value of cohesion of the clay in the remoulded state is:

- Ans
- ☒ 1. 10 kN/m^2
 - ☒ 2. 14.1 kN/m^2
 - ☒ 3. 12 kN/m^2
 - ☒ 4. 16 kN/m^2

Question ID : 99836761535

Status : Answered

Chosen Option : 1

Q.16 Find the discharge over a cipolletti weir of length 2 m when the head over the weir is 1 m. Take co-efficient of discharge $C_d = 0.62$.

- Ans
- ☒ 1. $3.66 \text{ m}^3/\text{s}$
 - ☒ 2. $2.54 \text{ m}^3/\text{s}$
 - ☒ 3. $2.93 \text{ m}^3/\text{s}$
 - ☒ 4. $5.24 \text{ m}^3/\text{s}$

Question ID : 99836761551

Status : Not Answered

Chosen Option : --

Q.17 A 'Belite' is called as:

- Ans
- ☐ 1. pure C_2S (dicalcium silicate)
 - ☐ 2. impure C_3S (tricalcium silicate)
 - ☐ 3. pure C_3S (tricalcium silicate)
 - ☒ 4. impure C_2S (dicalcium silicate)

Question ID : 99836761570
Status : Answered
Chosen Option : 4

Q.18 The two most important operations to ensure the requirements of strength, impermeability and durability of hardened concrete in the actual structure are:

- Ans
- ☐ 1. mixing and placing
 - ☐ 2. mixing and batching
 - ☐ 3. finishing and curing
 - ☒ 4. placing and compacting

Question ID : 99836761573
Status : Answered
Chosen Option : 2

Q.19 The objective of seasoning wood is to:

- Ans
- ☐ 1. decrease strength, durability and work-ability
 - ☐ 2. increase its weight
 - ☒ 3. reduce the shrinkage and warping after placement in a structure
 - ☐ 4. increases its tendency to split and decay

Question ID : 99836761509
Status : Answered
Chosen Option : 3

Q.20 The Process of rubbing down the wood surface by means of pumice stone or glass paper after the prime coat is applied and then filling up all cracks, nail holes, dents, open joints, etc. with putty is known as ____.

- Ans
- ☐ 1. knotting
 - ☒ 2. stopping
 - ☐ 3. preparation of surface
 - ☐ 4. under coating

Question ID : 99836761505
Status : Answered
Chosen Option : 3

Q.21 A fluid, in which shear stress is more than the yield value and shear stress is proportional to the rate of shear strain is known as ____.

- Ans
- ☐ 1. real fluid
 - ☐ 2. non-Newtonian fluid
 - ☒ 3. ideal plastic fluid

 4. Newtonian fluid

Question ID : 99836761547
Status : Answered
Chosen Option : 2

Q.22 When piles are bonded together with water soluble glues such as casein glue, ____ is obtained.

- Ans  1. exterior grade plywood
 2. star plywood
 3. interior grade plywood
 4. diagonal plywood

Question ID : 99836761510
Status : Answered
Chosen Option : 3

Q.23 The process of turning the telescope in a horizontal plane is known as ____.

- Ans  1. swinging the telescope
 2. telescope normal
 3. transiting
 4. plunging

Question ID : 99836761521
Status : Answered
Chosen Option : 1

Q.24 An oven-dried soil having a mass of 200 g is placed in a pycnometer which is then completely filled with water. The total mass of the pycnometer with water and soil inside is 1605 g. The pycnometer filled with water alone has a mass of 1480 g. Calculate the specific gravity of the soil.

- Ans  1. 2.67
 2. 2.5
 3. 2.53
 4. 2.43

Question ID : 99836761531
Status : Answered
Chosen Option : 1

Q.25 Paints which are highly reflective and applied over radiators are:

- Ans  1. asbestos paints
 2. cellulose paints
 3. aluminium paints
 4. bronze paints

Question ID : 99836761514
Status : Answered
Chosen Option : 3

Q.26

The formula for modular ratio, m in reinforced concrete is _____.

Where, σ_{cbc} = permissible compressive strength of concrete in bending.

