OSSC

Previous Year Paper

JE (Civil)

15 May, 2019 Shift 2

Candidate Name		**Assessment Name**	
Set Code	: set_15	**Candidate Id**	
Mobile Number			

* Correct Answer is in Bold and slightly bigger
* Candidate selected option is Underlined

Civil

Q2721595 Read the following statements and choose the CORRECT option with respect to the shape of aggregates and their workability.

(a) Rounded Aggregates usually show a high workability as compared to angular, flaky or elongated aggregates.
(b) Irregular or partly rounded aggregates may result in 65- 70% of voids and give higher workability as compared to rounded aggregates.

Score Obtained : 1.0

A) (a) is TRUE and (b) is FALSE
B) (a) is FALSE and (b) is FALSE
C) (a) is TRUE and (b) is TRUE
D) (a) is FALSE and (b) is TRUE

Q2721598 Polyvinyl chloride (PVC) is a type of

Score Obtained : 1.0

A) Thermoplastic material
B) Rigid-plastic material
C) Thermosetting material
D) Elastoplastic material

Q2722373 Read the following statements and choose the CORRECT option with respect to PERT network analysis of construction management.

(i) PERT system of analysis uses event oriented network diagrams.
(ii) This system of analysis is usually preferred for projects which are repetitive.

Score Obtained : -0.25

A) (i) is TRUE and (ii) is TRUE
B) (i) is TRUE and (ii) is FALSE
C) (i) is FALSE and (ii) is TRUE
D) (i) is FALSE and (ii) is FALSE

Q2722759 During a project planning, which type of float determines the flexibility available or the amount of time that an activity can be delayed without the activity interfering/delaying with any of its successor activities?

Score Obtained : -0.25

A) Free float
B) Interfering float
C) Total float
D) Independent float

Q2722678 A possible fluid flow is represented by which of the following velocity fields that satisfies the continuity equation?

Score Obtained : 0.0

A) $u = xy, v = x^2y^2$
B) $u = x, v = -y$

C) $u = x, v = y^2$

D) $u = x^2, v = y^2$

Q2726550 To check for the occurrence of Cavitation in a Centrifugal pump or a turbine, the Thoma's Cavitation Factor (σ) and Critical Cavitation Factor (σ_c) for that pump is usually compared. The cavitation will NOT occur in a particular turbine or pump when

Score Obtained : 0.0

A) $\sigma > \sigma_c$

B) $\sigma = \sigma_c / 2$

C) $\sigma < \sigma_c$

D) $\sigma = \sigma_c$

Q2722626 The foundation of a weir consists of a horizontal floor of 30 m length, an upstream pile of depth 8 m, and a downstream pile of depth 12 m. The creep length according to Bligh's Creep Theory is

Score Obtained : 0.0

A) 70 m

B) 90 m

C) 110 m

D) 50 m

Q2722616 Read the following statements and choose the CORRECT option with respect to reclamation of alkaline soils.

(i) Reclamation of alkaline soils can be done by, chemical method in which some chemicals like Gypsum is added to the soil in order to brine the alkalinity to desired level.

(ii) Also this reclamation can be done by mechanical practices such as improving drainage and leaching, mechanical shattering of clay pans, and scrapping.

Score Obtained : 0.0

A) (i) is TRUE and (ii) is FALSE

B) (i) is FALSE and (ii) is TRUE

C) (i) is FALSE and (ii) is FALSE

D) (i) is TRUE and (ii) is TRUE

Q2722432 As per IS 456:2000, in the absence of test data, the approximate value of total shrinkage strain for design of concrete should be taken as

Score Obtained : 1.0

A) 0.0005

B) 0.0002

C) 0.0004

D) 0.0003

Q2722441 Given below are the two main types of weld used for steel structures.
(i) Butt Weld
(ii) Fillet Weld

Which of the following options is a type of weld that is used when members overlap with each other?

