



Delhi Development Authority (Recruitment Cell)

Advertisement No. 03/2022/Rectt.Cell./Pers./DDA

Participant ID	, -
Participant Name	
Test Center Name	Online Infra
Test Date	29/03/2023
Test Time	12:30 PM - 2:30 PM
Subject	Junior Engineer (Civil)

Section: Domain Questions

Q.1 Which of the following is the performance efficiency of slow sand filter?

1. It removes about 98 to 99% bacteria.

2. It removes turbidity to the extent of 50 PPM.

3. It does not remove colour of raw water.

4. It removes about 95% colloidal matter.

Ans X 1. 2 and 3

× 2. 3 and 4

√ 3. 1 and 2

X 4. 1 and 4

Question ID: 630680197286

Status: Answered

- Q.2 Which of the following objectives of seasoning of wood is INCORRECT?
 - 1. Reduce the shrinkage and warping after placement in the structure
 - 2. Increase strength, durability and workability
 - 3. Increase its weight
 - 4. Make it difficult to paint

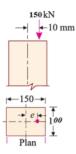
Ans

- √ 1. 3 and 4
- X 2. 1 and 3
- X 3. 2 and 3
- X 4. 1 and 2

Question ID : 630680197211 Status : Answered

Chosen Option: 1

Q.3 A rectangular column is 150 mm and 100 mm thick and carries a load of 150 kN at an eccentricity of 10 mm in a plane bisecting the thickness. Find the maximum and minimum intensities of stress in the section.



dda[24]7

Ans

- X 1. 18 MPa and 8 MPa
- ✓ 2. 14 MPa and 6 MPa
- ★ 3. 10 MPa and 4 MPa
- X 4. 24 MPa and 10 MPa

Ouestion ID : 630680197233

Chosen Option : 2

Status: Answered

Q.4 Which of the following is NOT an objective of varnishing a surface?

۸ne

- X 1. To protect the painted surface from atmospheric actions
- X 2. To brighten the appearance of the grain in wood
- ★ 4. To render brilliancy to the painted surface

Question ID : 630680197215 Status : Answered

Q.5 Which of the following conditions should satisfy for the formation of supercritical flow in an open channel?

Ans

1

When the depth of flow in a channel is less than critical depth and Froud's number is greater than 1

X 2

When the depth of flow in a channel is greater than critical depth and Froud's number is greater than 1

X 3

When the depth of flow in a channel is greater than critical depth and Froud's number is less than 1

X 4.

When the depth of flow in a channel is equal to critical depth and Froud's number is equal to zero

Question ID : 630680197257 Status : Answered

Chosen Option: 1

Q.6 A circular compression specimen having a cross-sectional area of 100 mm² and section modulus of 200 mm³ carries a load of 100 kN at an eccentricity of 10 mm, as shown in the given figure. What is the maximum stress induced in the section?



Ans

X 1. 4000 N/mm²

× 2. 7000 N/mm²

× 3. 5000 N/mm²

√ 4. 6000 N/mm²

Question ID: 630680197267

Status: Answered

Chosen Option: 4

Q.7 Which of the following conditions is valid in the case of flow through parallel pipes?

Ans

X 1.

The rate of discharge in the main line is not equal to the sum of the discharges in each of the parallel pipes.

X 2

The velocity of flow in the main line is equal to the sum of the velocities in each of the parallel pipes.

X 3. The loss of head in each parallel pipe is different.

4

The rate of discharge in the main line is equal to the sum of the discharges in each of the parallel pipes.

Question ID: 630680197256

Status: Answered

Q.8 All the following are the assumptions made in Terzaghi's theory of consolidation EXCEPT:

Ans

1

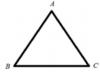
the coefficient of permeability of soil varies at all points during the entire period of consolidation

- × 2. the soil is fully saturated
- X 3. the soil is homogeneous and isotropic
- ★ 4. Darcy's law is valid throughout the consolidation process

Question ID: 630680197249 Status: Answered

Chosen Option: 1

Q.9 An equilateral triangular section ABC has a base width of 80 mm and height of 60 mm. The moment of inertia about the base BC is:



Ans

- \times 1. 1260 × 10³ mm⁴
- \times 2. 360 × 10³ mm⁴
- \times 3. 650 × 10³ mm⁴
- \checkmark 4. 1440 × 10³ mm⁴

Question ID : 630680197229

Status : Answered

Chosen Option: 4

Q.10 A simply supported beam carrying a uniformly distributed load of 10 kN/m is shown in the given figure. Determine the distance at which shear force is equal to zero from point C.



Ans

- X 1. 1.0 m
- √ 2. 1.2 m
- X 3. 1.7 m
- X 4. 1.5 m

Question ID: 630680197230

Status: Answered

Q.11 According to IS: 4111-1986, the spacing of manholes above ______may be allowed on straight runs for sewers of diameter above 900 to 1500 mm.

Ans X 1. 200 to 300 m

X 2. 30 to 100 m

X 3. 150 to 200 m

Question ID: 630680197284 Status: Not Answered

Chosen Option : --

Q.12 The fixed beam shown in the given figure carries a point load. What are fixed end moments MAB and MBA?

Ans

$$\checkmark$$
 1. $M_{AB}=rac{Wab^2}{l^2}$ and $M_{BA}=rac{Wba^2}{l^2}$

$$\times$$
 2. $M_{AB} = \frac{Wab^3}{l^2}$ and $M_{BA} = \frac{Wba^3}{l^2}$

$$X_{AB} = \frac{Wab^2}{2l^2}$$
 and $M_{BA} = \frac{Wba^2}{2l^2}$

$$\times$$
 4. $M_{AB} = \frac{Wab^2}{l}$ and $M_{BA} = \frac{Wba^2}{l}$

Question ID: 630680197265

Status : Answered

Chosen Option: 1

Q.13 A soil has a liquid limit of 25% and a flow index of 12%. If the plastic limit is 15%, determine the toughness index.

Ans 🏑

√ 1. 83.33%

× 2. 78.55%

× 3. 86.66%

X 4. 75.55%

Question ID : 630680197251

Status: Answered

Q.14 According to IS: 456-2000, for a cantilever beam, the clear distance from the free end of the cantilever to the lateral restraint shall not exceed ______ (where d is the effective depth of the beam and b is the breadth of the compression face midway between the lateral restraints).

