CRIS JE
(Civil)

Previous Year Paper

19 Feb, 2023 Shift 1

Participant ID	
Participant Name	
Test Center Name	
Test Date	19/02/2023
Test Time	8:30 AM - 10:30 AM
Subject	Junior Engineer Civil

Section : **General Knowledge**

Q.1 **The _____ trap monsoon winds from the Arabian Sea and Bay of Bengal and forces them to shed their moisture content within the Indian sub-continent in the form of snow and rain.**

Ans
✗ A. Western ghats
✗ B. Eastern ghats
✓ C. Himalayas
✗ D. Aravalli ranges

Question ID : **63068085276**
Status : **Answered**
Chosen Option : **D**

Q.2 **Identify the correct chronological order of these poverty alleviation programmes in India.**
a) Integrated rural development programme
b) National food for work
c) Rural housing - Indira Awas Yojana

Ans
✗ A. c, b and a
✗ B. a, b and c
✗ C. b, c and a
✓ D. a, c and b

Question ID : **630680134292**
Status : **Not Answered**
Chosen Option : **--**

Q.3 **Which Article of the Constitution of India deals with the constitution of a Finance Commission at the expiration of every fifth year or at such earlier time as the President considers necessary?**

Ans
✗ A. Article 281
✓ B. Article 280
✗ C. Article 245
✗ D. Article 255

Question ID : **630680132044**
Status : **Answered**
Chosen Option : **B**

Q.4 **Which of the following countries accepted the British protectorate over Sikkim after its settlement with the English government in 1890?**

Ans
- ✗ A. Bhutan
- ✗ B. Nepal
- ✓ C. China
- ✗ D. Burma

Question ID : **63068087100**
Status : **Answered**
Chosen Option : **C**

Q.5 **Consider the following facts about literacy rate of Kerala (according to Census of India 2011). Which of these facts is/are correct?**
A.Total literacy rate of Kerala was 94.00%.
B.Male literacy rate of Kerala was 96.11%.
C.Female literacy rate of Kerala was 92.07%.

Ans
- ✗ A. Only A and B
- ✗ B. Only A
- ✗ C. Only A and C
- ✓ D. A, B and C

Question ID : **630680117191**
Status : **Not Answered**
Chosen Option : **--**

Q.6 **What measures are considered in order to fight inflation in India?**
A.Increase CRR
B.Reduce Repo Rate
C.Increase SLR

Ans
- ✗ A. Only A
- ✗ B. Only B
- ✓ C. Both A and C
- ✗ D. Both B and C

Question ID : **630680117183**
Status : **Answered**
Chosen Option : **C**

Q.7 **Which of the following are financed through the budget and can be used without any direct payment?**

Ans
- ✓ A. Public goods
- ✗ B. Private production
- ✗ C. Private goods
- ✗ D. Public production

Question ID : **630680127441**
Status : **Not Answered**
Chosen Option : **--**

Q.8 Which of the following regions of India does NOT receive high rainfall?

Ans
- ✔ A. Ladakh
- ✘ B. West coast
- ✘ C. North East states
- ✘ D. Western Ghats

Question ID : **63068053650**
Status : **Answered**
Chosen Option : **A**

Q.9 Which one of the following is the most abundant biomolecule in the living system.

Ans
- ✘ A. Fats
- ✘ B. Fibre
- ✔ C. Protein
- ✘ D. Vitamins

Question ID : **63068099634**
Status : **Answered**
Chosen Option : **A**

Q.10 Where did the Indigo Rebellion by peasants take place in India?

Ans
- ✘ A. Bihar
- ✘ B. Kerala
- ✔ C. West Bengal
- ✘ D. Gujarat

Question ID : **630680114119**
Status : **Answered**
Chosen Option : **A**

Q.11 Which of the following is the general formula for carbohydrates?

Ans
- ✔ A. Cx (H_2O)y
- ✘ B. RCH(NH2)COOH
- ✘ C. R-CH(NH2)-COOH
- ✘ D. CH3(CH2)nCOOH

Question ID : **63068078561**
Status : **Answered**
Chosen Option : **A**

Q.12 Which of the following States has a bicameral Legislature?

Ans
- ✘ A. Gujarat
- ✘ B. Kerala
- ✔ C. Bihar
- ✘ D. Assam

Question ID : **630680114580**
Status : **Answered**
Chosen Option : **C**

Section : **General Aptitude Reasoning**

Q.1 **In a certain code language, 'FRIED' is coded as 'DREFI' and 'SALTY' is coded as 'YATSL'.**
What is the code for 'BURST' in that language?

Ans
✗ A. TSBRU
✓ B. TUSBR
✗ C. TSURB
✗ D. TBSRU

Question ID : **630680106110**
Status : **Answered**
Chosen Option : **B**

Q.2 **HOSPITABLE शब्द के प्रत्येक अक्षर को वर्णानुक्रम में व्यवस्थित किया गया है। नए बने शब्द में अंग्रेजी वर्णमाला श्रृंखला में बाएं से चौथे अक्षर और दाएं से पांचवें अक्षर के बीच कितने अक्षर हैं?**

Ans
✓ A. तीन
✗ B. चार
✗ C. छह
✗ D. पांच

Question ID : **63068084018**
Status : **Not Answered**
Chosen Option : **--**

Q.3 **108 किमी/घंटा की चाल से चलने वाली एक रेलगाड़ी एक बिजली के खंभे को 10 सेकंड में और एक प्लेटफॉर्म को 70 सेकंड में पार करती है। प्लेटफॉर्म की लंबाई कितनी है?**

Ans
✗ A. 1.6 किमी
✗ B. 1.2 किमी
✗ C. 1.4 किमी
✓ D. 1.8 किमी

Question ID : **630680103724**
Status : **Answered**
Chosen Option : **D**

Q.4 **Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if they appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.**

Statements:
Some trees are animals.
All the animals are planets.

Conclusions:
I. Some trees are planets is a possibility.
II. No animal is a tree.

Ans
✗ A. Both conclusions I and II follow
✗ B. Only conclusion II follows
✗ C. Either conclusion I or II follows
✓ D. Only conclusion I follows

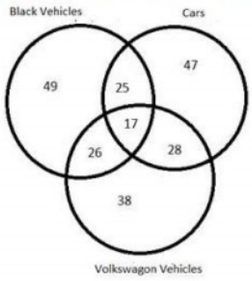
Question ID : **63068070002**
Status : **Answered**
Chosen Option : **D**

Q.5 **In a row of 30 people facing north, Harsha is 6th from the right end. If Rishi sits fourth to the left of Harsha, what is Rishi's position from the left end of the row?**

Ans
✗ A. 23
✗ B. 24
✗ C. 22
✓ D. 21

Question ID : **63068083550**
Status : **Answered**
Chosen Option : **D**

Q.6 The following Venn diagram shows a group of people like Black vehicles, Volkswagon Vehicles and Cars



How many people like Volkswagon vehicles but NOT black vehicles?