Score Obtained : 1.0

A) Neither (i) nor (ii)

B) Only (i)

C) Only (ii)

D) Both (i) and (ii)

Q2722749 The required slope correction for a measured length of 80 m along a gradient of 1 in 20 is approximately equal to

Score Obtained : 0.0

A) 10 m
B) 0.75 cm
C) 10 cm
D) 5.75 cm

Q2722733 If the magnetic bearing of a line AB, is 123° 35', find its true bearing, if the magnetic declination is 10°10' W.

Score Obtained : 1.0

A) 113° 25'
B) 124° 35'
C) 134° 35'
D) 10° 10'

Q2744238 The method of repair and strengthening of building foundation in which a additional foundation is installed so that additional depth and bearing capacity is achieved is known as

Score Obtained : 1.0

A) Grouting
B) Jacketing
C) Shoring
D) Underpinning

Q2721596 Which of the following materials is NOT generally used as a binder in oil paints?

Score Obtained : -0.25

A) Linseed oil
B) Turpentine
C) Resins
D) Bitumen

Q2722755 What is the full form of PERT, a network based scheduling system for managing a project in construction?

Score Obtained : 1.0

A) Project Execution and Review Technique
B) Program Execution and Review Technique
C) Process Evaluation and Review Technique
D) Program Evaluation and Review Technique

Q2722667 For the Flow through pipes or tubes, the type of flow will be turbulent if the Reynolds Number is

Score Obtained : 1.0

A) greater than or equal to 4000
B) equal to 1000
C) in between 1000 to 2000
D) equal to 2000

Q2722628 Rainfall resulting from lifting of warm moisture laden air masses due to topographic barriers, is known as

Score Obtained : -0.25

A) Converging precipitation
B) Orographic precipitation
C) Cyclonic precipitation
D) Convective precipitation

Q2722445 As per IS:456-2000, a continuous beam shall be considered as a deep beam if the ratio of its effective span to overall depth is less than

Score Obtained : 1.0

A) 5
B) 3.5
C) 2.5
D) 7

Q2722743 Generally in Chain Surveying, the area to be surveyed is divided into number of small triangles which should be well conditioned. Certain lines control the accuracy of this triangulation work. In this regard, the line joining the apex point of a triangle to some fixed point on its base is known as

Score Obtained : 1.0

A) Offset Line
B) Main Line
C) Tie Line
D) Check Line

Q2744235 As per Indian Standards, the Masonry units for earthquake resistant buildings, should be constructed with solid concrete blocks having crushing strength NOT less than

Score Obtained : 0.0

A) 4.5 MPa
B) 5.5 MPa
C) 2.5 MPa
D) 3.5 MPa

Q2721611 Pozzolanic materials are those that do not have cementitious properties themselves, but form cementitious compounds by reacting with lime in presence of water. Identify the Artificial Pozzolanic material among the given options.

Score Obtained : 1.0

A) Clays
B) Volcanic tuffs
C) Fly Ash
D) Shale

Q2722757 Which of the following options is an example of an event in the network analysis for managing a project in construction?

Score Obtained : 1.0

A) Excavate Foundation
B) Mix Concrete
C) Excavation Completed
D) Assemble Parts

Q2722289 Which of the following options is NOT one of the main objectives of a Site Investigation for a particular construction with respect to soil exploration?

Score Obtained : 1.0

A) To access the soil condition at the site of construction from a geological, geotechnical and aerial perspective
B) To access the ground water conditions at the site of construction
C) Measurement of mechanical properties such as strength of different soil or rock strata at the site of construction
D) The measurement of vertical distance between two points on an undulated ground at the site of construction

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Q2722681 Read the following statements and choose the CORRECT option with respect to the stream function in Kinematics of flow.

(i) The stream function is defined for only three-dimensional flow.
(ii) If the stream function exists, the flow has to be rotational.

