ISRO Tech Asst. (Civil) 03 Nov 2022

⭐ **Latest Govt Job updates**

⭐ **Private Job updates**

⭐ **Free Mock tests available**

Visit - teachingninja.in

भारत सरकार :: अंतरिक्ष विभाग
Government of India :: Department of Space

यू. आर. राव उपग्रह केंद्र, बेंगलूरू

भारतीय अंतरिक्ष अनुसंधान संगठन
Indian Space Research Organisation

इसरो ISRO

U.R. RAO SATELLITE CENTRE
Bengaluru

Participant ID	
Participant Name	
Test Center Name	
Test Date	03/11/2022
Test Time	3:30 PM - 6:30 PM
Subject	TECHNICAL ASSISTANT (CIVIL) Post Code 020

Section : **TECHNICAL ASSISTANT (CIVIL) Post Code 020**

Q.1

The shear stress required to produce unit rate of angular deformation in a fluid is known as

a. Dynamic viscosity
b. Kinematic viscosity
c. Compressibility
d. Surface tension

Ans ✔ A. a
✘ B. b
✘ C. c
✘ D. d

Question ID : **1703224524**
Status : **Answered**
Chosen Option : **A**

Q.2

When a body is immersed in a fluid, the upward force exerted by the fluid on the body is known as

a. Shear force
b. Force of Buoyancy
c. Frictional force
d. Surface tension

Ans ✘ A. a
✔ B. b
✘ C. c
✘ D. d

Question ID : **1703224525**
Status : **Answered**
Chosen Option : **B**

Q.3

Failure of a short column is due to

a. Buckling
b. Crushing
c. both (a) and (b)
d. None of the above

Ans ✗ A. a
 ✔ B. b
 ✗ C. c
 ✗ D. d

Question ID : **1703224507**
Status : **Answered**
Chosen Option : **B**

Q.4

The device used for measuring pressure at a point in a fluid is

a. Venturimeter
b. Pitot tube
c. Manometer
d. Orifice meter

Ans ✗ A. a
 ✗ B. b
 ✔ C. c
 ✗ D. d

Question ID : **1703224527**
Status : **Answered**
Chosen Option : **C**

Q.5

The Enoscope is used to measure?

a. Traffic flow

b. Capacity of highway

c. Spot speed of a vehicle

d. Traffic volume

Ans   ✗ A. a

    ✗ B. b

    ✓ C. c

    ✗ D. d

Question ID : **1703224531**
Status : **Answered**
Chosen Option : **C**

Q.6

Match List-I with List-II and select the correct answer using the options given below the lists:

LIST - I	LIST-II
A. Streak	1. Mohs scale
B. Hardness	2. Shine on mineral surface
C. Lusture	3. Mineral colour in powdered form

	A B C		A B C		A B C		A B C
a.	1 2 3	b.	2 1 3	c.	3 1 2	d.	3 2 1

Ans   ✗ A. a

    ✗ B. b

    ✓ C. c

    ✗ D. d

Question ID : **1703224513**
Status : **Answered**
Chosen Option : **B**

Q.7

A force vector is given as, $\vec{F} = 3\vec{i} + 5\vec{j}$ (N) and displacement vector as $\vec{S} = 2\vec{i} + 3\vec{j}$ (m), i & j being orthogonal vectors, calculate the work done

     a. 1 Joules

     b. 21 Joules

     c. 9 Joules

     d. 15 Joules

Ans   ✗ A. a

      ✔ B. b

      ✗ C. c

      ✗ D. d

Question ID : **1703224474**
Status : **Not Answered**
Chosen Option : **--**

Q.8

The moment of inertia of a triangular section having base '2b' and height 'h' about an axis passing through its centre of gravity and parallel to its base is

     a. $\dfrac{bh^3}{12}$

     b. $\dfrac{bh^3}{18}$

     c. $\dfrac{bh^3}{24}$

     d. $\dfrac{bh^3}{36}$

Ans   ✗ A. a

      ✔ B. b

      ✗ C. c

      ✗ D. d

Question ID : **1703224515**
Status : **Answered**
Chosen Option : **B**

Q.9

Among the following, the strongest bond in brick masonry is

    a. Stretcher bond

    b. Header bond

    c. Flemish bond

    d. English bond

Ans   ✗ A. a

      ✗ B. b

      ✗ C. c

      ✔ D. d

> Question ID : **1703224505**
> Status : **Answered**
> Chosen Option : **D**

Q.10

Match List-I with List-II and select the correct answer using the options given below the lists:

LIST - I	LIST-II
A. Sap Wood	1. Separation between adjacent layers of tissues
B. Knot	2. Disintegration caused by fungi
C. Shake	3. A branch base embedded in timber by natural growth
D. Rot	4. Outer layers of a log of wood

	A B C D		A B C D		A B C D		A B C D
a.	1 2 3 4	b.	3 4 2 1	c.	1 3 2 4	d.	4 3 1 2

Ans   ✗ A. a

      ✗ B. b

      ✗ C. c

      ✔ D. d

> Question ID : **1703224509**
> Status : **Answered**
> Chosen Option : **D**

Q.11

In compaction of a soil mass, the increase in compactive effort results in

   a. decreased maximum dry density and decreased optimum moisture content

   b. increased maximum dry density and increased optimum moisture content

   c. increased maximum dry density and decreased optimum moisture content

   d. decreased maximum dry density and   increased optimum moisture content

Ans   ✗ A. a

      ✗ B. b

      ✔ C. c

      ✗ D. d

Question ID : **1703224491**
Status : **Answered**
Chosen Option : **C**

Q.12

In prestressed concrete, the time-dependent losses in prestress which occur during the service life of the prestressed member is due to

   a. Elastic shortening

   b. Relaxation of the steel

   c. Slip of the anchorage

   d. None of the above

Ans   ✗ A. a

      ✔ B. b

      ✗ C. c

      ✗ D. d

Question ID : **1703224481**
Status : **Answered**
Chosen Option : **B**

Q.13

Elastic limit is the point....................

        a. up to which stress is proportional to strain

        b. at which elongation takes place without application of additional load

        c. up to which if the load is removed, original volume and shape are regained

        d. at which toughness is maximum

Ans   ✘ A. a

        ✘ B. b

        ✔ C. c

        ✘ D. d

Question ID : **1703224518**
Status : **Answered**
Chosen Option : **C**

Q.14

Addition of Ground Granulated Blast Furnace Slag (GGBS) in concrete leads to

        a. reduction in heat of hydration

        b. reduction in durability

        c. early setting of concrete

        d. All of the above

Ans   ✔ A. a

        ✘ B. b

        ✘ C. c

        ✘ D. d

Question ID : **1703224514**
Status : **Answered**
Chosen Option : **A**

Q.15

The bond resistance in reinforced concrete is influenced by
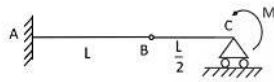
     a. Chemical adhesion

     b. Frictional resistance

     c. Mechanical interlock

     d. All the above

Ans ✗ A. a

     ✗ B. b

     ✗ C. c

     ✔ D. d

Question ID : **1703224480**
Status : **Answered**
Chosen Option : **D**

Q.16

A propped cantilever beam with an internal hinge as shown below is subjected to a moment 'M' at the propped end. The moment and shear force developed at fixed end respectively are,

     a. M and M/L

     b. 2M and 2M/L

     c. M/2 and 2M/L

     d. 2M and M/2L

Ans ✗ A. a

     ✔ B. b

     ✗ C. c

     ✗ D. d

Question ID : **1703224483**
Status : **Answered**
Chosen Option : **B**

Q.17

If the carbon content in steel increases, its

    a. strength decreases

    b. malleability increases

    c. hardness decreases

    d. ductility decreases

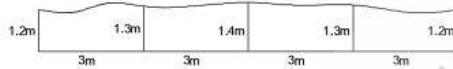**Ans** ✘ A. a

     ✘ B. b

     ✘ C. c

     ✔ D. d

Question ID : **1703224517**
Status : **Answered**
Chosen Option : **C**

Q.18

Using the ordinates given below, calculate the area of the section using Simpson's rule.