Ans
✗ A. 38
✓ B. 66
✗ C. 26
✗ D. 49

Question ID : **63068082933**
Status : **Answered**
Chosen Option : **B**

Q.7 **The greatest number of four digits which is divisible by 12, 25, 45 and 80 is:**

Ans
✗ A. 7000
✓ B. 7200
✗ C. 7290
✗ D. 7260

Question ID : **63068060031**
Status : **Answered**
Chosen Option : **B**

Q.8 **एक समकोण त्रिभुज में समकोण की भुजाओं के बीच का अंतर 14 cm है। त्रिभुज का क्षेत्रफल 120 cm^2 है। इसका परिमाप ज्ञात करें।**

Ans
✓ A. 60 cm
✗ B. 80 cm
✗ C. 70 cm
✗ D. 40 cm

Question ID : **630680131152**
Status : **Answered**
Chosen Option : **A**

Q.9 **A truck covers a distance of 30 km at a speed of 40km/h. What should be its speed for the next 80 kms if the average speed is 60 km/h?**

Ans
- ✔ A. 73.84 km/h
- ✘ B. 89.85 km/h
- ✘ C. 77.8 km/h
- ✘ D. 87.56 km/h

Question ID : **630680106811**
Status : **Answered**
Chosen Option : **A**

Q.10 **0.16 और 0.25 के बीच मध्यानुपाती ज्ञात कीजिए।**

Ans
- ✘ A. 0.17
- ✘ B. 0.15
- ✔ C. 0.20
- ✘ D. 0.06

Question ID : **630680101819**
Status : **Answered**
Chosen Option : **C**

Q.11 **AA, AB, AC बहनें हैं। H, AA का पति है और उनके 2 पुत्र हैं। J, AB का पति है और उनकी दो पुत्रियाँ हैं। AC का विवाह L से हुआ है। R, AC की माँ है। S, R का पति है। S का J से क्या संबंध है?**

Ans
- ✘ A. पुत्र
- ✔ B. ससुर
- ✘ C. दामाद
- ✘ D. पिता

Question ID : **63068084148**
Status : **Answered**
Chosen Option : **B**

Q.12 यदि $3\frac{501}{1156}$ का वर्गमूल मानक रूप में $\frac{a}{b}$ है, तो $a+b+3$ का मान क्या है?

Ans
- ✔ A. 100
- ✘ B. 96
- ✘ C. 88
- ✘ D. 110

Question ID : **63068060153**
Status : **Not Answered**
Chosen Option : **--**

Section : **Building Materials**

Q.1 Match the items under **List 1** (Methods of seasoning of timber) with those under **List 2** (Procedure of seasoning adopted).

List 1	List 2
P. Water seasoning	1. Arrangements for heating and humidifying the drying air to the desired conditions of temperature and relative humidity and its circulation over the surfaces of stacked timber.
Q. Air seasoning	2. Electric current is passed through the electrodes touching the ends of timber, generating heat in process, and drying of timber.
R. Kiln seasoning	3. Logs of wood kept immersed in running streams of water with larger end pointing upstream; thereafter logs kept out in the air to dry.
S. Electric seasoning	4. Logs of sawn wood in convenient sizes stacked in a covered shed in cross wise directions in alternate layers, permitting free circulation of air.

Use codes in List for matching. Choose the correct answer.

Ans
✗ A. P – 4, Q – 3, R – 2, S – 1
✓ B. P – 3, Q – 4, R – 1, S – 2
✗ C. P – 4, Q – 1, R – 2, S – 3
✗ D. P – 3, Q – 1, R – 4, S – 2

Question ID : **630680171632**
Status : **Answered**
Chosen Option : **B**

Q.2 **Which of the following tests is NOT performed to assess the consistency of bitumen?**

Ans
✗ A. Softening point test
✗ B. Viscosity test
✗ C. Penetration test
✓ D. Flash and fire point test

Question ID : **630680171628**
Status : **Answered**
Chosen Option : **D**

Q.3 **Coal tar pitch is classified into four grades – Soft pitch, Soft medium pitch, Hard medium pitch, Hard pitch, on the basis of:**

Ans
✗ A. viscosity
✗ B. specific gravity
✗ C. flash and fire point
✓ D. softening point

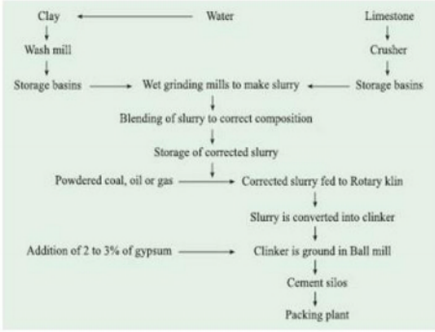
Question ID : **630680171631**
Status : **Answered**
Chosen Option : **D**

Q.4 **Following IS 712 -1984, the lime used for structural purposes (for making mortar and concrete for construction and foundation works) having an initial setting time of 2 hours (minimum) and final setting time of 48 hours (maximum) is:**

Ans
✗ A. Class D – Magnesium/Dolomitic lime
✗ B. Class F – Silicious dolomitic lime
✗ C. Class C – Fat lime
✓ D. Class A – Eminently hydraulic lime

Question ID : **630680171629**
Status : **Answered**
Chosen Option : **D**

Q.5 The flow chart showing the manufacture of Ordinary Portland Cement is shown in the figure. Identify the process.



Ans
✗ A. Diffusion process
✗ B. Dry process
✓ C. Wet process
✗ D. Hydrophobic process

Question ID : **630680171634**
Status : **Answered**
Chosen Option : **C**

Q.6 **Arrange the following soil types in the increasing order (minimum to maximum) of their safe bearing capacity values. Use the codes with materials.**
Granite (G), Hard Shale (H), Coarse Sand (CS), Sandstone (S), Fine Sand (FS)

Ans
✗ A. CS, FS, S, H, G
✗ B. CS, FS, G, H, S
✗ C. FS, CS, S, G, H
✓ D. FS, CS, H, S, G

Question ID : **630680171630**
Status : **Answered**
Chosen Option : **D**

Q.7 **The bitumen grade used for paving applications in cold climatic conditions of North India and in high altitude regions is:**

Ans
✗ A. VG – 30
✗ B. VG – 10
✓ C. VG – 20
✗ D. VG – 40

Question ID : **630680171633**
Status : **Not Answered**
Chosen Option : **--**

Q.8 **The property of building material to absorb water vapour from the air is known as:**

Ans
✗ A. water permeability
✗ B. water retention
✓ C. hygroscopicity
✗ D. frost absorption

Question ID : **630680171627**
Status : **Answered**
Chosen Option : **D**

Section : **Estimating,Costing and Valuation**

Q.1 **An office building consists of a room of size: centreline length = 10 m and centreline width = 5 m. The approximate cost of construction of the foundation up to the plinth level is ₹3,000 per metre length, and that for the superstructure is ₹6,500 per metre length. Estimate the cost of building using approximate method.**