Ans

☐ 1. $m = \frac{\sigma_{cbc}}{280}$

☐ 2. $m = \frac{3\sigma_{cbc}}{280}$

☒ 3. $m = \frac{280}{3\sigma_{cbc}}$

☐ 4. $m = \frac{280}{\sigma_{cbc}}$

Question ID : 99836761559

Status : Answered

Chosen Option : 3

Q.27 The core of black boards (IS : 1659) is made up of strips of wood each not exceeding _____ in width forming a slab glued between at least two surface veneers.

Ans

☒ 1. 25 mm

☐ 2. 50 mm

☐ 3. 55 mm

☐ 4. 75 mm

Question ID : 99836761511

Status : Not Answered

Chosen Option : --

Q.28 The formula for maximum efficiency η_{max} of pelton wheel turbine is _____. Where, is vane angle at outlet.

Ans

☒ 1. $\eta_{max} = \frac{1+\cos\phi}{2}$

☐ 2. $\eta_{max} = \frac{\cos\phi}{2}$

☐ 3. $\eta_{max} = \frac{1+\sin\phi}{2}$

☐ 4. $\eta_{max} = \frac{\sin\phi}{2}$

Question ID : 99836761558

Status : Answered

Chosen Option : 3

Q.29 The allowable average shear stress in an unstiffened web for beams made of steel of grade 250 N/mm² is:

Ans

☐ 1. 200 N/mm²

☒ 2. 100 N/mm²

☐ 3. 150 N/mm²

☐ 4. 250 N/mm²

Question ID : 99836761568

Status : Answered

Chosen Option : 2

Q.30 For a constant water/cement ratio, as the aggregate/cement ratio is reduced, the workability will:

- Ans
- ☒ 1. not change
 - ☒ 2. increase
 - ☒ 3. increase or decrease
 - ☒ 4. decrease

Question ID : 99836761571

Status : Answered

Chosen Option : 2

Q.31 The constituent of paint used to hide the surface imperfections and to impart the desired colour is:

- Ans
- ☒ 1. pigment
 - ☒ 2. base
 - ☒ 3. solvent
 - ☒ 4. vehicle

Question ID : 99836761512

Status : Answered

Chosen Option : 2

Q.32 The expression for critical depth h_c is _____. Where, q is discharge per unit width and g is the acceleration due to gravity.

- Ans
- ☒ 1. $h_c = \left(\frac{q}{g}\right)^{\frac{1}{3}}$
 - ☒ 2. $h_c = \left(\frac{g}{q}\right)^{\frac{1}{3}}$
 - ☒ 3. $h_c = \left(\frac{g}{q^2}\right)^{\frac{1}{3}}$
 - ☒ 4. $h_c = \left(\frac{q^2}{g}\right)^{\frac{1}{3}}$

Question ID : 99836761556

Status : Answered

Chosen Option : 4

Q.33 The systematic departure of the declination from its mean value during a period of 24 hrs is known as ____.

- Ans
- ☒ 1. annual variation
 - ☒ 2. diurnal variation
 - ☒ 3. secular variation
 - ☒ 4. irregular variation

Question ID : 99836761519

Status : Answered

Chosen Option : 2

Q.34 The impurities which are electrically charged, due to which particles usually very small in size, remain in constant motion and do not settle are:

- Ans
- ☒ 1. dissolved impurities
 - ☒ 2. colloidal impurities
 - ☒ 3. suspended impurities
 - ☒ 4. floating impurities

Question ID : 99836761540
Status : Answered
Chosen Option : 1

Q.35 If the whole circle bearing is $211^{\circ} 54'$, then the quadrantal bearing is:

- Ans
- ☒ 1. $S148^{\circ}6'W$
 - ☒ 2. $S31^{\circ}54'W$
 - ☒ 3. $N148^{\circ}6'W$
 - ☒ 4. $N31^{\circ}54'W$

Question ID : 99836761517
Status : Answered
Chosen Option : 2

Q.36 If a fluid has viscosity 0.05 poise and kinematic viscosity of $0.035 \text{ cm}^2/\text{sec}$, then the specific gravity of the fluid is:

- Ans
- ☒ 1. 1.32
 - ☒ 2. 1.43
 - ☒ 3. 1.53
 - ☒ 4. 1.25

Question ID : 99836761548
Status : Answered
Chosen Option : 2

Q.37 The method of interpolation of contours which is extremely rough and is used for small scale work is:

- Ans
- ☒ 1. estimation
 - ☒ 2. direct method
 - ☒ 3. arithmetic calculations
 - ☒ 4. graphical method

Question ID : 99836761525
Status : Answered
Chosen Option : 1

Q.38 The common methods used for desalination are:

- Ans
- ☒ 1. distillation, osmosis and electrodialysis
 - ☒ 2. distillation, reverse osmosis and electrodialysis
 - ☒ 3. osmosis, electrodialysis and filtration
 - ☒ 4. reverse osmosis, distillation and filtration

Question ID : 99836761537
Status : Answered
Chosen Option : 4

Q.39 The flexural strength of M20 grade concrete as per IS 456 : 2000 is:

- Ans ☒ 1. 3.13 MPa
☐ 2. 4.94 MPa
☐ 3. 3.83 MPa
☐ 4. 4.42 MPa

Question ID : 99836761562
Status : Answered
Chosen Option : 1

Q.40 When reinforcing steel is provided in compression in reinforced concrete beams or columns, the modular ratio to be considered for transformation is generally ____.

- Ans ☐ 1. zero
☐ 2. lesser than that of tension steel
☐ 3. equal to tension steel
☒ 4. greater than that of tension steel

Question ID : 99836761560
Status : Answered
Chosen Option : 4

Q.41 The temporary overburden pressure to which a soil has been subjected and under which it gets consolidated is known as ____.

- Ans ☐ 1. post consolidation pressure
☒ 2. pre-consolidation pressure
☐ 3. over consolidation pressure
☐ 4. under consolidation pressure

Question ID : 99836761532
Status : Answered
Chosen Option : 4

Q.42 The economic depth of web plate d in the design of plate girder is _____. Where, M is the maximum bending moment, σ_{bc} is the permissible bending strength, k is constant.

- Ans ☐ 1. $d = k \left(\frac{\sigma_{bc}}{M} \right)^{\frac{1}{3}}$
☒ 2. $d = k \left(\frac{M}{\sigma_{bc}} \right)^{\frac{1}{3}}$
☐ 3. $d = k \left(\frac{\sigma_{bc}}{M} \right)^{\frac{1}{2}}$
☐ 4. $d = k \left(\frac{M}{\sigma_{bc}} \right)^{\frac{1}{2}}$

Question ID : 99836761566
Status : Answered
Chosen Option : 2

Q.43 The flow in open channels is said to sub-critical if the Froude number is:

- Ans
- ☒ 1. equal to 1
 - ☒ 2. less than 1
 - ☒ 3. greater than 1
 - ☒ 4. zero

Question ID : 99836761553
Status : Answered
Chosen Option : 2

Q.44 In the case of hilly terrain, which method is used to locate the contours?

- Ans
- ☒ 1. Squares method
 - ☒ 2. Direct method
 - ☒ 3. Cross section method
 - ☒ 4. Tacheometric method

Question ID : 99836761524
Status : Answered
Chosen Option : 3

Q.45 The formula for loss of head at the entrance h_i of a pipe is _____. Where, V is the velocity of flow, K is the coefficient, g is the acceleration due to gravity.

- Ans
- ☒ 1. $h_i = \frac{v^2}{2g}$
 - ☒ 2. $h_i = 0.5 \frac{v^2}{2g}$
 - ☒ 3. $h_i = \frac{KV^2}{g}$
 - ☒ 4. $h_i = \frac{KV^2}{2g}$

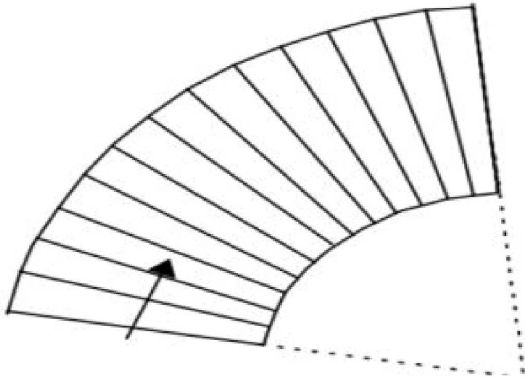
Question ID : 99836761552
Status : Answered
Chosen Option : 2

Q.46 A true statement about clear cover is:

- Ans
- ☒ 1. it is the dimension shown in drawings and detailing.
 - ☒ 2. it is the distance measured from the exposed concrete surface to the nearest surface of the reinforcing bar.
 - ☒ 3. it is the design depth of concrete cover to all steel reinforcements, including links.
 - ☒ 4. it is the distance measured from the face of the member to the center of area of the main reinforcement that is tension or compression reinforcement.