1.2m	1.3m	1.4m	1.3m	1.2m
	3m	3m	3m	3m

    a. 15.6 m^2

    b. 14.2 m^2

    c. 13.2 m^2

    d. 12.6 m^2

Ans ✔ A. a

     ✘ B. b

     ✘ C. c

     ✘ D. d

Question ID : **1703224487**
Status : **Not Answered**
Chosen Option : **--**

Q.19

A well-conditioned triangle has no angle less than

a. 15°

b. 30°

c. 25°

d. 45°

Ans ✗ A. a

✓ B. b

✗ C. c

✗ D. d

Question ID : **1703224519**
Status : **Answered**
Chosen Option : **B**

Q.20

Following consecutive readings were taken on a fly levelling with a levelling instrument. 0.955, 2.15, 1.25, 1.76, 0.785, 2.055, 1.535 and 0.835. The Reduced level of the first point is 100.000m. Find the Reduced level of the last point.

a. 102.275 m

b. 102.725 m

c. 97.725 m

d. 97.275 m

Ans ✗ A. a

✗ B. b

✓ C. c

✗ D. d

Question ID : **1703224523**
Status : **Not Answered**
Chosen Option : **--**

Q.21

In steel beams, the Web crippling occurs due to

a. compressive force in compression flange

b. concentrated load transfer through web

c. excessive bending deflection

d. None of the above

Ans   ✖ A. a

         ✔ B. b

         ✖ C. c

         ✖ D. d

Question ID : **1703224495**
Status : **Answered**
Chosen Option : **B**

Q.22

The piles used to protect water-front structures against impact from ships and other floating objects is known as

a. Fender piles

b. Uplift piles

c. Sheet piles

d. Friction piles

Ans   ✔ A. a

         ✖ B. b

         ✖ C. c

         ✖ D. d

Question ID : **1703224493**
Status : **Answered**
Chosen Option : **A**

Q.23

The method of irrigation that can be adopted at regions where there is acute shortage of irrigation water is

        a. Sprinkler Irrigation method
        b. Basin flooding
        c. Drip Irrigation method
        d. check flooding

Ans ✗ A. a

    ✗ B. b

    ✓ C. c

    ✗ D. d

> Question ID : **1703224500**
> Status : **Answered**
> Chosen Option : **C**

Q.24

The ratio of Young's modulus of high tensile steel to that of mild steel is about

        a.   0.5
        b.   1.0
        c.   1.5
        d.   2.0

Ans ✗ A. a

    ✓ B. b

    ✗ C. c

    ✗ D. d

> Question ID : **1703224498**
> Status : **Answered**
> Chosen Option : **B**

Q.25

The line joining points of equal amounts of rainfall is known as

    a. Isohyet
    b. Isonif
    c. Isochrone
    d. Isopleth

Ans ✔ A. a
    ✘ B. b
    ✘ C. c
    ✘ D. d

Question ID : **1703224497**
Status : **Answered**
Chosen Option : **A**

Q.26

Which of the following test is usually used to determine the softening point of bitumen?

    a. Ductility test
    b. Specific gravity test
    c. Ring and Ball test
    d. Flash point test

Ans ✘ A. a
    ✘ B. b
    ✔ C. c
    ✘ D. d

Question ID : **1703224530**
Status : **Answered**
Chosen Option : **C**

Q.27

Which of the following types of aggregate gives maximum strength in concrete?

    a. Cubical aggregates

    b. Rounded aggregates

    c. Flaky Aggregates

    d. Elongated Aggregates

Ans   ✔ A. a

      ✘ B. b

      ✘ C. c

      ✘ D. d

Question ID : **1703224511**
Status : **Answered**
Chosen Option : **A**

Q.28

The distance between two points measured with a 30m chain was recorded as 327m. It was afterwards found that the chain was 3cm too long. What is the true distance between the points in 'm'?

    a.   326.673

    b.   327.237

    c.   326.763

    d.   327.327

Ans   ✘ A. a

      ✘ B. b

      ✘ C. c

      ✔ D. d

Question ID : **1703224520**
Status : **Answered**
Chosen Option : **D**

Q.29

Find the value of 'm' when $\begin{vmatrix} m & 0 & 1 \\ 2 & 4 & 2 \\ -2 & 3 & 1 \end{vmatrix} = 0$

     a.   9

     b.   5

     c.   2

     d.   7

Ans ✗ A. a

     ✗ B. b

     ✗ C. c

     ✔ D. d

Question ID : **1703224472**
Status : **Answered**
Chosen Option : **D**

Q.30

The dimensional formula of Pressure is

     a. ML^{-2}

     b. $ML^{-2}T^{-1}$

     c. MLT^{2}

     d. $ML^{-1}T^{-2}$

Ans ✗ A. a

     ✗ B. b

     ✗ C. c

     ✔ D. d

Question ID : **1703224473**
Status : **Answered**
Chosen Option : **D**

Q.31

एक पदार्थ का प्रत्यक्ष रुप में उसके ठोस स्थिति से गैसीय स्थिति में परिवर्तन को .... कहते हैं।