Ans

✗ A. ₹2,15,000

✗ B. ₹1,95,000

✗ C. ₹90,000

✓ D. ₹2,85,000

Question ID : **630680171635**
Status : **Answered**
Chosen Option : **D**

Q.2 **Work out the cost of a teak wood frame (in ₹) for five doors having dimensions (vertical frame = 210 cm, horizontal frame =120 cm, on the top only), with no sill frame at the bottom. Width of frame = 12.5 cm; thickness of frame = 8 cm. Take the unit rate of the Teak wood frame = ₹80,000 per cubic metre.**

Ans

✗ A. 16,800

✗ B. 26,000

✓ C. 21,600

✗ D. 26,400

Question ID : **630680171643**
Status : **Answered**
Chosen Option : **B**

Q.3 **An office is functioning in a single room building of internal dimensions 9.4 m × 5.4 m. The superstructure is brick wall of 30 cm thick, for a height of 3 m. The office room has 2 doors (size 100 cm × 200 cm each) and 3 windows (size 200 cm × 150 cm each) with the windows/doors kept in flush with the exterior face of the wall. If the cost of painting the wall (one coat of paint over one coat of primer) is ₹5,000 per 100 square metre, determine the cost of painting the exterior brick walls of the superstructure of the building.**

Ans

✗ A. ₹4,800

✓ B. ₹4,150

✗ C. ₹3,500

✗ D. ₹4,475

Question ID : **630680171641**
Status : **Not Answered**
Chosen Option : **--**

Q.4 **Select the INCORRECT statement pertaining to measurement of brick work as per IS 1200 (Part 3) : 1974 from the given options.**

Ans

✗ A. Areas shall be worked out to the nearest 0.01 m^2.

✗ B. No deductions or additions shall be made for openings up to 0.1 m^2 in area.

✓ C. Dimensions shall be measured to the nearest 0.1 m.

✗ D. Cubic contents shall be worked out to the nearest 0.01 m^3.

Question ID : **630680171646**
Status : **Answered**
Chosen Option : **D**

Q.5 **As per IS 1200 (Part 2) : 1974, the method of measurement (units) of reinforced/plain concrete precast wall panels is:**

Ans
- ✔ A. square metre
- ✘ B. either in cubic metre or in running metre stating the size
- ✘ C. in running meters stating the size
- ✘ D. cubic metre

Question ID : **630680171644**
Status : **Answered**
Chosen Option : **D**

Q.6 **A property fetches a net annual income of ₹1,00,000 after deducting all outgoings. The capitalised value of the property with the rate of interest 5% per annum is:**

Ans
- ✘ A. ₹2,00,000
- ✔ B. ₹20,00,000
- ✘ C. ₹10,00,000
- ✘ D. ₹2,65,330

Question ID : **630680171645**
Status : **Answered**
Chosen Option : **B**

Q.7 **The following statements (S1, S2) pertain to the analysis of rates for items of work. Validate the statements as True/False and select the most appropriate answer.**

S1 : The rate for an item of work depends on the specifications of materials and works, quality of materials, and method of construction operation.
S2 : Among the overhead expenses considered in the estimation of rates for works, overhead for water charges is greater than the overhed for contractor's profit.

Ans
- ✘ A. Both S1 and S2 are False
- ✘ B. Both S1 and S2 are True
- ✘ C. S1 is False, but S2 is True
- ✔ D. S1 is True, but S2 is False

Question ID : **630680171636**
Status : **Answered**
Chosen Option : **B**

Q.8 **A reinforced concrete wall of thickness 0.1 m and height 2 m above the ground level is constructed as a boundary wall between two plots of land for length of 20 m. Estimate the cost of plastering the wall (in ₹) on both sides and top of wall using 1 : 5 cement mortar 12 mm thick, if the unit cost of plastering is ₹5,000 per 100 m^2.**

Ans
- ✘ A. 2,000
- ✘ B. 4,000
- ✔ C. 4,100
- ✘ D. 2,100

Question ID : **630680171642**
Status : **Not Answered**
Chosen Option : **--**

Q.9 **A football stadium proposed to be constructed in a village requires a filling of 8,00,000 m^3 of soil compacted to void ratio of 0.6. The required soil is to be taken from a borrow pit having a in situ void ratio of 0.7. If the cost of filling work is ₹20 per cubic metre, then the estimated cost for the filling work (in ₹) is:**

Ans
- ✔ A. 1,70,00,000
- ✘ B. 1,00,00,000
- ✘ C. 1,60,00,000
- ✘ D. 1,84,00,000

Question ID : **630680171638**
Status : **Not Answered**
Chosen Option : **--**

Q.10 **As per Central Public Works Department (CPWD specifications 2019) guidelines, in the design of the form work for columns and beams, the deviation from the specified dimension of cross-sections, respectively, will be:**

Ans
- ✔ A. (+) 10 mm and (−) 5 mm
- ✘ B. (−) 5 mm and (+) 10 mm
- ✘ C. (+) 5 mm and (+) 5 mm
- ✘ D. (+) 5 mm and (+) 10 mm

Question ID : **630680171640**
Status : **Answered**
Chosen Option : **D**

Q.11 **Which of the following is NOT a method used for the valuation of buildings?**

Ans
- ✔ A. Annuity based valuation
- ✘ B. Rental method of valuation
- ✘ C. Depreciation method of valuation
- ✘ D. Valuation based on profit

Question ID : **630680171637**
Status : **Answered**
Chosen Option : **A**

Q.12 **A septic tank (rectangular in shape with length = 4 times the width) is to be provided for a housing colony of 50 users. The liquid capacity of tank is to be provided at the rate of 100 litre/user. Assume the depth of water in the tank as 1.25 m, with an additional free board of 0.25 m. Considering a unit rate of ₹40,000 per cubic metre of gross internal volume of tank. The approximate estimated cost of the septic tank is:**

Ans
- ✘ A. ₹3,00,000
- ✔ B. ₹2,40,000
- ✘ C. ₹2,00,000
- ✘ D. ₹1,60,000

Question ID : **630680171639**
Status : **Not Answered**
Chosen Option : **--**

Section : **Surveying**

Q.1 **The factors to be considered in the chain triangulation survey are listed as options. Identify the INCORRECT one.**

Ans

✔ A. Tie lines shall not be used to serve the purpose of check lines.

✘ B. Survey stations shall be intervisible.

✘ C. One or two main and long lines should be run through the area, and stations should be selected to facilitate this.

✘ D. Survey stations and main lines should be so selected so as to ensure the formation of well-conditioned triangles.

Question ID : **630680171650**
Status : **Answered**
Chosen Option : **A**

Q.2 The observed bearings in the quadrantal system of a closed traverse ABCDA are given below.

AB : N 36° 00' E ; BA : S 36° 45' W

BC : S 81° 45' E; CB : N 84° 00' W

CD : S 21° 45' W; DC : N 23° 15' E

DA : N 37°15' W; AD : S 37° 15' E

Identify the stations affected by local attraction.