Ans

- \times 1. 60 b or $\frac{250b^2}{d}$ whichever is less
- \times 2. 60 d or $\frac{250d^2}{b}$ whichever is less
- \times 3. 25 d or $\frac{100d^2}{b}$ whichever is less
- \checkmark 4. 25 b or $\frac{100b^2}{d}$ whichever is less

Question ID: 630680197268

Status : Answered

Chosen Option: 4

Q.15 Which of the following rock types belongs to the igneous rock group?

Ans

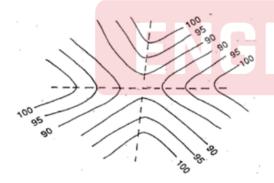
- ★ 1. Marble
 - √ 2. Rhyolite
 - X 3. Schist
 - X 4. Shale

Question ID: 630680197210

Status: Answered

Chosen Option: 2

Q.16 Identify the contour map shown in the given figure.



Ans

- ★ 1. Depression
- × 2. Valley
- X3. Ridge
- √ 4. Saddle

Question ID : 630680197220

Status : Answered

Q.17 What is the minimum grade of concrete that is used in the case of reinforced cement concrete when exposed to a sea coast directly?

Ans
1. M30
2. M40
3. M25
4. M20

Question ID: 630680197241

Question ID : 630680197241
Status : Answered
Chasen Option : 1

Chosen Option : 1

Q.18 For discharge Q, the specific speed of a pump is N_s . For half discharge with the same head, the specific speed will be:

Ans

 \times 1. $2N_s$

 \times 2. $\frac{N_s}{2}$

 \times 3. $N_s\sqrt{2}$

 \checkmark 4. $\frac{N_s}{\sqrt{2}}$

Question ID : 630680197260 Status : Answered

Chosen Option: 4

Q.19 The theodolite in which the telescope can be revolved through a complete revolution in a vertical plane is called

Ans

X 1. titling theodolite

X 2. non-transit theodolite

X ⁴. dumpy level

Question ID: 630680197225

Status : Answered

Chosen Option: 3

Q.20 The flexural strength of concrete for M25 grade concrete as per IS: 456-2000 is:

Δn

× 1. 3.0 N/mm²

× 2. 2.0 N/mm²

× 3. 2.5 N/mm²

√ 4. 3.5 N/mm²

Question ID: 630680197239

Status: Answered

Q.21 When a rectangular lamina is immersed in water at a depth of 75 mm vertically, what is the depth of centre of pressure of the lamina?

Ans

X 1. 18.75 mm

√ 2. 50.0 mm

X 3. 112.5 mm

X 4. 37.5 mm

Question ID: 630680197254 Status: Answered

Chosen Option: 2

Q.22 A cantilever rectangular beam has 40 mm width and 60 mm depth. If the cantilever is subjected to a point load of 6 kN at the free end and the bending stress is not to exceed 40 MPa, find the span of the cantilever beam.



Ans

√ 1. 160 mm

× 2. 140 mm

X 3. 180 mm

× 4. 210 mm

Question ID: 630680197231

Status : Answered

Chosen Option: 1

Q.23 For the design of the steel members, which of the following is NOT a correct combination of Load as per IS 800:2007?

Ans

✓ 1. Dead load + imposed load + wind + earthquake load

× 2. Dead load + wind or earthquake load

★ 3. Dead load+ erection load.

★ 4. Dead load + imposed load

Question ID: 630680197271

Status: Answered

- Q.24 Which of the following statements related to manufacturing of the given materials is correct?
 - 1) Asphalt is manufactured by fractional distillation of crude petroleum.
 - 2) Tar is manufactured by fractional distillation of organic materials.

Ans

- ✓ 1. Both statements are correct
- X 2. Statement 1 is correct but Statement 2 is incorrect
- × 3. Both statements are incorrect
- ★ 4. Statement 1 is incorrect but Statement 2 is correct

Question ID : 630680197217 Status : Answered

Chosen Option: 3

Q.25 The maximum effective slenderness ratio of steel members always in tension (other than pre-tensioned members) is

Ans

1. 400

X 2. 250

X 3. 350

× 4. 180

Question ID : 630680197274 Status : Answered

Chosen Option : 1

Q.26 In the Indian Soil classification system, coarse-grained soils comprise:

Δnc

- X 1. cobble, silt, clay and sand
- × 2. silt, cobble, sand and gravel
- X 4. Boulder, cobble, gravel and silt

Question ID : 630680197246 Status : Answered

Chosen Option: 3

Q.27 To which type of plane table method does the given problem belong?

Establishing a new station point using two-point at a place in order to locate missing details

Ans

- ★ 1. Traversing
 - × 2. Intersection
- X 3. Radiation
- √ 4. Resection

Question ID: 630680197224

Status: Answered

Q.28 Which of the following statements is correct when the marine deposits are under a very large depth of water?

Ans X 1. It has low effective stress and high shear strength

Ans X 1. It has low effective stress and high shear strength

2. It has low effective stress and low shear strength

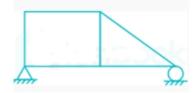
X 3. It has high effective stress and low shear strength

× 4. It has high effective stress and high shear strength

Question ID : 630680197248 Status : Answered

Chosen Option : 2

Q.29 Identify the type of truss shown in the given figure.



Ans X 1. Space truss

✓ 2. Deficient truss

Redundant truss

X 4. Perfect truss

Question ID : 630680197262 Status : Not Answered

Chosen Option: --

Q.30 In which type of shear failure does the failure surface NOT extend up to the ground surface when a strip footing rests on loose sand or soft clay?

Civil Junction

Ans X 1. Local shear failure

X 2. General shear failure

★ 3. Meyerhof's failure

4. Punching shear failure

Question ID : 630680197252 Status : Answered

Q.31 As per the Central Pollution Control Board norms, the maximum permissible limit of 3 days biochemical oxygen demand at 27°C in wastewater effluent when discharged into an inland river or stream is ______.

Ans

× 1. 100 mg/l

× 2. 500 mg/l

× 4. 350 mg/l

Question ID: 630680197281 Status: Not Answered

Chosen Option : --

Q.32 As per IS: 456-2000, what is the recommended value of effective length of RCC compression member of unsupported length *l* that is effectively held in position and restrained against rotation at one end and at the other restrained against rotation but not held in position?

Ans

X 1. 0.65 l

√ 2. 1.2 l

X 3. 2.0 l

X 4. 1.5 l

Question ID: 630680197272 Status: Answered

Chosen Option : 2

Q.33 Match the type of levelling with its application.