Score Obtained : 0.0

A) (i) is FALSE and (ii) is TRUE

B) (i) is TRUE and (ii) is TRUE

C) (i) is TRUE and (ii) is FALSE

D) (i) is FALSE and (ii) is FALSE

Q2722610 The moisture content or a point below which a crop or a plant can no longer extract moisture from the soil for its growth is known as

Score Obtained : 1.0

A) Capillary Point

B) Hydrated Water

C) Field Capacity

D) Permanent Wilting Point

Q2722495 Fire demand is one of the factors for estimating the quantity of water required in a certain community. The Kuchling's formula for estimating the fire demand (Q) in litres per minute is given by

(Here P= Population in thousands)

(Symbols and notations carry their usual meaning)

Score Obtained : 1.0

A) Q = 2500 (P/5 +10)

B) Q = 1136.5 (P/5 +10)

C) Q = 5663 √P

D) Q = 3182 √P

Q2722427 In a R.C.C beam section, if the area of steel reinforcement is of such magnitude that the permissible stresses in concrete and steel are developed simultaneously, then the section is known as

Score Obtained : 1.0

A) Under-reinforced section

B) Over-reinforced section

C) Critical section

D) Prestressed section

Q2722433 In case of a R.C.C. rectangular beam, what is the shape of shear stress distribution curve for the complete section?

Score Obtained : 1.0

A) Parabolic

B) Sigmoid

C) Zigzag

D) Triangular

Q2722582 Raveling is usually the disintegration of an asphalt road surface. Which of the following is NOT a cause of raveling in bituminous pavements?

Score Obtained : -0.25

A) Inadequate Compaction of the surface

B) Construction done during rainfall

C) Construction done at high temperatures

D) Low bitumen content in the mixture

Q2722286 Which of the following options is an example of parallel activity during the construction of a structure in general?

Score Obtained : 1.0

A) Casting of roof and construction of parapet wall

B) Construction of walls and casting of roofs

C) Construction of walls and carpentry work of doors and windows

D) Digging of a septic tank pit and the concreting of a septic tank

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Q2722406 Which of the following refers to the level between the building's window base and floor level above ground level?

Score Obtained : 1.0

A) Lintel Level

B) Beam Level

C) Sill Level

D) Plinth Level

Q2722618 The geological formation, which does NOT contain any amount of ground water is an

Score Obtained : -0.25

A) aquitard

B) aquifer

C) aquiclude

D) aquifuge

Q2722501 The type of layout of water supply distribution system that has only one main from which sub-mains and laterals branch off, and also most suitable for an irregularly grown city is

Score Obtained : 1.0

A) ring system

B) grid iron system

C) dead-end system

D) radial system

Q2722742 One of the Tacheometric constants in Surveying is called Additive, and the other constant is termed as:

Score Obtained : 1.0

A) Dividing Constant

B) Indicative Constant

C) Subtractive Constant

D) Multiplying Constant

Q2722575 Read the following statements and choose the CORRECT option with respect to Width of Pavement or Carriageway in Highway Engineering.

(i) Width of the carriage way or the width of the pavement depends on the width of the traffic lane and number of lanes.
(ii)Width of a traffic lane usually depends on the height of the vehicle and whether it is geared or non-geared type.

Score Obtained : 1.0

A) (i) is TRUE and (ii) is TRUE

B) (i) is TRUE and (ii) is FALSE

C) (i) is FALSE and (ii) is TRUE

D) (i) is FALSE and (ii) is FALSE

Q2722559 Which of the following options is considered as general indirect overhead expense in construction industry?

Score Obtained : 0.0

A) Travelling expenses

B) Amenities like fitness club to labour

C) Interest on investment

D) Losses on advance payment

Q2722564 For a residential building the livable area(carpet area) should be 50% to 65% of the

Score Obtained : 1.0

A) Plinth Area

B) Area of Balcony

C) Area of Porch

D) Staircase Area

Q2722511 Which of the following statements is INCORRECT with respect to the factors considered for selecting the materials for a Sewer Pipe in general?