Ans

✘ A. A only

✘ B. A and D only

✘ C. A, C and D only

✔ D. B and C only

Question ID : **630680171652**
Status : **Not Answered**
Chosen Option : **--**

Q.3 **Validate the following statements (S1 and S2) pertaining to Dumpy level used in levelling work as true/FALSE and select the most appropriate option.**

S1 : A level can provide a horizontal as well as an inclined line of sight, with inclination up to (+/−) 20° with respect to horizontal.
S2 : It is essential to carry out the temporary adjustments to a level for each set up of instrument while doing survey work in field.

Ans

✘ A. Both S1 and S2 are true

✘ B. Both S1 and S2 are false

✘ C. S1 is true, but S2 is false

✔ D. S1 is false, but S2 is true

Question ID : **630680171653**
Status : **Answered**
Chosen Option : **A**

Q.4 **The desired relationships between the fundamental lines of a theodolite are given as options. Identify the INCORRECT one.**

Ans

✘ A. Line of collimation must be at right angles to the horizontal axis.

✔ B. Axis of altitude level must be perpendicular to the line of collimation.

✘ C. Axis of plate level must be perpendicular to the vertical axis.

✘ D. Horizontal axis must be perpendicular to the vertical axis.

Question ID : **630680171654**
Status : **Answered**
Chosen Option : **A**

Q.5 **Among the methods of plane tabling, identify the one that is essentially a method of orienting the table only.**

Ans
- ✔ A. Resection
- ✘ B. Intersection
- ✘ C. Traversing
- ✘ D. Radiation

Question ID : **630680171648**
Status : **Answered**
Chosen Option : **A**

Q.6 **The magnetic bearing of a line is S 28°30' E. Determine the true bearing of the line if the declination is 7°30' West.**

Ans
- ✘ A. S 21° 00'E
- ✘ B. S 21° 00'W
- ✔ C. S 36° 00'E
- ✘ D. S 43° 30'E

Question ID : **630680171651**
Status : **Answered**
Chosen Option : **A**

Q.7 **Among the basic principles of surveying to be followed for accurately locating points on the surface of earth, identify the INCORRECT one.**

Ans
- ✔ A. Working from part to whole
- ✘ B. Two control points established first, then a new station can be located by two linear measurements
- ✘ C. Two control points established first, then a new station can be located by two angular measurements
- ✘ D. Working from whole to part

Question ID : **630680171647**
Status : **Answered**
Chosen Option : **A**

Q.8 **The topographic map of a country is prepared at a scale with representative fraction of 1 : 200,000. Which of the following is the scale value represented in Engineer's scale?**

Ans
- ✘ A. 1 cm = 20 km
- ✔ B. 1 cm = 2 km
- ✘ C. 1 cm = 200 m
- ✘ D. 1 cm = 20 m

Question ID : **630680171649**
Status : **Answered**
Chosen Option : **C**

Section : **Construction Engineering**

Q.1 **Following the National Building Code of India, 2016, if W is the width of supported wall (in mm units), the width at the base of wall foundation (in mm units) B, shall NOT be less than:**

Ans

✗ A. B = W + 250

✗ B. B = W + 100

✓ C. B = W + 300

✗ D. B = W + 200

Question ID : **630680171656**
Status : **Not Answered**
Chosen Option : **--**

Q.2 **The vertical member in the middle of window frame that subdivides the window into two halves is known as: (Note: There is one member in a window with two halves.)**

Ans

✗ A. rebate

✗ B. transom

✓ C. mullion

✗ D. jamb post

Question ID : **630680171658**
Status : **Answered**
Chosen Option : **C**

Q.3 As per the National Building Code of India, the buildings are classified based on occupancy. Match the items under **List 1** (Type of building) with those under **List 2** (Character of occupancy).

List 1	List 2
P. Starred hotels	1. Group E : Business buildings
Q. Jails, prisons	2. Group D : Assembly buildings
R. Gymnasiums	3. Group A : Residential buildings
S. Courthouses	4. Group C : Institutional buildings

Ans

✗ A. P – 4, Q – 1, R – 2, S – 3

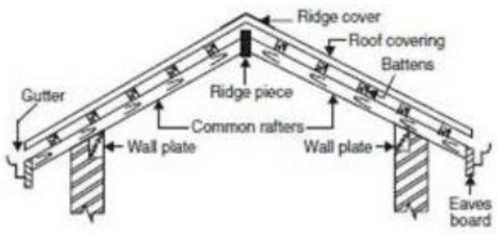
✓ B. P – 3, Q – 4, R – 2, S – 1

✗ C. P – 3, Q – 4, R – 1, S – 2

✗ D. P – 4, Q – 3, R – 2, S – 1

Question ID : **630680171655**
Status : **Answered**
Chosen Option : **D**

Q.4 Identify the type of pitched roof in the given figure.



Ans
- ✔ A. Coupled roof
- ✘ B. Collar beam roof
- ✘ C. Purlin roof
- ✘ D. Lean to roof

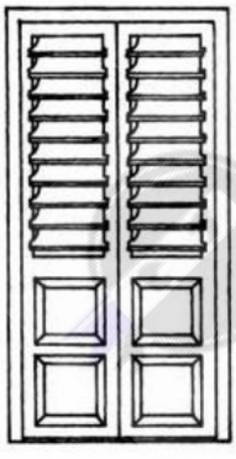
Question ID : **630680171661**
Status : **Not Answered**
Chosen Option : **--**

Q.5 **The most preferable type of floors recommended in railway stations and factories with due consideration to traffic on floors is:**

Ans
- ✘ A. medium duty floors
- ✔ B. heavy duty floors
- ✘ C. non-slip floors
- ✘ D. light duty floors

Question ID : **630680171659**
Status : **Not Answered**
Chosen Option : **--**

Q.6 Identify the type of door shown in the given figure.



Ans
- ✘ A. Glazed door
- ✔ B. Louvered door
- ✘ C. Panelled door
- ✘ D. Battened door

Question ID : **630680171657**
Status : **Answered**
Chosen Option : **B**

Q.7 **The following statements (S1, S2) pertain to lintels used in building construction.**

S1: Lintels depend on beam action (bending and shear) for their strength.
S2: Lintel is a horizontal member used to span openings in walls.

Validate the statements as true/FALSE and select the most appropriate option.

Ans
✔ A. Both S1 and S2 are true
✘ B. S1 is false, but S2 is true
✘ C. Both S1 and S2 are false
✘ D. S1 is true, but S2 is false

Question ID : **630680171662**
Status : **Answered**
Chosen Option : **A**

Q.8 **The comparison in the properties of Galvanized Iron corrugated sheets (GI sheets) and Asbestos Cement sheets (AC sheets) used for roofing are given as answer options. Select the INCORRECT one.**

Ans
✘ A. GI sheets are less fire resistant; AC sheets are more fire resistant.
✔ B. GI sheets are more resistant to acids and fumes; AC sheets are less resistant to acids and fumes.
✘ C. GI sheets are thin; AC sheets are not as thin as GI sheets.
✘ D. Chances of breaking during handling is more with AC sheets when compared to GI sheets.