          a. पिघलना
          b. वाष्पिकरण
          c. संघनन
          d. ऊर्ध्वपातन

Ans ✘ A. a
       ✘ B. b
       ✘ C. c
       ✔ D. d

> Question ID : **1703224476**
> Status : **Answered**
> Chosen Option : **D**

Q.32

In a plate load test conducted on a clayey soil, a 300mm square test plate settles by 8mm under a load intensity of 0.1N/mm². All conditions remaining the same, the settlement of a square footing of size 1.5m will be

          a. 40 mm
          b. 24 mm
          c. 50 mm
          d. 32 mm

Ans ✔ A. a
       ✘ B. b
       ✘ C. c
       ✘ D. d

> Question ID : **1703224528**
> Status : **Not Answered**
> Chosen Option : **--**

Q.33

A simply supported beam of length 5m is subjected to a point load of 40kN at 2m distance from the left support. Calculate the bending moment at the midspan.

         a.   50 kNm

         b.   60 kNm

         c.   40 kNm

         d.   20 kNm

Ans ✗ A. a

      ✗ B. b

      ✓ C. c

      ✗ D. d

Question ID : **1703224484**

Status : **Answered**

Chosen Option : **C**

Q.34
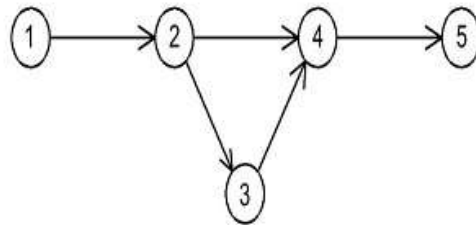
The future population of a growing town is forecasted by

      a. Geometric Increase method

      b. Arithmetic Increase method

      c. Incremental Increase method

      d. None of the above

Ans ✓ A. a

      ✗ B. b

      ✗ C. c

      ✗ D. d

Question ID : **1703224502**

Status : **Answered**

Chosen Option : **A**

Q.35

In the network shown below, the activity 4-5 can be started only when

a. activity 2-3 is completed

b. activity 2-4 is completed

c. activity 3-4 is completed

d. both activity 2-4 and 3-4 are completed

Ans   ✗ A. a

✗ B. b

✗ C. c

✔ D. d

Question ID : **1703224496**

Status : **Not Answered**

Chosen Option : **--**

Q.36

Which among the following field test is generally used to determine the soundness of brick?

a. Striking two bricks together

b. Dropping the brick on hard surface from a height of 1m

c. Immersion of bricks in water for 24 hours

d. Scratching of brick with nail

Ans   ✔ A. a

✗ B. b

✗ C. c

✗ D. d

Question ID : **1703224494**

Status : **Answered**

Chosen Option : **A**

Q.37

On an old map, a line was drawn to a magnetic bearing of 320°30', when the declination was 3°15'W. Find the present magnetic bearing of the line, if the declination is 4°30'E
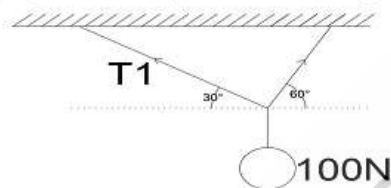
a. 321°15'

b. 319°45'

c. 328°15'

d. 312°45'

Ans ✗ A. a

✗ B. b

✗ C. c

✓ D. d

Question ID : **1703224522**
Status : **Answered**
Chosen Option : **D**

Q.38

If a steel ball weighing 100 N is hung as shown in the fig below, find the force T1

a. 25 N

b. 50 N

c. 75 N

d. 80 N

Ans ✗ A. a

✓ B. b

✗ C. c

✗ D. d

Question ID : **1703224521**
Status : **Answered**
Chosen Option : **B**

Q.39

A rice crop is to be irrigated in a field, the duty of the rice crop is 840hectares/cumec and the base period of rice is 120days. Determine delta of crop.