Score Obtained : 1.0

A) The material selected should be highly pervious

B) The material should be corrossion resistance for long life of the pipe

C) The sewer should have smooth interior surface

D) The material selected for sewer should have less specific weight

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Q2722473 A fixed beam AB of span L carries a uniformly distributed load of w/unit length over the entire length, with constant flexural rigidity EI. The deflection at the centre of the beam will be:
(symbols/notations carry their usual meaning)

Score Obtained : 1.0

A) wL^2 / 248EI

B) wL^4 / 384EI

C) wL^3 / 48EI

D) wL^4/ 48EI

Q2722580 Which of the following shapes of the camber is usually preferred for cement concrete pavements?

Score Obtained : -0.25

A) Combination of straight and parabolic

B) Parabola

C) Straight line

D) Semi-Circle

Q2722594 Extra widening refers to the additional width of carriageway that is required on a curved section of a road over and above that required on a straight alignment. In this regard, the additional width required, due to the tendency of the drivers to ply away from the edge of the carriageway as they drive on a curve is known as

Score Obtained : 1.0

A) Mechanical widening

B) Psychological widening

C) Physical widening

D) Motor widening

Q2721590 Match the following IS-Codes in List I with their corresponding specifications for different building materials in List II.

List I	List II
(a) IS 3495–1976	(i) Specifications for ordinary portland cement
(b) IS 432–1982	(ii) Specifications for building bricks
(c) IS 269–1989	(iii) Specifications for coarse and fine aggregates
(d) IS 383–1970	(iv) Specifications for mild steel
	(v) Specifications for timber

Score Obtained : 0.0

A) (a) - (i), (b) - (ii), (c) - (iv), (d) - (iii)

B) (a) - (iii), (b) - (iv), (c) - (i), (d) - (v)

C) (a) - (i), (b) - (iv), (c) - (ii), (d) - (v)

D) (a) - (ii), (b) - (iv), (c) - (i), (d) - (iii)

Q2721618 Read the following assertion and reason statements and choose the CORRECT option.

Assertion (A): Lime mortars are usually considered suitable for the construction of chimneys.

Reason (R): Lime mortars have a property of continued strength development over a long period.

Score Obtained : 1.0

A) A is true but R is false

B) Both A and R are false

C) Both A and R are true and R is the correct explanation of A

D) Both A and R are true but R is NOT the correct explanation of A

Q2722401 Which of the following options is a type of strip footing?

Score Obtained : 1.0

A) Bearing pile footing

B) Friction pile footing

C) Well footing

D) Wall footing

Q2722400 According to Terzaghi what is the condition for a shallow foundation?

Score Obtained : 1.0

A) The depth should be always five times the width

B) The depth should be three times the width

C) The depth should be equal to or less than the width

D) The depth should be greater than the width

Q2722680 Vortex flow is defined as the flow of a fluid along a curved path. Which of the following options is NOT an example of 'Free Vortex Flow'?

Score Obtained : 0.0

A) Flow of water through the runner of a turbine

B) Flow of water around a circular bend in a pipe

C) Flow of fluid through the hole at the bottom of a container

D) Flow of fluid in a centrifugal pump casing

Q2722676 The fluid flows can be defined as Compressible or Incompressible on the basis of Mach Number. The flow will be Incompressible if the Mach Number is

Score Obtained : 1.0

A) more than 0.3

B) less than 0.3

C) equal to 0.5

D) more than 0.5

Q2722504 During the treatment of water, the process which involves addition of chlorine beyond break point chlorination, is known as

Score Obtained : 1.0

A) dechlorination

B) post chlorination

C) prechlorination

D) super chlorination

Q2722533 With respect to wastewater treatment, MPN index is the measure of

(symbols/notations carry their usual meaning)

Score Obtained : -0.25

A) BOD
B) COD
C) coliform bacteria
D) dissolved oxygen

Q2722486 Which of the following options is NOT an advantage of a fixed beam over a simply supported beam?