Question ID : **630680171660**
Status : **Answered**
Chosen Option : **B**

Section : **Soil Mechanics and Geotechnical Engineering**

Q.1 **The following statements (S1, S2) pertain to the subsurface investigation for foundations based on IS 1892 : 1979.**

S1 : For a compact building site covering an area of about 0.4 hectare, one bore hole or trial pit in each corner and one in the centre should be adequate.
S2 : Normally the depth of exploration for an isolated spread footing is one and a half times the width of footing below foundation level.
Check the validity of the statements as true/FALSE and select the most appropriate option.

Ans
✔ A. Both S1 and S2 are true
✘ B. S1 is true, but S2 is false
✘ C. Both S1 and S2 are false
✘ D. S1 is false, but S2 is true

Question ID : **630680171670**
Status : **Not Answered**
Chosen Option : **--**

Q.2 **Identify the INCORRECT method for the determination of water content of a soil.**

Ans
✘ A. Torsion balance method
✔ B. Sand replacement method
✘ C. Pycnometer method
✘ D. Calcium carbide method

Question ID : **630680171664**
Status : **Answered**
Chosen Option : **C**

Q.3 **Most expected failure for shallow foundations in loose sand (having relative density of 0.2) is:**

Ans

✗ A. general shear

✓ B. punching shear

✗ C. local or punching shear

✗ D. local shear

Question ID : **630680171668**
Status : **Answered**
Chosen Option : **C**

Q.4 **The following statements (S1, S2, S3, S4 and S5) pertain to characteristics of compaction or consolidation phenomenon in soils.**

S1 : It is almost an instantaneous phenomenon.
S2 : Soil is completely saturated.
S3 : Volume reduction is due to expulsion of pore water from voids.
S4 : Densification of soil is due to reduction in the volume of air voids at a given water content.
S5 : It is a time dependent phenomenon.

Classify the statements under compaction or consolidation.

Ans

✗ A. Compaction : S2, S5
Consolidation : S1, S3, S4

✓ B. Compaction : S1, S4
Consolidation : S2, S3, S5

✗ C. Compaction : S1, S2, S3
Consolidation : S4, S5

✗ D. Compaction : S2, S3, S5
Consolidation : S1, S4

Question ID : **630680171669**
Status : **Answered**
Chosen Option : **B**

Q.5 **Determine the shear strength in terms of effective stress on a plane within a saturated soil mass at a point where the total normal stress is 180 kN/m^2 and the pore water pressure is 60 kN/m^2. The effective shear strength parameters of soil (cohesion = 20 kN/m^2 and angle of shearing resistance = 30°).**
Take $\sqrt{3}$ = 1.7 for calculation.

Ans

✗ A. 54 kN/m^2

✗ B. 122 kN/m^2

✗ C. 156 kN/m^2

✓ D. 88 kN/m^2

Question ID : **630680171667**
Status : **Not Answered**
Chosen Option : **--**

Q.6 **The co-efficient of permeability (k) of a soil is related to the particle size D as:**

Ans

✗ A. k is inversely proportional to D

✗ B. k is directly proportional to D

✓ C. k is directly proportional to D^2

✗ D. k is inversely proportional to D^2

Question ID : **630680171666**
Status : **Not Answered**
Chosen Option : **--**

Q.7 **The examples of different rocks classified on the basis of geological formation as Igneous, Sedimentary and Metamorphic rocks are given as options. Identify the INCORRECT combination.**

Ans

✗ A. Igneous : Syenite

✗ B. Metamorphic : Gneiss

✓ C. Sedimentary : Marble

✗ D. Sedimentary : Lime stone

Question ID : **630680171663**
Status : **Answered**
Chosen Option : **A**

Q.8 **For a clay soil, when the natural water content is equal to its liquid limit, the consistency index for the soil is:**

Ans

✓ A. zero

✗ B. one

✗ C. 0.5

✗ D. infinity

Question ID : **630680171665**
Status : **Answered**
Chosen Option : **A**

Section : **Hydraulics and Water Resource Engineering**

Q.1 **Determine the discharge through a rectangular open channel of bottom width 4 m, depth of flow 2 m, laid at a bed slope of 1 in 1600. Take Chezy's constant for the channel as 50.**

Ans

✓ A. 10 m^3/s

✗ B. 5 m^3/s

✗ C. 16 m^3/s

✗ D. 20 m^3/s

Question ID : **630680171679**
Status : **Not Answered**
Chosen Option : **--**

Q.2 **A compound pipe line 1500 m long is made up of pipes 40 cm diameter for 700 m, 30 cm diameter for 500 m, and 25 cm diameter for 300 m and is required to be replaced by a pipe of uniform diameter d_e. The Dupuit's equation for the equivalent pipe can be written as (assume the length of pipe to remain the same):**

Ans

✓ A. $\frac{1500}{d_e^5} = \frac{700}{0.4^5} + \frac{500}{0.3^5} + \frac{300}{0.25^5}$

✗ B. $\frac{1500}{d_e^3} = \frac{700}{0.4^3} + \frac{500}{0.3^3} + \frac{300}{0.25^3}$

✗ C. $\frac{1500}{d_e^2} = \frac{700}{0.4^2} + \frac{500}{0.3^2} + \frac{300}{0.25^2}$

✗ D. $\frac{1500}{d_e^4} = \frac{700}{0.4^4} + \frac{500}{0.3^4} + \frac{300}{0.25^4}$

Question ID : **630680171677**
Status : **Not Answered**
Chosen Option : **--**

Q.3 **For a given discharge through an open channel, the Froude number corresponding to flow with minimum value of specific energy is:**

Ans
- ✔ A. equal to 1
- ✘ B. less than 1
- ✘ C. less than or greater than 1
- ✘ D. greater than 1

Question ID : **630680171680**
Status : **Answered**
Chosen Option : **B**

Q.4 **Among the velocity measuring equipments, identify the one which can be used for velocity profiling (measurement of velocity at different heights) at a point in an open channel.**

Ans
- ✘ A. Floats
- ✘ B. Weir
- ✘ C. Orifice meter
- ✔ D. Pitot tube

Question ID : **630680171678**
Status : **Answered**
Chosen Option : **A**

Q.5 **The conditions for the applying Bernoulli's equation between any two sections in a fluid motion are given as options. Select the correct one.**

Ans
- ✘ A. In any type of irrotational flow of a fluid
- ✘ B. In any rotational flow of an incompressible fluid
- ✔ C. In steady irrotational flow of an incompressible fluid
- ✘ D. In steady rotational flow of an incompressible fluid

Question ID : **630680171674**
Status : **Answered**
Chosen Option : **C**

Q.6 **The continuity equation associated with fluid flow:**

Ans
- ✘ A. expresses the relation between energy and work
- ✘ B. expresses the relation between force and momentum
- ✘ C. requires Newton's law to be satisfied
- ✔ D. relates to the mass flow rate

Question ID : **630680171675**
Status : **Answered**
Chosen Option : **D**

Q.7 **A single acting reciprocating pump having area of bore cylinder = 0.02 m^2 and a stroke of 300 mm length discharges 350 litre/minute at 60 rpm. Estimate the slip of pump. Neglect losses.**