Question ID : 99836761561
Status : Answered
Chosen Option : 2

Q.47 Identify the type of stairs in the given figure:



- Ans
- ☒ 1. spiral stairs
 - ☒ 2. quarter turn stairs
 - ☒ 3. helicoidal stairs
 - ☒ 4. open well stairs

Question ID : 99836761565
Status : Answered
Chosen Option : 4

Q.48 As per IS 456 : 2000, the partial factor of safety for concrete is:

- Ans
- ☒ 1. 0.87
 - ☒ 2. 1.5
 - ☒ 3. 1.15
 - ☒ 4. 1

Question ID : 99836761563
Status : Answered
Chosen Option : 2

Q.49 The main cementitious compounds in Portland cement are:

- Ans
- ☒ 1. C_3S (tricalcium silicate) and C_3A (tricalcium aluminate)
 - ☒ 2. C_3A (tricalcium aluminate) and C_4AF (tetracalcium aluminoferrite)
 - ☒ 3. C_3A (tricalcium aluminate) and C_2S (dicalcium silicate)
 - ☒ 4. C_3S (tricalcium silicate) and C_2S (dicalcium silicate)

Question ID : 99836761569
Status : Answered
Chosen Option : 4

Q.50 The pipes which are manufactured from clays and shales of special qualities and grades, using hot process, are known as ____.

- Ans
- ☒ 1. plastic sewers
 - ☒ 2. stoneware sewers
 - ☒ 3. brick sewers

☒ 4. asbestos cement sewers

Question ID : 99836761545
Status : Answered
Chosen Option : 2

Q.51 Portland cement having less C_3A (Tricalcium aluminate) will have:

- Ans
- ☒ 1. higher ultimate strength, high generation of heat and less cracking
 - ☒ 2. higher ultimate strength, less generation of heat and less cracking
 - ☒ 3. lesser ultimate strength, less generation of heat and less cracking
 - ☒ 4. lesser ultimate strength, less generation of heat and high cracking

Question ID : 99836761507
Status : Answered
Chosen Option : 2

Q.52 The exposed vertical surfaces left on the sides of an opening after the door or window frame has been fitted in position are called as ____.

- Ans
- ☒ 1. reveals
 - ☒ 2. frog
 - ☒ 3. jambs
 - ☒ 4. perpend

Question ID : 99836761508
Status : Answered
Chosen Option : 1

Q.53 A section of sewer constructed lower than adjacent sections, to pass beneath an obstacle or obstruction is called as ____.

- Ans
- ☒ 1. depressed sewer
 - ☒ 2. intercepting sewer
 - ☒ 3. house sewer
 - ☒ 4. relief sewer

Question ID : 99836761544
Status : Answered
Chosen Option : 1

Q.54 As per IS 456 : 2000 for the design of reinforced concrete beam, the maximum allowable shear stress depends on the:

- Ans
- ☒ 1. grade of concrete and steel
 - ☒ 2. grade of steel only
 - ☒ 3. grade of concrete only
 - ☒ 4. grade of concrete and percentage of reinforcement

Question ID : 99836761564
Status : Answered
Chosen Option : 4

Q.55 The head of water over a rectangular notch is 900 mm. The discharge is 300 litres/s. Find

the length of the notch, when co-efficient of discharge is $C_d = 0.62$?

- Ans
- ☒ 1. 164 mm
 - ☒ 2. 192 mm
 - ☒ 3. 200 mm
 - ☒ 4. 170 mm

Question ID : 99836761549
Status : Not Answered
Chosen Option : --

Q.56 An undisturbed sample of clay, 24 mm thick, consolidated 50% in 20 minutes, when tested in the laboratory with drainage allowed at top and bottom. The clay layer, from which the sample was obtained, is 4 m thick in the field. How much time will it take to consolidate 50%, with double drainage?