Score Obtained : 1.0

A) For the same loading, the maximum deflection of a fixed beam is less than that of a simply supported beam
B) For the same loading, the fixed beam is subjected to a lesser maximum bending moment
C) The slope at both ends of a fixed beam is maximum
D) The fixed beam is more stable and stronger

Q2722430 Read the following statements and choose the CORRECT option.

(i) The effective depth of a T-Beam is the distance between the top of the flange and the bottom of the web.
(ii)For designing purposes, the overall depth of a simply supported T-Beam is usually assumed as 1/12 to 1/15 of the span.

Score Obtained : 1.0

A) (i) is FALSE and (ii) is FALSE
B) (i) is FALSE and (ii) is TRUE
C) (i) is TRUE and (ii) is TRUE
D) (i) is TRUE and (ii) is FALSE

Q2722591 PIEV theory is used to interpret the reaction time of a driver for calculating sight distance/s in highway geometric designs. In this theory 'P' stands for

Score Obtained : 1.0

A) Performance Time
B) Perception Time
C) Panic Time
D) Penetration Time

Q2722576 As per I.R.C : 66 -1976, for a design speed of 80 kmph the absolute minimum stopping distance of a moving vehicle should be approximately equal to

Score Obtained : 1.0

A) 80 m
B) 120 m
C) 160 m
D) 200 m

Q2744193 Prefabrication concept in construction industry involves, combination of good design with modern high performance components and quality controlled manufacturing procedures.

Which of the following options is an advantage of prefabrication method used for construction?

Score Obtained : 0.0

A) This method leads to non-monolithic construction
B) Shuttering and scaffolding is usually not necessary in this method
C) Handling and transportation may cause breakages of members during the transit
D) Skilled labour and supervision is required for this method

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Q2722403 What should be the minimum height of a door opening as a general rule in India?

Score Obtained : 1.0

A) 2.8 to 3 meters

B) 1.8 to 2 meters

C) 4.8 to 5 meters

D) 3.8 to 4 meters

Q2722500 A neutral solution with pH = 7, will have hydroxyl ion concentration, equal to

Score Obtained : 1.0

A) 10^{-9}

B) 10^{9}

C) 10^{-7}

D) 10^{5}

Q2722728 A prismatic compass is a navigation and surveying instrument which is extensively used to find out the bearing of the traversing and included angles between them, waypoints (an endpoint of the lcourse) and direction. What is the least count of a prismatic compass?

Score Obtained : -0.25

A) 20 minutes

B) 30 minutes

C) 1 minute

D) 18 minutes

Q2722377 Using the PERT formula find the approximate expected time (T_e) to paint a room in a building with the data given below.
Optimistic Time (O) to paint = 2 Hours
Most Likely Time (M) to paint = 3 Hours
Pessimistic time to paint = 5 Hours

Score Obtained : 1.0

A) T_e = 1.2 Hours

B) T_e = 2.2 Hours

C) T_e = 3.2 Hours

D) T_e = 4.2 Hours

Q2722541 If center to center length of long wall L is 5 m, and center to center length of short wall S is 3 m and wall thickness is 0.30 m, then the length of short wall will be

Score Obtained : 1.0

A) 3.6 m

B) 2.4 m

C) 2.7 m

D) 3.3 m

Q2722633 The quality of irrigation water may be affected by Toxicity of specific ions, turbidity of water and Sodium-Absorption ratio. This Sodium-Absorption ratio (SAR) is defined as

(Symbols and notations carry their usual meaning)

Score Obtained : 1.0

A) $SAR = Ca^{+} / \{ \sqrt{(Na^{++} + Mg^{++})/2}\}$

B) $SAR = Na^{+} / \{\sqrt{(Ca^{++} + Mg^{++})/2}\}$

C) $SAR = Mg^{++} / \{\sqrt{(Ca^{++} + Na^{++})/2}\}$

D) $SAR = Na^{+} / \{\sqrt{(Ca^{++} - Mg^{++})/2}\}$

Q2722480 A simply supported beam is subjected to a moment M at the centre. The shear force diagram will be

Score Obtained : 1.0

A) circular in shape
B) parabolic in shape
C) rectangular in shape
D) triangular in shape

Q2722723 Reciprocal ranging is generally adopted when, which of the following options is encountered?