Ans
- ✘ A. 20 litre/minute
- ✘ B. 8 litre/minute
- ✔ C. 10 litre/minute
- ✘ D. 12 litre/minute

Question ID : **630680171681**
Status : **Not Answered**
Chosen Option : **--**

Q.8 **A hydraulic press has an input cylinder 4 cm diameter and an output cylinder 16 cm diameter. Assuming 100% efficiency, determine the force exerted by the output piston when a force of 20 kN is applied to the input piston. (Note: The pistons are connected to the respective cylinders.)**

Ans

✗ A. 240 kN

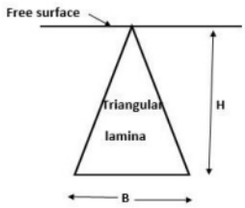
✗ B. 160 kN

✓ C. 320 kN

✗ D. 80 kN

Question ID : **630680171672**
Status : **Not Answered**
Chosen Option : **--**

Q.9 The distance to the centre of pressure of a triangular lamina held vertical (base B, height H) from the free surface, in a fluid of unit weight γ_f as shown in the figure is:



Ans

✗ A. $\frac{4H}{5}$

✓ B. $\frac{3H}{4}$

✗ C. $\frac{2H}{3}$

✗ D. $\frac{5H}{6}$

Question ID : **630680171671**
Status : **Answered**
Chosen Option : **D**

Q.10 **A centrifugal pump running at 1000 rpm requires 20 kW power to deliver 0.025 m^3/s of water. Determine the power required to run the pump at 1500 rpm.**

Ans

✓ A. 67.5 kW

✗ B. 45 kW

✗ C. 30 kW

✗ D. 151.8 kW

Question ID : **630680171682**
Status : **Not Answered**
Chosen Option : **--**

Q.11 **The external forces considered in the derivation of Bernoulli's equation in ideal fluid flow:**

Ans

✗ A. pressure force only

✓ B. pressure and gravity force

✗ C. gravity force only

✗ D. viscous and pressure force

Question ID : **630680171673**
Status : **Answered**
Chosen Option : **A**

Q.12 **The following statements (S1, S2) pertain to the Moody's chart used in the computation of loss of head in pipes.**

S1 : Moody's chart gives the relationship of friction factor as a function of Reynold's number of flow and relative roughness of pipe, plotted on a logarithmic paper.
S2 : It is the graphical representation of Colebrook formula.

Validate the statements as true/FALSE and select the most appropriate option.

Ans
✗ A. S1 is true, but S2 is false
✗ B. S1 is false, but S2 is true
✓ C. Both S1 and S2 are true
✗ D. Both S1 and S2 are false

Question ID : **630680171676**
Status : **Answered**
Chosen Option : **C**

Section : **Irrigation Engineering**

Q.1 **Identify the crop that does NOT belong to Kharif or Rabi crop.**

Ans
✓ A. Coconut
✗ B. Tobacco
✗ C. Potato
✗ D. Groundnut

Question ID : **630680171684**
Status : **Answered**
Chosen Option : **A**

Q.2 **Identify the INCORRECT statement pertaining to the components in the layout of diversion head work in a river.**

Ans
✗ A. Guide banks are provided on the banks of river at the weir location for guiding the flow properly.
✗ B. Diversion head works consists of a weir or barrage across the river.
✗ C. Under sluice are provided in weir section for release of water and silt to downstream.
✓ D. Off take canal system (starting from banks) with a head regulator is provided on the downstream of the weir.

Question ID : **630680171690**
Status : **Answered**
Chosen Option : **D**

Q.3 **The following statements (S1, S2, S3) pertain to gravity dams.**

S1 : The external forces are resisted by the self-weight of dam itself.
S2 : It comes under the category of non-rigid dams.
S3 : Both overflow and non-overflow sections can be constructed.

Identify the INCORRECT statement(s).

Ans
✗ A. S2 and S3 only
✗ B. S1 only
✗ C. S1 and S3 only
✓ D. S2 only

Question ID : **630680171685**
Status : **Answered**
Chosen Option : **D**

Q.4 **The following statements (S1, S2) pertain to lift irrigation system.**

S1 : This is practiced when the water supply is at too low a level to run by gravitation on to the land.
S2 : Irrigation from wells do not come under the category of lift irrigation.

Validate the statements as true/FALSE and select the most appropriate option.

Ans
✗ A. S1 is false, but S2 is true
✗ B. Both S1 and S2 are true
✗ C. Both S1 and S2 are false
✓ D. S1 is true, but S2 is false

Question ID : **630680171688**
Status : **Answered**
Chosen Option : **D**

Q.5 **Which of the following does NOT form the component of a bandhara irrigation system?**

Ans
✗ A. Low dam or Bandhara
✗ B. Scouring sluice
✓ C. Stilling basin
✗ D. Canal system

Question ID : **630680171687**
Status : **Answered**
Chosen Option : **B**

Q.6 **The following statements (S1, S2) pertain to Symons's rain gauge used for measurement of rainfall.**

S1 : It is a recording type of rain gauge.
S2 : It gives the depth of rainfall over a specified time duration.

Validate the statements as true/FALSE and select the most appropriate option.

Ans
✓ A. S1 is false, but S2 is true
✗ B. S1 is true, but S2 is false
✗ C. Both S1 and S2 are false
✗ D. Both S1 and S2 are true

Question ID : **630680171683**
Status : **Answered**
Chosen Option : **D**

Q.7 **At which location in an earth dam is the drainage filter provided, so as to keep the phreatic line well within the body of dam?**

Ans
✓ A. Downstream toe of dam
✗ B. Upstream heal of dam
✗ C. Upstream face of dam
✗ D. Central portion of dam

Question ID : **630680171686**
Status : **Answered**
Chosen Option : **A**

Q.8 **Which of the following is NOT a component of weir in a river?**

Ans
✗ A. Impervious floor on downstream
✗ B. Vertical drop weir
✗ C. Cut-off piles at the downstream end
✓ D. Forebay

Question ID : **630680171689**
Status : **Answered**
Chosen Option : **C**

Section : **Transportation Engineering**

Q.1 Following IRC guidelines, for a design speed V (km/h) the super elevation e required on a horizontal curve of radius R (in m units) is calculated by the formula $e = \frac{V^2}{225R}$. The assumption implied in making use of the formula is:

Ans
✗ A. centrifugal force corresponding to three-fourth the design speed is balanced by side friction and the rest counteracted by super elevation
✗ B. centrifugal force corresponding to two-third the design speed is balanced by super elevation and the rest counteracted by side friction
✓ C. centrifugal force corresponding to three-fourth the design speed is balanced by super elevation and the rest counteracted by side friction
✗ D. centrifugal force corresponding to one-half the design speed is balanced by super elevation and the rest counteracted by side friction

Question ID : **630680171693**
Status : **Not Answered**
Chosen Option : **--**

Q.2 **The following statements (S1, S2) pertain to desirable characteristics of subgrade soil in highway construction.**

S1 : Soil should possess adequate stability or resistance to permanent deformation under loads.
S2 : Soil should have maximum variation in volume with variation in water content.