       a. 1.31 m

       b. 1.10 m

       c. 1.35m

       d. 1.23 m

Ans ✗ A. a

      ✗ B. b

      ✗ C. c

      ✓ D. d

Question ID : **1703224499**
Status : **Answered**
Chosen Option : **D**

Q.40

निम्नलिखित में से ग्रीनहाउस गैस _____ है

      a. कार्बन डाइआक्साइड

      b. मीथेन

      c. क्लोरोफ्लोरो कार्बन

      d. उपरोक्त सभी

Ans ✗ A. a

      ✗ B. b

      ✗ C. c

      ✓ D. d

Question ID : **1703224503**
Status : **Answered**
Chosen Option : **D**

Q.41

The vertical sides of a door and window openings provided in a wall is known as

      a. Reveals

      b. hold fast

      c. Jambs

      d. verticals

Ans ✗ A. a

      ✗ B. b

      ✔ C. c

      ✗ D. d

Question ID : **1703224504**
Status : **Answered**
Chosen Option : **B**

Q.42

Match the properties of cement provided in List-I with the corresponding testing method/apparatus in List-II and select the correct answer using the options given below the lists:

LIST - I	LIST-II
A. Fineness of cement	1. Autoclave test
B. Soundness	2. Blaine's Air permeability method
C. Specific Gravity	3. Le Chaterlier's flask

	A	B	C			A	B	C			A	B	C			A	B	C
a.	1	2	3	b.		2	1	3	c.		3	1	2	d.		3	2	1

Ans ✗ A. a

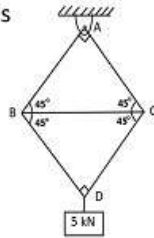   ✔ B. b

      ✗ C. c

      ✗ D. d

Question ID : **1703224510**
Status : **Answered**
Chosen Option : **B**

Q.43

A weight of 5kN is suspended in a truss at joint 'D' as shown below. The force in member BC is

a. 5√2kN Tension

b. 5√2kN Compression

c. 5√2kN Tension

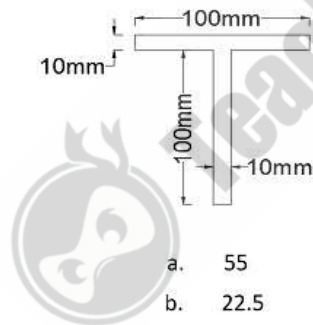d. 5kN Compression

Ans   ✗ A. a

✗ B. b

✗ C. c

✓ D. d

Question ID : **1703224482**
Status : **Answered**
Chosen Option : **B**

Q.44

Find the depth of centroid from the top of the Tee section shown below in 'mm'.

a.   55

b.   22.5

c.   32.5

d.   77.5

Ans   ✗ A. a

✗ B. b

✓ C. c

✗ D. d

Question ID : **1703224506**
Status : **Answered**
Chosen Option : **C**

Q.45

The allowable bearing capacity of soil is determined by considering

     a. shear failure of soil

     b. excessive settlement of soil

     c. shear failure and excessive settlement of soil

     d. bond failure and shear failure of soil

Ans ✗ A. a
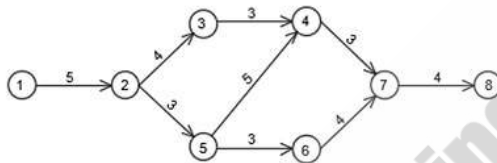
     ✗ B. b

     ✔ C. c

     ✗ D. d

Question ID : **1703224492**

Status : **Answered**

Chosen Option : **C**

Q.46

In the network diagram shown below, the duration of the activities is written along their arrows. The critical path of the activities is along

     a. 1-2-3-4-7-8

     b. 1-2-5-6-7-8

     c. 1-2-5-4-7-8

     d. Both (a) and (b)

Ans ✗ A. a

     ✗ B. b

     ✔ C. c

     ✗ D. d

Question ID : **1703224486**

Status : **Not Answered**

Chosen Option : **--**

Q.47

Which one of the following is highly effective in compaction of cohesion less soil

    a. Vibratory Roller

    b. Sheep foot roller

    c. Smooth wheeled roller

    d. Pneumatic tyre roller

Ans   ✔ A. a

      ✘ B. b

      ✘ C. c

      ✘ D. d

Question ID : **1703224485**
Status : **Answered**
Chosen Option : **A**

Q.48

For a rectangular beam of size 200mm x 525mm with effective cover for tension reinforcement as 25mm, calculate the minimum tension reinforcement required according to IS:456-2000. (The grade of tensile steel is Fe500)

    a. 2nos of 12mm diameter bar

    b. 2nos of 8mm diameter bar

    c. 2nos of 20mm diameter bar

    d. 2nos of 16mm diameter bar

Ans   ✔ A. a

      ✘ B. b

      ✘ C. c

      ✘ D. d

Question ID : **1703224479**
Status : **Not Answered**
Chosen Option : **--**

Q.49

Dioxin is released during which one of the following processes?