- Ans
- ☒ 1. 300 days
 - ☒ 2. 350 days
 - ☒ 3. 285 days
 - ☒ 4. 386 days

Question ID : 99836761533
Status : Answered
Chosen Option : 4

Q.57 The requirement of water for domestic use is:

- Ans
- ☒ 1. it should not lead to scale formation
 - ☒ 2. it should not be reasonably free from phenolic compounds, chlorides etc.
 - ☒ 3. it should not be plentiful and cheap
 - ☒ 4. it should not be reasonably soft

Question ID : 99836761539
Status : Answered
Chosen Option : 1

Q.58 A batch mixer in which the axis of the mixer is always horizontal and discharge takes place by inserting a chute into the drum or by reversing the direction or rotation of the drum is known as: _____.

- Ans
- ☒ 1. non-tilting drum mixer
 - ☒ 2. pan-type mixer
 - ☒ 3. dual drum mixer
 - ☒ 4. tilting drum mixer

Question ID : 99836761572
Status : Answered
Chosen Option : 3

Q.59 The Relation between dry density γ_d , specific gravity G , and voids ratio e , Where, γ is the unit weight, S is the degree of saturation is given by:

- Ans
- ☒ 1. $\gamma_d = \frac{(G-1)\gamma}{1+e}$
 - ☒ 2. $\gamma_d = \frac{G\gamma}{1+e}$

☒ 3. $\gamma_d = \frac{(G+e)\gamma}{1+e}$

☒ 4. $\gamma_d = \frac{(G+eS)\gamma}{1+e}$

Question ID : 99836761529

Status : Answered

Chosen Option : 2

Q.60 Which test is used to determine the temperature susceptibility of bitumen?

- Ans
- ☒ 1. Viscosity test
 - ☒ 2. Softening point test
 - ☒ 3. Penetration test
 - ☒ 4. Consistency test

Question ID : 99836761515

Status : Answered

Chosen Option : 2

Q.61 The permanent adjustment of both prismatic and surveyor's compass includes:

- Ans
- ☒ 1. focusing the prism
 - ☒ 2. adjustment of levels
 - ☒ 3. centering
 - ☒ 4. leveling

Question ID : 99836761518

Status : Answered

Chosen Option : 2

Q.62 The formula for Pigment Volume Concentration (PVC) is:

Ans

☒ 1. $PVC = \frac{\text{Total volume of non - volatile vehicle constituents of the paint}}{\text{volume of pigment } \in \text{ paint}}$

☒ 2. $PVC = \frac{\text{Total volume of non - volatile constituents of the paint}}{\text{volume of pigment } \in \text{ paint}}$

☒ 3. $PVC = \frac{\text{volume of pigment } \in \text{ paint}}{\text{Total volume of non - volatile constituents of the paint}}$

☒ 4. $PVC = \frac{\text{volume of pigment } \in \text{ paint}}{\text{Total volume of non - volatile vehicle constituents of the paint}}$

Question ID : 99836761513

Status : Answered

Chosen Option : 4

Q.63 The best side slope, θ (angle made by the sides with horizontal) for most economical trapezoidal section is:

- Ans
- ☒ 1. $\theta = 50$ Degree
 - ☒ 2. $\theta = 60$ Degree
 - ☒ 3. $\theta = 30$ Degree
 - ☒ 4. $\theta = 45$ Degree

Question ID : 99836761555
Status : Answered
Chosen Option : 4

Q.64 The maximum deflection in a steel beam is limited to _____. Where, L is the span length.

- Ans
- ☒ 1. $\frac{L}{250}$
 - ☒ 2. $\frac{L}{360}$
 - ☒ 3. $\frac{L}{150}$
 - ☒ 4. $\frac{L}{325}$

Question ID : 99836761567
Status : Answered
Chosen Option : 2

Q.65 Calculate the moment of inertia of a rectangular lamina with respect to X axis. Take 30 mm width along X axis and 60 mm depth along Y axis. The intersection point of X and Y axis lies on the centroid point of the given lamina.