Type of levelling	Process	
1. Simple levelling	When the differential levelling is done in order to connect a benchmark to the starting point of the alignment of project	
2. Differential levelling	B. When the difference of level between two points is determined by setting the level instrument midway between two points	
3. Fly levelling	C. The process of taking levels transverse to the direction of longitudinal levelling	
4. Cross-sectional levelling	When the difference of elevation between the points is large and there are obstacles between the points	

Δne

X 1. 1-B; 2-C; 3-A; 4-D

√ 2. 1-B; 2-D; 3-A; 4-C

X 3. 1-C; 2-D; 3-A; 4-B

X 4. 1-B; 2-A; 3-D; 4-C

Question ID: 630680197223

Status: Answered

Q.34 A beam of the triangular section having a base width of 100 mm and height of 150 mm is subjected to a shear force of 15 kN. Find the value of the maximum shear stress. Ans X 1. 2 MPa × 2. 5 MPa X 4. 4 MPa Question ID: 630680197232 Status: Answered Chosen Option: 3 What is the indent of 'frog' in a standard modular burnt clay brick? Ans X 1. 20 mm to 30 mm X 2. 5 mm to 10 mm × 4. 30 mm to 40 mm Question ID: 630680197209 Status: Answered Chosen Option: 3 Q.36 Which of the following theorems states that if a beam has 'n' supports, the end being fixed, than the same number of equations required to determine the support moments may be obtained from the consecutive pairs of spans? Ans √ 1. Clapeyron's theorem × 2. Moment area theorem ★ 3. Strain energy theorem X 4. Mohr's theorem Question ID: 630680197263 Status: Not Answered Chosen Option: --Q.37 The magnetic bearing of a line is 135° 30'. What is the true bearing if the declination is 5° 15' W? X 1. 140° 45' × 2. 120° 15' X 3. 115° 45' √ 4. 130° 15' Question ID: 630680197219 Status: Answered Chosen Option: 4

Q.38 Which type of formwork requires a maximum stripping time of 14 days?

Ans

1. Props to beams spanning over 6 m

✓ 2. Props to slabs spanning over 4.5 m

× 3. Soffit formwork to slabs

★ 4. Soffit formwork to beams

Question ID: 630680197243 Status: Answered

Chosen Option: 2

Q.39 In reinforced concrete members, torsion generally occurs in combination with:

Ans 1. flexure and transverse shear

× 2. shear bond and shear compression

X 3. diagonal shear and shear bond

× 4. punching shear and shear compression

Question ID: 630680197273 Status: Not Answered

Chosen Option: --

Q.40 If an upgrade of 2% is followed by a downgrade of 2%, and the rate of change of grade is 0.4% per 100 m, the length of the vertical curve will be:

Ans

√ 1. 1000 m

× 2. 600 m

X 3. 200 m

× 4. 400 m

Question ID : 630680197222

Status : Answered Chosen Option : 1

Q.41 Which of the following is independent of the properties of water with respect to permeability?

Ans X 1. Coefficient of hydraulic conductivity

2. Coefficient of absolute permeability

X 3. Coefficient of permeability

★ 4. Coefficient of percolation

Question ID: 630680197247

Status: Answered

Q.42 The water content of a soil sample can be determined by:

Ans X 1. pipette method

X 2. hydrometer method

X 4. one-point method

Question ID: 630680197245 Status: Answered

Chosen Option: 3

Q.43 Which of the following statements related to Tacheometric survey is correct?

1. Reduction diagrams are used for measuring corrections for horizontal and vertical distances directly.

2. Tacheometric tables are prepared for 1 m staff intercept when staff is held vertically and constants are 100 and 0.

Ans X 1. Statement 2 is correct

× 2. Neither of the statements is correct

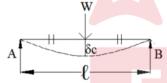
X 3. Statement 1 is correct

Question ID: 630680197226

Status : Answered

Chosen Option: 4

Q.44 A simply supported beam of span l carries a point load W at the centre (as shown in the given figure) and has a flexural rigidity of El. What are the maximum slope and deflection of the beam?



Ans

$$max.slope = \frac{Wl^3}{48EI}$$
 and $max.deflection$ at $centre = \frac{Wl^2}{16EI}$

X 2

$$max.slope = \frac{Wl^4}{16EI}$$
 and $max.deflection$ at $centre = \frac{Wl^2}{16EI}$

3.

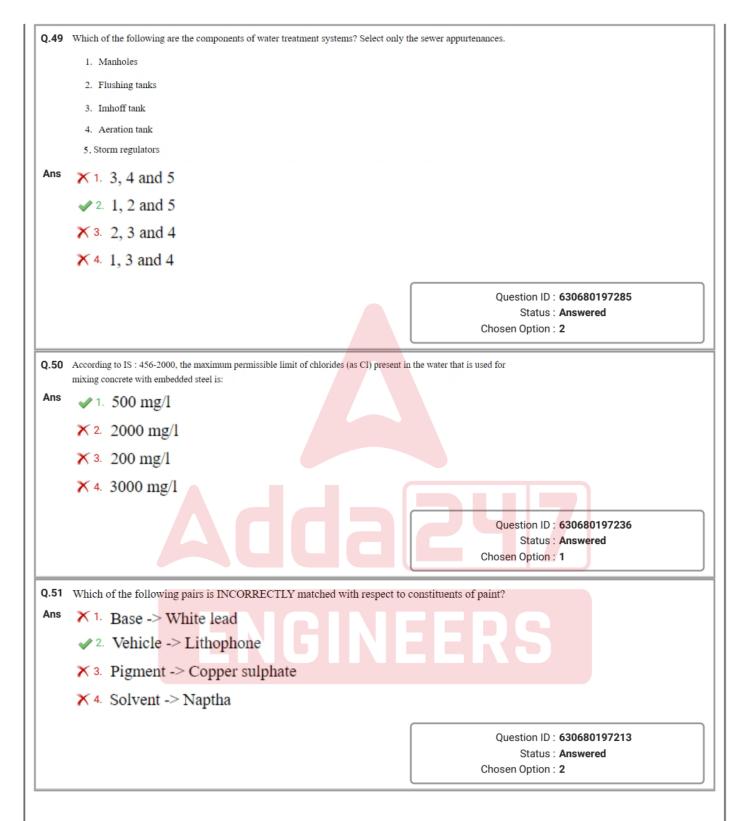
$$max.slope = \frac{Wl^2}{16EI}$$
 and $max.deflection$ at $centre = \frac{Wl^3}{48EI}$

X 4.

$$max.slope = \frac{Wl^2}{6EI} \ and \ max.deflection \ at \ centre = \frac{Wl^3}{8EI}$$