Score Obtained : -0.25

A) A hillock
B) A river
C) A plain land
D) A pond

Q2744222 Piles used to transfer load through water or soft soil to a suitable bearing stratum to minimize settlement is termed as:

Score Obtained : 1.0

A) Fender Piles
B) End Bearing Pile
C) Friction Pile
D) Compaction Pile

Q2721585 Mild steel is widely used as a construction material and proven to be highly durable. This mild steel is usually which type of steel, among the given options?

(i) Low Carbon Steel
(ii) Medium Carbon Steel
(iii) High Carbon Steel

Score Obtained : 1.0

A) Only (iii)
B) Both (i) and (iii)
C) Both (ii) and (iii)
D) Only (i)

Q2722536 As per the National Building Code of India 2005, for a Habitable room, the minimum height from the surface of the floor to the ceiling or bottom of slab should NOT be less than

Score Obtained : 1.0

A) 0.75 m
B) 1.5 m
C) 2.75 m
D) 1.75 m

Q2722462 A frame is usually known as Deficient Frame if the number of members are less than (Given : j= number of joints)
(symbols/notations carry their usual meaning)

Score Obtained : 1.0

A) 3j + 2
B) 2j - 3
C) 3j - 2
D) 2j + 3

Q2744223 Box like structures –circular or rectangular built above ground level and sunk to required depth from the surface of either land or water, for major and heavy foundation work such as under water as in lakes, rivers, seas, and oceans, are known as

Score Obtained : 0.0

A) Locks
B) Cofferdam
C) Caisson
D) Scaffolding

Q2721599 Match the following types of plastics in List I with their corresponding uses in List II.

List I Types of Plastics	List II Uses
(a) Polyvinyl Chloride (PVC)	(i) Paints, Varnishes and Wood adhesive for plywood
(b) Phenol Formaldehyde	(ii) Manufacture of Roofing Sheets
	(iii) Manufacture of Rainwater Pipes

Score Obtained : 0.0

A) (a - i, iii), (b - ii)
B) (a - i), (b - ii, iii)
C) (a - ii, iii), (b - i)
D) (a - iii), (b - i, ii)

Q2722290 How many number of storeys can be constructed for a residential plot of 600 m^2 if floor space index is 2 and covered area at ground floor is 150m^2 ?

Score Obtained : 1.0

A) 8
B) 10
C) 12
D) 6

Q2722668 In which type of flow the fluid particles will flow along stream lines and also rotate about their own axis?

Score Obtained : 1.0

A) Vertical flow
B) Irrotational flow
C) Rotational flow
D) Horizontal flow

Q2722615 With respect to Khosla's Theory on diversion head-works the permissible exit gradient for fine sand is

Score Obtained : 0.0

A) between 1/4 to 1/5
B) 0
C) 1
D) between 1/6 to 1/7

Q2722422 Tension / flexure cracks in a R.C.C beam usually develop

Score Obtained : 0.0

A) in a horizontal straight line for the total length of the beam
B) in circular patterns
C) in a vertical direction
D) initially in a horizontal straight line and then incline towards the top of the beam

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Q2722731 Cross-staff is usually an instrument used for setting out right angles. Which of the following angles can be set with the help of French cross-staff?