- Ans
- ☒ 1. 360000 mm⁴
 - ☒ 2. 540000 mm⁴
 - ☒ 3. 450000 mm⁴
 - ☒ 4. 675000 mm⁴

Question ID : 99836761574
Status : Answered
Chosen Option : 2

Q.66 The purpose of a softening plant in water purification works is:

- Ans
- ☒ 1. to remove turbidity, bacteria and other harmful organisms
 - ☒ 2. to remove excessive amounts of iron and manganese
 - ☒ 3. to remove excessive amounts of scale forming, soap consuming ingredients like calcium and magnesium ions
 - ☒ 4. to remove objectionable colour

Question ID : 99836761538
Status : Answered
Chosen Option : 3

Q.67 The protozoal disease in the following is:

- Ans
- ☒ 1. paratyphoid fever
 - ☒ 2. amoebic dysentery

- ☐ 3. cholera
- ☐ 4. bacillary dysentery

Question ID : 99836761543
Status : Answered
Chosen Option : 1

Q.68 If the tangent length for a simple curve is 12 m and the chain age of the point of intersection is 360 m, then the chain age of the starting point of the curve is:

- Ans
- ☐ 1. 325 m
 - ☐ 2. 355 m
 - ☐ 3. 335 m
 - ☒ 4. 348 m

Question ID : 99836761527
Status : Answered
Chosen Option : 4

Q.69 In theodolite work, error in manipulation comes under ____.

- Ans
- ☐ 1. Instrumental error
 - ☐ 2. Natural error
 - ☐ 3. Both natural and personal error
 - ☒ 4. Personal error

Question ID : 99836761522
Status : Answered
Chosen Option : 4

Q.70 When a sewer line dips below the hydraulic grade line, it is called:

- Ans
- ☐ 1. clean outs
 - ☐ 2. flushing tanks
 - ☐ 3. lamphole
 - ☒ 4. inverted siphons

Question ID : 99836761546
Status : Answered
Chosen Option : 2

Section : General Knowledge

Q.1 In November 2019, R Rajagopal has been appointed as the Chief Information Commissioner of which state?

- Ans
- ☐ 1. Andhra Pradesh
 - ☐ 2. Karnataka
 - ☐ 3. Kerala
 - ☒ 4. Tamil Nadu

Question ID : 99836761578
Status : Answered
Chosen Option : 1

Q.2 In November 2019, Government has approved setting up of the National Institute for Sowa-Rigpa (NISR) in which of the following locations?

- Ans
- ☐ 1. Gangtok
 - ☐ 2. Itanagar
 - ☐ 3. Darjeeling
 - ☒ 4. Leh

Question ID : 99836761584
Status : Answered
Chosen Option : 4

Q.3 What is a calorimeter used to measure?

- Ans
- ☐ 1. Measures electric current
 - ☒ 2. Measures quantity of heat
 - ☐ 3. Determines heights and levels
 - ☐ 4. Measures voltage current

Question ID : 99836761581
Status : Answered
Chosen Option : 2

Q.4 Who among the following has been conferred with Lifetime Achievement Award by the Indian Council of Medical Research (ICMR)?

- Ans
- ☐ 1. Dilip Shanghvi
 - ☐ 2. Nilesh Gupta
 - ☒ 3. Kiran Mazumdar-Shaw
 - ☐ 4. Murtaza Khorakiwala

Question ID : 99836761576
Status : Answered
Chosen Option : 4

Q.5 As on November 2019, who is the Governor of Madhya Pradesh?

- Ans
- ☐ 1. Rameshwar Thakur
 - ☐ 2. Ram Naresh Yadav
 - ☐ 3. Om Prakash Kohli
 - ☒ 4. Lalji Tandon

Question ID : 99836761579
Status : Not Answered
Chosen Option : --

Q.6 In November 2019, which Chinese sprinter was appointed to World Athletics Athletes' Commission?

- Ans
- ☐ 1. Xie Zhenye
 - ☐ 2. Zhang Peimang
 - ☒ 3. Su Bingtian
 - ☐ 4. Wei Yongli

Question ID : 99836761580
Status : Not Answered
Chosen Option : --

Q.7 Who was the first Chief Minister of Punjab?