Question ID: 630680197266 Status: Answered

Q.45 Cement that has _ is the most suitable for achieving higher ultimate strength in a given application. ★ 1. a high C₃S content Ans × 3. a high C₃A content ★ 4. very little gypsum Question ID: 630680197235 Status: Answered Chosen Option: 2 Q.46 The phenomenon of producing higher stresses near the junction of a web and lower stresses at points away from the web of a steel beam is known as _ Ans √ 1. shear lag × 2. moment of resistance × 3. elastic critical moment ★ 4. lateral buckling Question ID: 630680197277 Status: Answered Chosen Option: 1 Q.47 Identify whether the following statements related to concrete mix are correct or incorrect. Statement 1: Nominal mix concrete may be used for concrete of M 25 or higher grade. Statement 2: The mix shall be designed to produce the grade of concrete having the required workability and a characteristic strength. Both statements are correct × 2. Statement 1 is correct but Statement 2 is incorrect × 4. Both statements are incorrect Question ID: 630680197242 Status: Answered Chosen Option: 3 Q.48 The maximum monthly demand of water per head is equal to: × 1. 2.7 × (Annual average hourly demand of water per head) X 2. Annual average monthly demand of water ★ 3. 1.8 × (Annual average daily demand of water) Question ID: 630680197282 Status: Answered Chosen Option: 1



Q.52 The ratio of lateral strain to longitudinal strain is called _ Ans 1. Poisson's ratio ★ 2. Young's modulus of elasticity X 3. Bulk modulus X 4. Shear modulus Question ID: 630680197227 Status: Answered Chosen Option: 1 Q.53 What is the dimension of dynamic viscosity of fluid? Ans **X** 1. MLT⁻² \times 2. M⁻¹L⁻¹T⁻¹ **×** 3. ML⁻¹T⁻² Question ID: 630680197253 Status: Answered Chosen Option: 4 Q.54 Which of the following beams is an indeterminate beam? Ans X 1. Cantilever beam ✓ 2. Continuous beam X 3. One end hinge and other end roller beam ★ 4. Simply supported beam Question ID: 630680197261 Status: Answered Chosen Option: 2

Q.55 A simple Pitot tube can be used to measure which of the following quantities?

- 1.Static head
- 2. Datum head
- 3. Dynamic head
- 4. Friction head
- 5. Total head

Ans

X 1. 2, 3 and 5

√ 2. 1, 3 and 5

× 3. 2, 3 and 4

X 4. 1, 2 and 4

Question ID : **630680197255** Status : **Answered**

Chosen Option: 2

Q.56 Which of the following options related to bituminous materials manufacturing is correct?

1. Bitumen is a crystalline solid material derived from petroleum, by natural or refinery process.

2. Tar is produced by the destructive distillation of organic materials such as coal, oil, lignite and wool.

Ans X 1. Statement 1 is correct but Statement 2 is incorrect

× 2. Both statements are correct

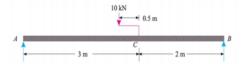
X 3. Both statements are incorrect

4. Statement 1 is incorrect but Statement 2 is correct

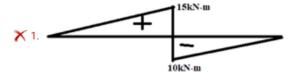
Question ID: 630680197214

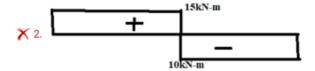
Status: Answered

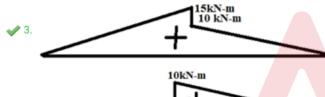
Q.57 A simply supported beam of 5 m carries a load of 100 kN on a bracket welded to the beam as shown in the given figure.
Select the correct bending moment diagram of the beam.

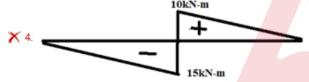


Ans









Question ID: 630680197234

Status : Not Answered
Chosen Option : --

Q.58 The maximum hydraulic efficiency for a Pelton turbine with exit angle ϕ is given by:

Ans

$$\checkmark$$
 1. $\left(\frac{1+\cos\emptyset}{2}\right)$

$$\times$$
 2. $\left(1 - \frac{\cos\emptyset}{2}\right)$

$$\times$$
 3. $\left(1 + \frac{\cos\emptyset}{2}\right)$

$$\times$$
 4. $\left(\frac{1-\cos\emptyset}{2}\right)$

Question ID : 630680197259

Status: Answered

Q.59 According to IS: 456-2000, what is the required slump value for placing the concrete in lightly reinforced sections in slabs, beams and column?

Ans X 1. 75-100 mm

× 2. 100-150 mm

X 3. 10-25 mm

√ 4. 25-75 mm

Question ID: 630680197238 Status: Answered

Chosen Option: 4

A 90° triangular weir is used to measure the discharge (Q) of a canal with the head of water H. The theoretical discharge Q.60

Ans

$$X_{1}$$
 $Q_{th} = \frac{8}{15} tan \frac{\theta}{2} \sqrt{2gH^{\frac{5}{2}}}$

$$imes$$
 3. $Q_{th} = \frac{8}{15} tan\theta \sqrt{2gH}$

$$\times 4. \ Q_{th} = \frac{8}{15} tan\theta H^{\frac{5}{2}} \sqrt{2g}$$

Question ID: 630680197258

Status: Answered

Chosen Option: 2

Q.61 Match the following possible failure modes of an axially loaded column with their correct occurrence.

Failure modes of column	Occurrence
1. Local buckling	A. Occurs by excessive deflection in the plane of the weaker principal axis
2. Squashing	B. Occurs by buckling of one or more individual plate elements
3. Overall flexural buckling	C. Occurs by twisting about the shear centre in the longitudinal axis
4. Flexural-torsional buckling	D. Occurs when the length is relatively small (stocky column)

Ans X 1. 1-B; 2-A; 3-D; 4-C

X 2. 1-C; 2-D; 3-A; 4-B

X 4. 1-B; 2-C; 3-A; 4-D

Question ID: 630680197279

Status: Answered

Q.62 In which type of failure of steel tension member, the failure of the member occurs along a path involving tension on one plane and shear on a perpendicular plane along the fasteners? Ans X 1. Gross section yielding ★ 2. Local web buckling 3. Block shear failure X 4. Net section rupture Question ID: 630680197276 Status: Answered Chosen Option: 3 Q.63 Which of the following statements related to hydration of cement is/are correct? 1. Hydration of cement begins as soon as water comes in contact with the cement. 2. Hydration of Ordinary Portland Cement is an exothermic reaction. Ans ✓ 1. Both statements are correct X 2. Statement 1 is incorrect but Statement 2 is correct X 3. Statement 1 is correct but Statement 2 is incorrect × 4. Both statements are incorrect Question ID: 630680197237 Status: Answered Chosen Option: 1 Q.64 What is the function of the chemical SO₃ present in Ordinary Portland cement? Ans ★ 1. Imparts colour and hardness ✓ 2. Makes cement sound X 3. Gives strength ★ 4. Responsible for quick setting Question ID: 630680197212 Status: Answered Chosen Option: 2 Q.65 The addition of chlorine at intermediate points generally at service reservoirs and booster pumping stations in water supply distribution is called Ans √ 1. re-chlorination × 2. de-chlorination ★ 3. pre-chlorination ★ 4. post-chlorination Question ID: 630680197288 Status: Answered