Validate the statements as true/FALSE and select the most appropriate option.

Ans
✓ A. S1 is true, but S2 is false
✗ B. Both S1 and S2 are true
✗ C. S1 is false, but S2 is true
✗ D. Both S1 and S2 are false

Question ID : **630680171694**
Status : **Answered**
Chosen Option : **A**

Q.3 **Among the different roads that exist in a heavy rainfall area, listed as options, identify the road having maximum value camber.**

Ans
✗ A. Water bound macadam
✗ B. Cement concrete
✗ C. Thin bituminous surface
✓ D. Earth road

Question ID : **630680171691**
Status : **Answered**
Chosen Option : **D**

Q.4 **The following statements pertain to essential requirements of soil properties considered suitable for the construction of highway subgrade.**

S1 : Liquid limit to be less than 50 per cent.
S2 : Plasticity index has to be more than 25.
S3 : Maximum laboratory dry density (using Proctor Compaction test) shall not be less than 100 kg/m^3.
S4 : Soils belonging to classification groups (as per IS classification) : OL , OI, OH are very much suitable for use as subgrade soils.

Select the correct statement(s).

Ans
✗ A. S2 and S3 only
✗ B. S4 only
✗ C. S2 and S4 only
✓ D. S1 only

Question ID : **630680171695**
Status : **Answered**
Chosen Option : **A**

Q.5 **In a broad gauge railway track to be laid with wooden sleepers, having sleeper density of M + 7, determine the depth of ballast cushion below the sleeper bed. Take the length of rail as 13 m and width of sleeper as 25 cm.**

Ans
✓ A. 20 cm
✗ B. 21.5 cm
✗ C. 18.5 cm
✗ D. 15 cm

Question ID : **630680171697**
Status : **Answered**
Chosen Option : **A**

Q.6 **According to IRC, in the computation of safe stopping sight distance in a highway, the driver's eye height and the height of object are to be taken, respectively, as:**

Ans
✗ A. 1.2 m; 1.2 m
✓ B. 1.2 m; 0.15 m
✗ C. 1 m; 0.4 m
✗ D. 1 m; 0.3 m

Question ID : **630680171692**
Status : **Answered**
Chosen Option : **B**

Q.7 **In railway engineering, identify the type of sleeper for which composite sleeper index can be computed.**

Ans
✗ A. Steel sleeper
✗ B. Cast iron sleeper
✗ C. Concrete sleeper
✓ D. Wooden sleeper

Question ID : **630680171696**
Status : **Answered**
Chosen Option : **B**

Q.8 **In a particular section of a broad gauge railway track, the ruling gradient is 1 in 200. The steepest gradient on a 2° curve to be provided on the track is:**

Ans
- ✗ A. 0.44%
- ✗ B. 0.58%
- ✓ C. 0.42%
- ✗ D. 0.46%

Question ID : **630680171698**
Status : **Not Answered**
Chosen Option : **--**

Section : **Environmental Engineering**

Q.1 **Classify the following ecosystem components into biotic components and abiotic components.**

Air, soil, plants, wind, minerals, animals, micro-organisms

Ans
- ✓ A. Biotic : Plants, animals, micro-organisms
  Abiotic : Air, soil, wind, minerals
- ✗ B. Biotic : Plants, animals, minerals, air
  Abiotic : Soil, wind, micro-organisms
- ✗ C. Biotic : Air, soil, wind, minerals
  Abiotic : Plants, animals, micro-organisms
- ✗ D. Biotic : Micro-organisms, air, soil
  Abiotic : Wind, minerals, plants, animals

Question ID : **630680171700**
Status : **Answered**
Chosen Option : **A**

Q.2 **As per Air (Prevention and Control of Pollution) Act, 1981, the powers/functions of Central/State Boards are listed as statements S1, S2, S3, S4.**

S1 : The state board may lay down standards for the quality of air independently.
S2 : The state board shall be bound by such directions in writing as the central board or the state government may give it to it.
S3 : When the direction given by the state government is inconsistent with the direction given by the central board, the matter shall be referred to the central government for its decision.
S4 : The appellate authority set up by state government (to hear appeal filed against the order of state board) shall consist of two members.

Identify the INCORRECT statement(s).

Ans
- ✗ A. S1, S2 and S4 only
- ✓ B. S1 and S4
- ✗ C. S2 and S3
- ✗ D. S1 only

Question ID : **630680171703**
Status : **Not Answered**
Chosen Option : **--**

Q.3 **Which of the following does NOT come under the terrestrial ecology?**

Ans
- ✗ A. Grassland ecology
- ✗ B. Forest ecology
- ✗ C. Desert ecology
- ✓ D. Marine ecology

Question ID : **630680171701**
Status : **Answered**
Chosen Option : **D**

Q.4 **The measured intensity of a jet aircraft at 1 km distance is 0.01 W/m^2. Assuming the reference intensity of sound as 10^{-12} W/m^2, estimate the sound level in dB units.**

Ans
✗ A. 120
✓ B. 100
✗ C. 90
✗ D. 200

Question ID : **630680171706**
Status : **Not Answered**
Chosen Option : **--**

Q.5 **Among the following substances, identify the one which is NOT responsible for ozone depletion in Earth's stratosphere.**

Ans
✗ A. Methyl bromide
✗ B. Halons
✗ C. Methyl chloroform
✓ D. Ammonia

Question ID : **630680171699**
Status : **Answered**
Chosen Option : **D**

Q.6 **The following statements (S1, S2) pertain to carbon footprint.**

S1 : Carbon footprint is the total greenhouse gas (GHG) emissions caused directly and indirectly by an individual, organisation, event or product.
S2 : Meat products have lesser carbon footprints per calorie than grain or vegetable products.

Validate the statements as True/FALSE and select the most appropriate option.

Ans
✗ A. S1 is false, but S2 is true
✓ B. S1 is true, but S2 is false
✗ C. Both S1 and S2 are true
✗ D. Both S1 and S2 are False

Question ID : **630680171702**
Status : **Answered**
Chosen Option : **C**

Q.7 **Identify the secondary pollutant from the list of pollutants given.**

Halogens, Ozone, Carbon monoxide, Nitric oxide, Photochemical smog, Sulphur dioxide, Nitrogen dioxide,

Ans
✗ A. Nitrogen dioxide, Halogens and Nitric oxide only
✗ B. Halogens and Carbon monoxide only
✗ C. Sulphur dioxide and Ozone only
✓ D. Ozone and Photochemical smog only

Question ID : **630680171705**
Status : **Answered**
Chosen Option : **D**

Q.8 **Which of the following is NOT a control technology that can be used for particulate matter?**

Ans
- ✔ A. Condensation
- ✘ B. Cyclone separators
- ✘ C. Settling chambers
- ✘ D. Electrostatic precipitators

Question ID : **630680171704**
Status : **Answered**
Chosen Option : **C**

Section : **Structural Engineering**

Q.1 **The following statements (S1, S2, S3, S4) pertain to fibre reinforced concrete (FRC).**

S1 : Compared to conventional concrete mixes, FRC generally has a higher cement content, a higher fine aggregate content, and a smaller size of coarse aggregate.
S2 : Workability of fibre reinforced mixes increases as the fibre content increases, and as the aspect ratio decreases.
S3 : Inverted slump test is recommended for fibrous mixes to determine the workability of FRC.
S4 : Length of fibre used in FRC shall be smaller than the maximum size of aggregate particles.