- Ans
- ☒ 1. Gurnam Singh
 - ☒ 2. Gopi Chand Bhargava
 - ☒ 3. Pratap Singh Kairon
 - ☒ 4. Ram Kishan

Question ID : 99836761582
Status : Answered
Chosen Option : 2

Q.8 Matheran is a popular hill station of which of the following states?

- Ans
- ☒ 1. Himachal Pradesh
 - ☒ 2. Karnataka
 - ☒ 3. Tamil Nadu
 - ☒ 4. Maharashtra

Question ID : 99836761575
Status : Answered
Chosen Option : 3

Q.9 Who among the following has been selected for the Indira Gandhi Prize for Peace, Disarmament and Development for 2019?

- Ans
- ☒ 1. Manmohan Singh
 - ☒ 2. Angela Merkel
 - ☒ 3. Sir David Attenborough
 - ☒ 4. M S Swaminathan

Question ID : 99836761583
Status : Answered
Chosen Option : 1

Q.10 As per the report released in October 2019 by an independent brand valuation consultancy, what is India's rank in Brand Finance Nation ranking?

- Ans
- ☒ 1. 9th
 - ☒ 2. 5th
 - ☒ 3. 7th
 - ☒ 4. 6th

Question ID : 99836761577
Status : Not Answered
Chosen Option : --

Section : Reasoning

Q.1 Select the number that will replace the question mark (?) in the following series.

4, 9, 25, 49, ?, 169

- Ans
- ☒ 1. 105
 - ☒ 2. 152
 - ☒ 3. 121
 - ☒ 4. 150

Question ID : 99836761586
Status : Answered
Chosen Option : 3

Q.2 In an art and craft room, 7 students S, T, U, V, W, X and Y are sitting in a circle facing the centre and painting a picture, in the following order:

(i) W is neighbour of S and V.
(ii) Y is not between X and U.
(iii) X is to the immediate right of S.

What is the position of the student X?

- Ans
- ☒ 1. Third to the left of U
 - ☒ 2. To the third right of V
 - ☒ 3. To the immediate right of T
 - ☒ 4. Third to the right of Y

Question ID : 99836761591
Status : Answered
Chosen Option : 2

Q.3 Jiva is daughter of Kartik. Kartik has two sons. Adah is daughter of Mridula who is wife of Kartik's son. Veenu is Prem's mother. Prem is brother of Ashok who is father of Adah. How is Adah related to Veenu?

- Ans
- ☒ 1. Grand daughter
 - ☒ 2. Mother
 - ☒ 3. Sister
 - ☒ 4. Daughter

Question ID : 99836761590
Status : Answered
Chosen Option : 1

Q.4 If a clock strikes 10 in 36 seconds, the time taken to strike 4 at the same rate is:

- Ans
- ☒ 1. 11 seconds
 - ☒ 2. 13 seconds
 - ☒ 3. 12 seconds
 - ☒ 4. 10 seconds

Question ID : 99836761594
Status : Answered
Chosen Option : 2

Q.5 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:
All operators are dancers.

Some dancers are lawyers.

Conclusions:

- I. Some dancers are operators.
- II. No dancer is an operator.

- Ans
- ☒ 1. Both conclusions I and II follow
 - ☒ 2. Either conclusions I or II follows
 - ☒ 3. Only conclusion II follows
 - ☒ 4. Only conclusion I follows

Question ID : 99836761592
Status : Answered
Chosen Option : 4

Q.6 Select the number that will come next in the following series.

1, 8, 27, 64, 125, ?

- Ans
- ☒ 1. 216
 - ☒ 2. 210
 - ☒ 3. 128
 - ☒ 4. 139

Question ID : 99836761587
Status : Answered
Chosen Option : 1

Q.7 Five buses for five different cities Hyderabad, Bangalore, Chennai, Pune and Mumbai depart from five bus terminals T-1 to T-5 but not necessarily in the same order. The Chennai bus departs from T-2. The Mumbai bus does not depart from T-1 and T-4. The Pune bus goes either from T-1 or T- 5. The Hyderabad bus does not leave from T-3 and T-1. The Bangalore bus leaves from T-4. From which terminal does the bus for Hyderabad leave?

- Ans
- ☒ 1. T-3 or T-5
 - ☒ 2. T-1
 - ☒ 3. T-3
 - ☒ 4. T-5

Question ID : 99836761589
Status : Answered
Chosen Option : 1

Q.8 Study the given pattern carefully and select the number that can replace the question mark (?) in it.