Q.66 According to IS: 10500-2012, the maximum permissible limit of total alkalinity as calcium carbonate present in drinking water in the absence of an alternate source of water is:

Ans

× 1. 1000 mg/l

√ 2. 600 mg/l

× 3. 400 mg/l

× 4. 200 mg/l

Question ID: 630680197280

Status: Answered

Chosen Option: 2

Q.67 The distribution factor of BC and CB of the continuous beam shown in the given figure are ______
respectively.

Ans

 \times 1. DF_{BC} = 0.56 and DF_{CB} = 0.44

✓ 2. DF_{BC} = 0.64 and DF_{CB} = 1

 \times 3. DF_{BC} = 0.5 and DF_{CB} = 0.5

 \times 4. DF_{BC} = 0.64 and DF_{CB} = 0.36

Question ID: 630680197264

Status: Not Answered

Chosen Option: --

Q.68 Which of the following conditions of soils, the Vane shear test conducted in the laboratory to determine the shear strength is applicable?

Ans

★ 1. Undrained shear strength of problematic soils

2. Undrained shear strength of soft clays.

X 3. Drained shear strength of soft clays

X 4. Drained shear strength of stiff clays

Question ID: 630680197250

Status: Answered

Q.69 For a simply supported beam, the restraint against torsional rotations at supports may be provided by:

- 1. Web of flange cleats
- 2. Vertical stiffeners
- 3. Lateral end frames

Which of the above mentioned points correctly completes the given statement?

Ans

- √ 1. 1 and 2
- × 2. 1, 2 and 3
- X 3. 1 and 3
- X 4. 2 and 3

Question ID : 630680197278 Status : Answered

Chosen Option: 2

Q.70 A survey is to be made with a chain or tape having its true length L and its incorrect length L'. Let the actual volume be V and measured volume be V'. Then, the correction for volume is given by:

Ans

$$\times_{1.} V = V' \left[\frac{L}{L'} \right]^2$$

$$\times$$
 2. $V = V' \left[\frac{L}{L'} \right]^3$

$$\checkmark$$
 3. $V = V' \left[\frac{L'}{L} \right]^3$

$$\times 4. \ V = V' \left[\frac{L'}{L} \right]^2$$



Question ID : 630680197221
Status : Answered
Chosen Option : 3

Q.71 A uniform rod of cross-sectional area A and length L is subjected to an axial pull P. What is the change in length of the rod? (Assume that Young's modulus of elasticity E remains the same throughout the length.)

Ans

$$\times$$
 1. $\frac{PE}{AL}$

$$\times$$
 2. $\frac{P}{AEL}$

✓ 3.
$$\frac{PL}{AE}$$

$$\times$$
 4. $\frac{PA}{LE}$

Question ID : 630680197228 Status : Answered

Q.72 Which of the following statements is correct in the case of a singly reinforced concrete beam?

Ans

- ★ 1. Steel possesses initial stresses when embedded in concrete.
- × 2. Compression is borne by the concrete.

Elastic moduli for concrete and steel have different values within the limits of deformation of the beam.

Plane sections transverse to the centre line of the beam before bending, remain plane after bending.

Question ID: 630680197270 Status: Answered

Chosen Option: 2

Q.73 The degree of saturation of a soil sample is defined as:

Ans

the ratio of the volume of voids to the total volume in a soil mass

the ratio of the volume of voids to the volume of solids in a given soil mass

the ratio of the volume of water present in a given soil mass to the total volume of voids in it

the ratio of the porosity to the volume of voids in a given soil sample

Ouestion ID: 630680197244 Status: Answered

Chosen Option: 3

Q.74 The bars of nominal diameter 16 mm used in compression for an RCC work consists of M30 grade concrete for which design bond stress is 1.5 N/mm². The stress in bars at design load is 50 N/mm². What is the development length bars as per IS: 456-2000?

Ans

- √ 1. 105.82 mm
- × 2. 112.55 mm
- X 3. 100.5 mm
- × 4. 108.5 mm

Question ID: 630680197269 Status: Answered Chosen Option: 1

Q.75 The angles of a triangle lie between to form a well-conditioned triangle in a chain survey.

- X 1. 60° and 180°
 - × 2. 15° and 135°
- X 4. 20° and 150°

Question ID: 630680197218 Status: Answered

Q.76 What should be the minimum sample size for the flakiness index test for aggregate? Ans X 1. 50 pieces √ 2. 200 pieces **X** 3. 100 pieces **★** 4. 300 pieces Question ID: 630680197216 Status: Not Answered Chosen Option: --Q.77 When concrete surfaces are exposed to alternate wetting and drying, the exposure condition is called Ans × 1. extreme × 2. mild X 3. moderate Question ID: 630680197240 Status: Answered Chosen Option: 4 Q.78 When the available length is less than the required length of a tension member, Ans √ 1. splices × 2. gusset plates **×** 3. lug angles X 4. column bases Question ID: 630680197275 Status: Answered Chosen Option: 1 Q.79 Which of the following types of pipes is NOT commonly used in water supply schemes? Ans X 1. Steel cylindrical reinforced concrete pipes ★ 2. Cement concrete pipes 3. Wrought iron pipe ★ 4. Steel pipe Question ID: 630680197283 Status: Answered Chosen Option: 4

Q.80 Match the following sewer components with their functions.