      a. Sanitary land filling

      b. Incineration

      c. Composting

      d. Pulverisation

Ans   ✘ A. a

       ✔ B. b

       ✘ C. c

       ✘ D. d

Question ID : **1703224489**
Status : **Answered**
Chosen Option : **B**

Q.50

The important factor to be considered in the design of valley curves in a highway is

      a. Sight distance

      b. Super elevation

      c. Impact factor

      d. Comfort to the passengers

Ans   ✘ A. a

       ✘ B. b

       ✘ C. c

       ✔ D. d

Question ID : **1703224529**
Status : **Answered**
Chosen Option : **A**

Q.51

The hardness of water is tested by

    a. Mohr's method

    b. EDTA method

    c. Orthotolidine method

    d. Starch-iodine method

Ans ✗ A. a

    ✓ B. b

    ✗ C. c

    ✗ D. d

Question ID : **1703224501**
Status : **Answered**
Chosen Option : **B**

Q.52

Find the magnitude of the resultant of two forces 30N and 40N acting at right angles to each other

    a. 50 N

    b. 40 N

    c. 70 N

    d. 30 N

Ans ✓ A. a

    ✗ B. b

    ✗ C. c

    ✗ D. d

Question ID : **1703224475**
Status : **Answered**
Chosen Option : **A**

Q.53

The pressure exerted by the soil on a retaining wall when the retaining wall moves towards the backfill is known as

    a. Active Earth pressure

    b. Passive Earth pressure

    c. Pressure at rest

    d. swelling pressure

Ans ✗ A. a

      ✔ B. b

      ✗ C. c

      ✗ D. d

Question ID : **1703224490**

Status : **Answered**

Chosen Option : **A**

Q.54

Galvanisation is a process in which the iron or steel is coated with a protective layer of

    a. Zinc

    b. Manganese

    c. Lead

    d. Aluminium

Ans ✔ A. a

      ✗ B. b

      ✗ C. c

      ✗ D. d

Question ID : **1703224477**

Status : **Answered**

Chosen Option : **A**

Q.55

The pressure in meters of oil (Specific gravity 0.8) equivalent to 42m of water is

        a. 50 m

        b. 52.5 m

        c. 40 m

        d. 48.6 m

Ans ✗ A. a

      ✔ B. b

      ✗ C. c

      ✗ D. d

Question ID : **1703224516**
Status : **Answered**
Chosen Option : **B**

Q.56

The difference between the theoretical discharge and the actual discharge of a pump is known as

      a. Coefficient of Discharge

      b. Volumetric Efficiency of pump

      c. Displacement

      d. Slip

Ans ✗ A. a

      ✗ B. b

      ✗ C. c

      ✔ D. d

Question ID : **1703224526**
Status : **Answered**
Chosen Option : **B**

Q.57

An RCC overhead water tank having inner dimensions of 3m x 4m and height 2m is to be coated with water proof paint inside the tank (excluding top cover slab). Calculate the quantity of paint required if its unit consumption is 0.3 ltr/sqm.

a. 3.6 ltr
b. 12.0 ltr
c. 8.4 ltr
d. 7.2 ltr

Ans ✗ A. a

✓ B. b

✗ C. c

✗ D. d

Question ID : **1703224488**
Status : **Answered**
Chosen Option : **D**

Q.58

Efflorescence of bricks is due to

a. soluble salts present in clay for making bricks
b. high porosity of bricks
c. high silt content in brick earth
d. excessive burning of bricks

Ans ✓ A. a

✗ B. b

✗ C. c

✗ D. d

Question ID : **1703224508**
Status : **Answered**
Chosen Option : **A**

Q.59

As compared to Ordinary Portland Cement (OPC), the Rapid Hardening Portland Cement (RHPC) has

a. higher fineness

b. higher C_3S content

c. both (a) and (b)

d. none of the above

Ans   ✗ A. a

✗ B. b

✔ C. c

✗ D. d

Question ID : **1703224478**
Status : **Answered**
Chosen Option : **C**

Q.60

For the movement of vehicles at an intersection of two major roads, without any interference, the type of grade separator generally preferred is

a. Diamond Interchange

b. Full cloverleaf Interchange

c. Trumpet Interchange

d. None of the above

Ans   ✗ A. a

✔ B. b

✗ C. c

✗ D. d

Question ID : **1703224512**
Status : **Answered**
Chosen Option : **A**