Score Obtained : 1.0

A) Both 45° and 90°

B) Any angle between 95° and 120°

C) 45° only

D) 90° only

Q2722758 Activity and event are the two basic elements of a project network. In this regard, the term Total Float in an activity is equal to

Score Obtained : 1.0

A) Maximum time available to complete an activity / Activity duration

B) Activity duration - Maximum time available to complete an activity

C) Maximum time available to complete an activity - Activity duration

D) Maximum time available to complete an activity + Activity duration

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Q2722675 Generally, if the density of a fluid changes from point to point in a fluid flow, this type of flow is known as

Score Obtained : 1.0

A) Rotational Flow

B) Incompressible Flow

C) Compressible Flow

D) Irrotational Flow

Q2722425 According to IS:456-2000, in a R.C.C column the spacing of longitudinal bars measured along the periphery of the column should NOT exceed

Score Obtained : 1.0

A) 300 mm

B) 200 mm

C) 100 mm

D) 50 mm

Q2722561 Quantities for the brick masonry work are generally computed in

Score Obtained : 1.0

A) m

B) cu m

C) kg

D) sq m

Q2722539 The unit of measurement in MKS system for providing skirting in internal walls is generally in

Score Obtained : 1.0

A) Meters

B) Cubic Meters

C) Quintals

D) Number of Pieces

Q2722490 If a fixed beam is carrying a concentrated load W at the centre, with uniform rigidity EI throughout its span, then its maximum deflection would be

Score Obtained : -0.25

A) WL^3 / 48EI

B) WL^3 / 96EI

C) $WL^3 / 192EI$

D) $5WL^3 / 384EI$

Q2722487 A truss containing 'j' joints and 'm' members, will be a perfect frame if

Score Obtained : 1.0

A) j = 2m-3

B) j = 3m-2

C) m = 2j-3

D) m = 3j-2

Q2744195 Data given for a concrete mixer is as follows:

(i) the effective working = 10 hours
(ii) the time per batch of concrete = 3 minutes
(iii) efficiency = 90%.

The output of concrete mixer of 150 litres capacity will be

Score Obtained : 1.0

A) 25000 litres

B) 27000 litres

C) 15000 litres

D) 20000 litres

Q2744240 A road roller is used to compact soil, concrete, gravel, or asphalt in the construction of foundations and roads. The type of roller that is large in size, ride-on roller with several rows of rubber tyres on the front or rear ends which provide uniform pressure on pavement is:

Score Obtained : 1.0

A) Tandem Vibratory Roller

B) Sheepsfoot Roller

C) Pneumatic Roller

D) Single Drum Roller

Q2722389 Member designed or constructed to resist inclined thrust in an arch is known as

Score Obtained : -0.25

A) Soffit

B) Voussoirs

C) Abutment

D) Crown

Q2722529 Read the following statements and choose the CORRECT option with respect to hardness of water.

i. The hardness in water is mainly caused by calcium and magnesium salts that can cause deposits in the water distribution pipes leading to damage or reduced efficiency of flows.
ii. When the soluble salts of magnesium and calcium are present in the form of chlorides and sulphides in water, we call it permanent hardness because this hardness cannot be removed by boiling.

Score Obtained : 1.0

A) (i) is TRUE and (ii) is TRUE

B) (i) is FALSE and (ii) is TRUE

C) (i) is TRUE and (ii) is FALSE

D) (i) is FALSE and (ii) is FALSE

Q2722585 For a stream of vehicles, if q=flow, k=density and v= space mean speed, then the fundamental equation of the Traffic Flow is given by

(symbols and notation carry their usual meaning)

Score Obtained : 1.0

A) q = k - v

B) q = k x v

C) q = k / v

D) q = k + v

Q2722372 In a network diagram of project planning, the Critical Path is a path that moves along activities having Total Float equal to

Score Obtained : 1.0

A) Zero

B) Infinity

C) Unity

D) Negative

Q2722407 Which of the following pile foundations is classified based on the function?