Types of sewer	Functions	
1.Catch pits	A. Used to check the obstruction in the sewer	
2. Flushing tanks	B. Used to collect stormwater from the roadside	
3. Lamp holes	C. Used to collect grit, sand and debris	
4. Gullies	D. Used to clean the sewer by removing blockages	

Ans

X 1. 1-A, 2-D, 3-C, 4-B

√ 2. 1-C, 2-D, 3-A, 4-B

X 3. 1-C, 2-A, 3-D, 4-B

X 4. 1-B, 2-D, 3-A, 4-C

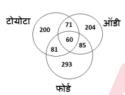
Question ID: 630680197287

Status: Answered

Chosen Option: 2

Section: Reasoning

Q.1 दिए गए आरेख का ध्यानपूर्वक अध्ययन कीजिए और नीचे दिए गए प्रश्न का उत्तर <mark>दीजिए।</mark> अलग-अलग वर्गों में संख्याएं कारों के विभिन्न ब्रांडों वाले लोगों की संख्याएं दर्शाती हैं।



जिनके पास ऑडी है, लेकिन फोर्ड नहीं है, उनके; और जिनके पास ऑडी और फोर्ड दोनों हैं, उनके; और जिनके पास केवल टोयोटा है, उनके बीच अनुपात कितना है?

Ans

X 1. 204 : 141 : 200

2. 275 : 145 : 200

X 3. 204 : 145 : 200

X 4. 275 : 141 : 200

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Question ID: 630680197290 Status: Answered

Chosen Option: 2

Q.2 Select correct combination of mathematical signs that can sequentially replace the * signs and balance the given equation.

26 * 12 * 12 * 3 * 4 * 2 * 2

Ans X 1. -, +, x, =, ÷, +

X 2. +, -, ÷, ×, =, +

X 3. -, +, ÷, ×, =, +

√ 4. -, -, ÷, =, ×, +

Question ID: 630680197298

Status: Answered

Q.3 If '+' means 'division', '-' means 'addition', 'x' means 'subtraction' and '÷' means 'multiplication', what will be the value of the following expression?

 $[\{(12 \times 7) - (4 \div 4)\} + (3 - 4)] \div 3$

Ans X 1.6

X 2. 12

X 3. 1

4. 9

Question ID: 630680197297

Status : Answered

Chosen Option: 4

Q.4 Select the figure from among the given options that can replace the question mark (?) in the following series.









Ans

















ENGINEERS

Question ID: 630680197294 Status: Answered

Chosen Option : 2

Q.5 In a certain code language, 'DEMAND' is coded as 'DFNBOD' and 'COTTON' is coded as 'CPUUPN'. How will 'DEALER' be coded in that language?

Ans

X 1. EFBMFS

2. DFBMFR

X 3. DFBMGR

X 4. DFBNFR

Question ID: 630680197291

Status: Answered

Q.6 पाँच मित्र साजीत, रोहन, बिक्षु, तोमर और मधु एक खेल के मैदान में एक बेंच पर बैठे हैं और उत्तर की ओर अभिमुख हैं (लेकिन जरूरी नहीं कि नामों वाले क्रम में ही हों)। साजीत, रोहन के ठीक बायें और बिक्षु के ठीक दायें बैठा है। मधु, रोहन के दायीं ओर कहीं बैठा है। तोमर, रोहन और मधु के ठीक बीच में है। सबसे दायें छोर पर कौन बैठा है?

Ans

💢 1. साजीत

🥒 2. मधु

🗙 3. रोहन

🗙 4. तोमर

Question ID: 630680197289

Status: Answered

Chosen Option: 2

Q.7 यदि

'A * B' का अर्थ है कि 'A B की पत्नी है',
'A @ B' का अर्थ है कि 'A, B की मां है',
'A = B' का अर्थ है कि 'B, A के ससुर हैं',
'A & B' का अर्थ है कि 'A, B की मां की मां है',
'A # B' का अर्थ है कि 'A, B की बहन है' और
'A ^ B' का अर्थ है कि 'A, B के पिता का भाई है',
तो दिए गए व्यंजक में K, J से किस रूप में संबंधित है?
K ^ I # H * G = J