Identify the INCORRECT statement(s).

Ans
- ✘ A. S1 and S3 only
- ✘ B. S1, S2 and S4 only
- ✔ C. S2 and S4 only
- ✘ D. S1 only

Question ID : **630680171713**
Status : **Not Answered**
Chosen Option : **--**

Q.2 **A fixed beam of span 6 m carries a uniformly distributed load of 10 kN/m over the entire span. The fixed end moments at the supports (in kN.m units) is:**

Ans
- ✘ A. 60
- ✔ B. 30
- ✘ C. 15
- ✘ D. 45

Question ID : **630680171709**
Status : **Answered**
Chosen Option : **B**

Q.3 **A steel rod of square cross-section (side = 10 mm) and gauge length 1000 mm is subjected to a tensile force. The elongation of the rod over the gauge length for the load is 5mm. If the modulus of elasticity of the material is 200 kN/mm^2, then determine the tensile load corresponding to the elongation.**

Ans
- ✘ A. 50 kN
- ✘ B. 20 kN
- ✔ C. 100 kN
- ✘ D. 10 kN

Question ID : **630680171707**
Status : **Answered**
Chosen Option : **C**

Q.4 A simply supported beam of span 9 m carries a concentrated load of 10 kN at distance of 6 m from the left support. The deflection under the 10 kN load is:
(Assume EI = constant in kN.m^2 units for the beam.)

Ans

✗ A. $\frac{40}{EI}$

✗ B. $\frac{40}{3\,EI}$

✓ C. $\frac{120}{EI}$

✗ D. $\frac{60}{EI}$

Question ID : **630680171708**
Status : **Not Answered**
Chosen Option : **--**

Q.5 **Identify the best tension member section from the options, with due consideration to eccentricity.**

Ans

✗ A. Welded single angle section

✗ B. Flat bars

✓ C. Double angle section on opposite side of gusset plate

✗ D. Bolted single angle section

Question ID : **630680171715**
Status : **Answered**
Chosen Option : **B**

Q.6 **Name the equipment used for conducting the consistency test and setting time test on cement.**

Ans

✗ A. Le-Chatelier apparatus

✗ B. Permeability apparatus

✗ C. Lea and Nurse apparatus

✓ D. Vicat's apparatus

Question ID : **630680171712**
Status : **Answered**
Chosen Option : **D**

Q.7 **It is proposed to use a double angle section for a compression member. The best section to use is:**

Ans

✓ A. unequal angles with short legs connected by welding

✗ B. unequal angles on same side of gusset plate

✗ C. unequal angles with long legs connected by welding

✗ D. equal angles on opposite sides of gusset plate

Question ID : **630680171714**
Status : **Answered**
Chosen Option : **C**

Q.8 **A reinforced concrete column (effectively held in position at both ends, but not restrained against rotation), with unsupported length of 3000 mm, is having a rectangular cross section of 250 mm × 200 mm. Following IS 456 : 2000, the column is to be designed as a:**

Ans
- ✗ A. Slender column with effective length = 2400 mm
- ✗ B. Short column with effective length = 1500 mm
- ✗ C. Short column with effective length = 3000 mm
- ✓ D. Slender column with effective length = 3000 mm

Question ID : **630680171716**
Status : **Not Answered**
Chosen Option : **--**

Q.9 **According to IS 8112 :1989, the specification for fineness of Ordinary Portland cement – 43 Grade, expressed as specific surface (in m^2/kg units) is:**

Ans
- ✗ A. 430
- ✗ B. 500
- ✓ C. 225
- ✗ D. 325

Question ID : **630680171711**
Status : **Answered**
Chosen Option : **C**

Q.10 **A simple truss having j nodes (including the supports) with n members and r external restraints is statically determinate, if it satisfies the condition:**

Ans
- ✗ A. n + r > 2 j
- ✗ B. n + r > 4j
- ✓ C. n + r = 2 j
- ✗ D. n + r < 2j

Question ID : **630680171710**
Status : **Answered**
Chosen Option : **C**

Section : **Land Development and Land Scaping**

Q.1 **Among the following land scape features, identify the one that does NOT come under vertical plane landscape.**

Ans
- ✗ A. Pillars
- ✓ B. Terraces
- ✗ C. Fencing
- ✗ D. Trees

Question ID : **630680171720**
Status : **Answered**
Chosen Option : **B**

Q.2 **निम्नलिखित में से कौन सा विकल्प लैंडस्केप आर्किटेक्चर (landscape architecture) में हार्ड लैंडस्केप (hard landscape) से संबंधित नहीं है?**

Ans
✗ A. मूर्ति (Sculpture)
✓ B. मृदा (Soil)
✗ C. स्ट्रीट सुविधा (Street amenities)
✗ D. पैदल रास्ता (Walkway)

Question ID : **630680171717**
Status : **Answered**
Chosen Option : **B**

Q.3 **The following statements (S1, S2) pertain to soil landscape.**

S1 : Soil landscapes are areas of land with unique landform features and characteristic soil types.
S2 : Soil landscapes are closely linked to other natural features such as vegetation, geology and hydrology.

Validate the statements as True/FALSE and select the most appropriate option.

Ans
✗ A. S1 is false, but S2 is true
✓ B. Both S1 and S2 are true
✗ C. Both S1 and S2 are False
✗ D. S1 is true, but S2 is false

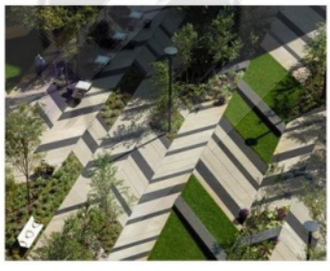
Question ID : **630680171719**
Status : **Answered**
Chosen Option : **B**

Q.4 **The components that belong to the three fields of landscape design: Behavioural sciences, General sciences, and Engineering and Technology are given. Identify the option that is INCORRECTLY matched.**

Ans
✗ A. Behavioural sciences : Spatial
✗ B. Engineering and Technology : Drainage
✗ C. General sciences : Climate
✓ D. Behavioural sciences : Materials

Question ID : **630680171718**
Status : **Answered**
Chosen Option : **C**

Q.5 Which principle of landscape design is emphasised in the given figure and used in the creation of landscape design?



Ans
✗ A. Repetition
✗ B. Formal balance
✗ C. Sequence
✓ D. Rhythm

Question ID : **630680171722**
Status : **Answered**
Chosen Option : **A**

Q.6 **The process of modification of an existing landform to accommodate new structures, parking and circulation and to ensure positive drainage is known as:**

Ans

✗ A. edging

✗ B. weeping

✗ C. terracing

✓ D. grading

Question ID : **630680171721**
Status : **Not Answered**
Chosen Option : **--**