Score Obtained : 1.0

A) Driven Piles

B) Bored Piles

C) Composite Piles

D) Friction Piles

Q2722556 The quantity of door and frame work is measured in

Score Obtained : -0.25

A) meters

B) cubic meters

C) square meters

D) kg/m³

Q2722554 Floor area ratio (FAR) denotes the maximum floor space that can be constructed on a piece of land. FAR is the ratio of

Score Obtained : 1.0

A) Total built-up area of the building to the plot area

B) Area of verandah to plot area

C) Plot area to carpet area

D) Plot area to the sum of covered area of all floors of the building

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Q2722552 If the maximum built up area is 800 m² and its covered area at ground floor is 200 m², then the number of floors that can be constructed is

Score Obtained : 0.0

A) 4

B) 1

C) 2

D) 3

Q2722619 An irrigation outlet is said to be proportional when its setting is equal to

Score Obtained : 0.0

A) channel index + outlet index

B) channel index - outlet index

C) outlet index / channel index

D) channel index x outlet index

Q2722503 The chlorine demand of a water sample was found to be 0.2 mg/litre. The amount of bleaching powder containing 20% available chlorine to be added to treat one litre of such a water sample is

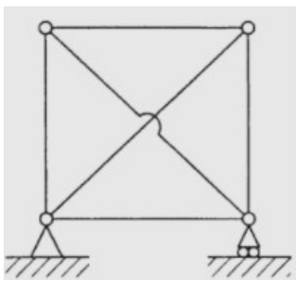
Score Obtained : 1.0

A) 0.14 mg
B) 0.06 mg
C) 1.0 mg
D) 2.33 mg

Q2722516 A pipe installed in a drainage system, that conveys the foul air upwards out of a building is generally known as

Score Obtained : -0.25

A) waste pipe
B) vent pipe
C) soil pipe
D) anti-siphonage pipe



Q2722470 For the pin-jointed truss shown in the figure above, identify whether the truss is

(i) Statically determinate
(ii) Statically indeterminate
(iii) Unstable

Score Obtained : 1.0

A) Only (i)
B) Only (ii)
C) Only (iii)
D) Both (ii) and (iii)

Q2722481 A three-hinged parabolic arch of span l and rise h carries a uniformly distributed load of w per unit run over the whole span. The Horizontal Thrust at each support will be

Score Obtained : 1.0

A) $wl^3 / 4h$
B) $wl^2 / 4h$
C) $wl^3 / 8h$
D) $wl^2 / 8h$

Q2722453 In the design of R.C.C. footings by Limit State Method, there are two types of shears considered namely one-way shear and two way shear. The critical section for the two-way shear lies at a distance equal to

(Given d= effective depth of footing)

Score Obtained : 1.0

A) d/8 from the face of the column
B) d/12 from the face of the column
C) d from the face of the column
D) d/2 from the face of the column

Q2722726 To continue a survey line AB past on obstacle, a line BC 300 m long was set out perpendicular to AB, and from 'C' angle BCD and was set out at 45°. Determine the obstructed length BD in 'm'.

Score Obtained : 0.0

A) 400 m

B) 300 m

C) 100 m

D) 150 m

Q2722603 Various fixtures like Fish Plate, Chairs, Bearing Plates and Anchors are required to keep the rails in position. In this regard, which of the following options is NOT a function of Fish Plate in general?

Score Obtained : 1.0

A) It provides full expansion and contraction

B) It holds only the Double Headed rail in position

C) It provides resistance against wear

D) It bears vertical and lateral stresses without distortion

Q2722573 Pensky-Martens apparatus is used to test the sustainability of bitumen and bituminous binders used in highways. This test is called as

Score Obtained : -0.25

A) Water content test

B) Specific gravity test

C) Softening point test

D) Fire and flash point test

Q2744197 Excessive surface trowelling of concrete should be avoided because it may cause a phenomenon known as:

Score Obtained : -0.25

A) Flaking

B) Laitance

C) Peeling

D) Finishing