Ans

🗶 1. पति

🗙 2. बहन

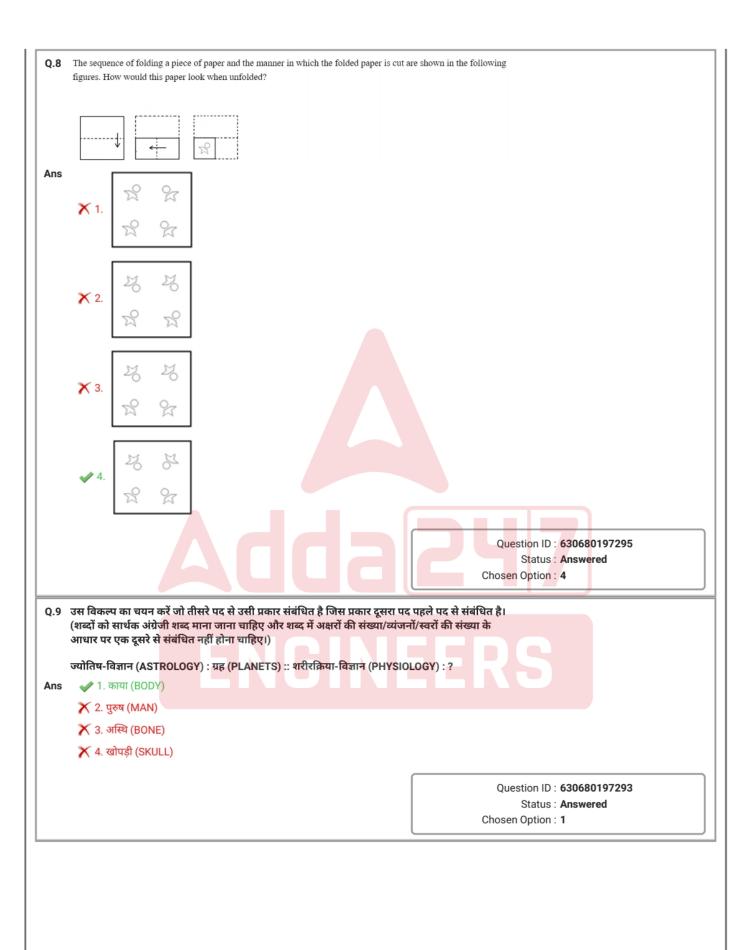
🗙 3. पुत्र

ൾ 4. भाई

Question ID: 630680197292 Status: Answered

Chosen Option: 4

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Q.10 Select the number from among the given options that can replace the question mark (?) in the following series. 135, 54, 27, 18, ?, 14 X 1.16 Ans X 2. 17 **X** 3. 14 **4**. 15 Question ID: 630680197296 Status: Answered Chosen Option: 4 Section: Quantitative Aptitude Q.1 राम् और सोम् किसी कार्य को क्रमशः 24 दिनों और 36 दिनों में पूरा कर सकते हैं। उन्होंने कार्य करना आरंभ किया परन्तु 6 दिनों के बाद रामू को कार्य छोड़ना पड़ा और सोमू ने अकेले ही शेष कार्य पूरा किया। पूरा कार्य कितने दिनों में पूर्ण किया गया? Ans √ 1. 27 × 2. 29 X 3. 31 X 4. 21 Question ID: 630680197306 Status: Answered Chosen Option: 1 Q.2 12 पुस्तकों का औसत मूल्य ₹250 है जबिक इनमें से 10 पुस्तकों का औसत मूल्य ₹215 है। शेष दो पुस्तकों में से, यदि एक पुस्तक का मूल्य दूसरी पुस्तक के मूल्य से 12.5% अधिक है, तो इन दोनों पुस्तकों में से प्रत्येक का मूल्य Ans X 1. ₹320, ₹360 √ 2. ₹400, ₹450 ×3. ₹300, ₹337 × 4. ₹240, ₹270 Question ID: 630680197302 Status: Answered Chosen Option: 2

Q.3 एक आयत की लंबाई उसकी चौड़ाई की तीन गुनी है। यदि इसकी लंबाई में 7 cm की कमी की जाती है और चौड़ाई में 7 cm की वृद्धि की जाती है, तो आयत के क्षेत्रफल में 147 cm 2 की वृद्धि होती है। तो प्रारंभिक आयत की लंबाई क्या Ans X 1. 33 cm X 2. 39 cm √ 3. 42 cm X 4. 36 cm Question ID: 630680197307 Status: Answered Chosen Option: 3 Q.4 जब किसी उत्पाद की कीमत में 12% की कमी आई, तो बिक्री संख्या में 25% की वृद्धि हुई। कुल आय पर क्या प्रभाव Ans √ 1. 10% X 2. 12% X 3. 15% X 4. 13% Ouestion ID: 630680197303 Status: Answered Chosen Option: 1 Q.5 एक फुटकर विक्रेता, एक थोक <mark>ट्यापारी से 48 पेनों के अं</mark>कित मूल्य पर 60 पेन खरीदता है। यदि वह इन पेनों को 5% की छूट पर बेचता है, तो उसका लाभ प्रतिशत क्या है? Ans X 1. 19.25% × 2. 17.50% × 3. 16.25% √ 4. 18.75% Question ID: 630680197304 Status: Answered Chosen Option: 4

Q.6 एक कार एक निश्चित दूरी के पहले एक-तिहाई भाग को 40 km/h की चाल से, अगले एक-तिहाई भाग को 80 km/h की चाल से और अंतिम एक-तिहाई भाग को 100 km/h की चाल से तय करती है। पूरी यात्रा में कार की औसत चाल क्या है?

Ans

- \times 1. 67 $\frac{11}{19}$ km/h
- $\times 2.65 \frac{9}{19}$ km/h
- $\sqrt{3}$ 63 $\frac{3}{19}$ km/h
- \times 4. $64\frac{17}{19}$ km/h

Question ID: 630680197305

Status: Answered

Chosen Option: 3

^{Q.7} संख्याओं 10 और 50 के बीच अभाज्य संख्याओं का औसत जात कीजिए।

Ans

- **×**1. 26 $\frac{9}{11}$
- \times 2. $27\frac{5}{11}$
- **×** 3. 29 $\frac{2}{11}$
- √ 4. 28

 √ 3

 11
- Adda

Question ID : 630680197301

Status : Answered

Chosen Option: 4

Q.8 यदि 28 cm ऊँचाई वाले बेलन का वक्र पृष्ठीय क्षेत्रफल 2640 cm² है, तो इसका आयतन क्या होगा?

Λnc

- × 1. 21,200 cm³
- ×2. 22,500 cm³
- × 3. 20,100 cm³
- √ 4. 19,800 cm³

Question ID: 630680197308

Status: Answered

Q.9 If $11^{x-1} + 11^{x+1} = 14762$, then the value of x is:

Ans × 1. 2

X 2. 5

X 3. 4

√ 4. 3

Question ID: 630680197299

Status: Answered

Chosen Option: 4

Q.10 तीन संख्याएँ 2:3:4 के अनुपात में हैं। यदि उनका योग 549 हो, तो उनका एचसीएफ (HCF) क्या होगा?

Ans X 1. 73

X 2. 59

X 3. 47

√ 4. 61

Question ID: 630680197300

Status: Answered

Chosen Option: 4

Section: General Awareness

Q.1 केंद्रीय बजट 2022-23 के अनुसार वित्तीय वर्ष 202<mark>2-</mark>23 के लिए अनुमानित प्रभावी <mark>राजस्व घाटा कितना है?</mark>

Ans X 1. 3.8%

X 2. 6.4%

3. 2.6%

X 4. 4.5%



Chosen Option : --

Q.2 नोकिया ने आईआईएससी (IISc) _____ में नेटवर्क रोबोटिक्स में नोकिया सेंटर ऑफ एक्सीलेंस स्थापित करने के लिए भारतीय विज्ञान संस्थान के साथ साझेदारी की है।