4	18	23
19	330	?
3	6	1

- Ans
- ☒ 1. 550
 - ☒ 2. 350
 - ☒ 3. 530
 - ☒ 4. 529

Question ID : 99836761588
Status : Answered
Chosen Option : 2

Q.9 How many pairs of letters in the word 'LAYOUT' have as many letters between them in the word as in the alphabet?

- Ans
- ☒ 1. 1
 - ☒ 2. 3
 - ☒ 3. 2
 - ☒ 4. 0

Question ID : 99836761593
Status : Not Answered
Chosen Option : --

Q.10 Select the letter that will come next in the following series.

K, I, G, E, C, ?

- Ans
- ☒ 1. B
 - ☒ 2. A
 - ☒ 3. D
 - ☒ 4. Z

Question ID : 99836761585
Status : Answered
Chosen Option : 2

Section : General English

Q.1 Select the most appropriate option to fill in the blank.

His timely assistance _____.

- Ans
- ☒ 1. disappointed us greatly
 - ☒ 2. helped us tide over our difficulties
 - ☒ 3. proved his miserliness
 - ☒ 4. helped us aggravate our difficulties

Question ID : 99836761604
Status : Answered
Chosen Option : 2

Q.2 Select the most appropriate ANTONYM of the given word.

SOLITUDE

- Ans
- ☒ 1. Peace
 - ☒ 2. Calm
 - ☒ 3. Privacy
 - ☒ 4. Togetherness

Question ID : 99836761596
Status : Answered

Chosen Option : 4

Q.3 Select the most appropriate articles to fill in the blanks.

_____ police have followed _____ number of clues but have drawn _____ blank.

- Ans
- ☒ 1. The; an; an
 - ☒ 2. The; a; a
 - ☒ 3. A; a; an
 - ☒ 4. A; the; the

Question ID : 99836761598
Status : Answered
Chosen Option : 2

Q.4 Select the most appropriate preposition to fill in the blank.

There is enough evidence _____ him to prove him guilty.

- Ans
- ☒ 1. from
 - ☒ 2. for
 - ☒ 3. through
 - ☒ 4. against

Question ID : 99836761599
Status : Answered
Chosen Option : 4

Q.5 Parts of the following sentence are given as options. Identify the part that has an error.

I have no wish to set myself up as an example from others.

- Ans
- ☒ 1. I have no wish
 - ☒ 2. to set myself up
 - ☒ 3. as an example
 - ☒ 4. from others

Question ID : 99836761602
Status : Answered
Chosen Option : 4

Q.6 Select the most appropriate phrasal verb to fill in the blank.

Those who were very keen about the project, _____ in the end.

- Ans
- ☒ 1. backed in
 - ☒ 2. backed down
 - ☒ 3. backed up
 - ☒ 4. backed out

Question ID : 99836761597
Status : Answered
Chosen Option : 4

Q.7 Select the correctly spelt word.

- Ans
- ☒ 1. Fledgeling

- ☐ 2. Fleding
- ☒ 3. Fledgling
- ☐ 4. Fledgleing

Question ID : 99836761601
Status : Answered
Chosen Option : 1

Q.8 Select the grammatically correct sentence from the given options.

- Ans ☒ 1. My elder brother resembled no one in the family.
- ☐ 2. My elder brother no one in the resembled family.
 - ☐ 3. My resembled elder brother no one in the family.
 - ☐ 4. My elder brother no one resembled in the family.

Question ID : 99836761603
Status : Answered
Chosen Option : 1

Q.9 Select the most appropriate option to fill in the blank.

My parents were against my becoming a singer, but _____ they agreed.

- Ans ☒ 1. eventually
- ☐ 2. furthermore
 - ☐ 3. whereas
 - ☐ 4. seldom

Question ID : 99836761600
Status : Answered
Chosen Option : 1

Q.10 Select the most appropriate synonym of the given word.

IMPLICIT

- Ans ☐ 1. Acquired
- ☐ 2. Corresponding
 - ☒ 3. Inherent
 - ☐ 4. Expressed

Question ID : 99836761595
Status : Answered
Chosen Option : 3