Ans 🗙 1. दिल्ली

🚀 2. बेंगलुरु

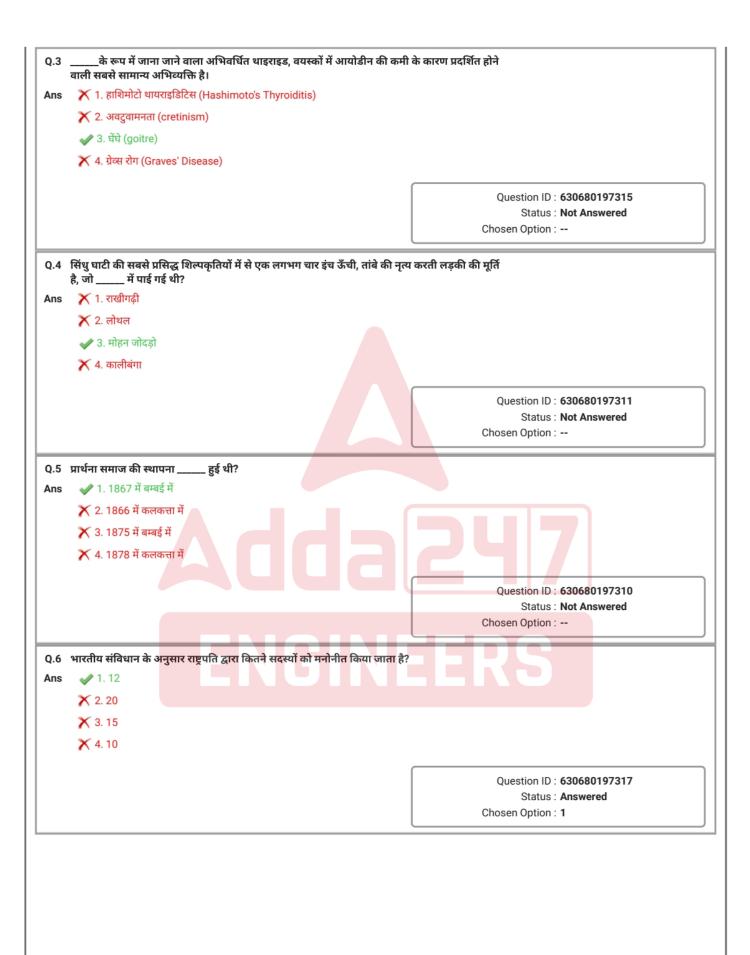
🗙 ३. मुंबई

🗙 ४. पुणे

Question ID: 630680197309

Status: Not Answered

Status: Answered



Q.7	.7 भारतीय वन राज्य रिपोर्ट, 2021 के अनुसार, कुल वन और वृक्ष आच्छादन, देश के भौगोलिक क्षेत्र का कितना प्रतिशत है?		
Ans			
	★ 2. 22.65%		
	★ 3. 25.45%		
	◆ 4. 24.62%		
		Question ID : 630680197314 Status : Not Answered	
		Chosen Option :	
Q.8	8 अल्पकालीन सीमांत लागत (SMC) को की प्रति इकाई कुल लागत में परिवर्तन के रूप किया जाता है?	ा में परिभाषित	
Ans	• •		
	2. निर्गम में परिवर्तन		
	🗙 3. निर्गम		
	X 4. समय		
		Question ID : 630680197312	
		Status : Not Answered	
		Chosen Option :	
0.9	9 चारों ग्रैंड स्लैम में 80 मैच जीतने वाले इतिहास के पहले खिलाड़ी <mark>कौन बने?</mark>		
Ans	s X 1. डैनिल मेदवेदेव (Daniil Medvedev)		
	🗙 2. रॉजर फ़ेडरर (Roger Federer)		
	s X 1. डैनिल मेदवेदेव (Daniil Medvedev) X 2. रॉजर फ़ेडरर (Roger Federer) X 3. राफेल नडाल (Rafael Nadal) 4. नोवाक जोकोविच (Novak Diokovic)		
	✔ 4. नोवाक जोकोविच (Novak Djokovic)		
		Question ID : 630680197318	
		Status : Answered Chosen Option : 1	
Q.10	णभारतीय संविधान के निम्नलिखित अनुच्छेदों में से कौन सा अनुच्छेद कुछ मामलों में कार्य, शिक्ष सार्वजिनक सहायता के अधिकार से संबंधित है?	क्षा और	
Ans	s 🗙 1. अनुच्छेद 51		
	🗙 2. अनुच्छेद 32		
	🗙 3. अनुच्छेद 72		
	৵ 4. अनुच्छेद 41		
		Question ID : 630680197316	
		Status : Answered	
		Chosen Option : 1	
Section	ction : English Language		

Q.1 Select the most appropriate option to fill in the blank. It continued to rain _____ the night. Ans 1. during X 2. since X 3. within X 4. by Question ID: 630680197320 Status: Answered Chosen Option: 2 Q.2 Select the most appropriate option to substitute the underlined word in the given idiom. If there is no need to substitute it, select 'No substitution required'. All bark and no fight X 1. fire X 2. pride 3. bite 4. No substitution required Question ID: 630680197323 Status: Not Answered Chosen Option: --Q.3 Parts of the following sentence have been given as options. Select the option that contains an error in spelling. If you don't find any error, mark 'No error' as your answer. We now have new evidence to corroborate the defendent's story. X 1. No error 2. new evidence to corroborate 3. the defendent's story X 4. We now have Question ID : 630680197322 Status: Answered Chosen Option: 4 Q.4 Select the most appropriate meaning of the given idiom. At random X 1. At a distance X 2. In total confusion 3. In a hap-hazard manner X 4. At the last moment Question ID: 630680197324 Status: Answered Chosen Option: 4

Q.5	Select the most appropriate synonym of the given word to fill in the bl	ank.	
	Suspended His surgery was due to the rise in his sugar level.		
Ans	★ 1. continued		
	X 2. ended		
	X 3. changed		
	4. postponed		
		Question ID : 630680197321 Status : Answered	
		Chosen Option : 3	
0.6	Select the most appropriate option to fill in the blank.		
4.0			
Ans	What do you normally have for breakfast? X 1. the		
	X 2. a		
	★ 4. an		
		Question ID : 630680197319	
		Status : Answered Chosen Option : 3	
Q.7	Q.7 Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.		
	A. The king brought fresh water and gave it to him.		
	B. The man closed his eyes and lay quietly. C. The man felt better and asked for something to drink.		
	D. Then, with the hermit's help he carried the wounded man into the hed.	ut and laid him on the	
Ans			
	X 2. CBDA		
	X 3. BCAD		
	✓ 4. CADB		
		Question ID : 630680197325	
		Status : Answered Chosen Option : 1	

Comprehension:

Read the given passage and answer the questions that follow.

They say that the colour of revolution is red. Not always. Sometimes, it's blue. It was the summer of 1859 in Bengal when thousands of ryots (peasants) refused to grow indigo for the European planters (owners of land and indigo factories). It was a show of rage and undying resolve. It became one of the most remarkable peasant movements of Indian history. It came to be called the Neel Bidroha or the Indigo Revolt.

Indigo was being cultivated in Bengal since the end of the 18th century. It was practiced mainly in two forms, the Nij-abad and the Ryoti. In the Nij or 'own' system, the planter produced indigo on lands that he directly controlled. In the Ryoti cultivation, the ryots cultivated indigo on their own lands as part of a contract with the planters. Ryoti was the predominant form of indigo cultivation in Bengal. The ryots sowed indigo under a contract system. It extended to a period of either one, three to five or ten years. At the inception of the contract, the planter made an advance payment to the ryot to meet the expenses of cultivation. In return, the ryot agreed to cultivate indigo on his land. The system of indigo cultivation was inherently exploitative. Emerging in 1859 in the Nadia district, the Bidroha spread to in different districts of Bengal in the 1860s. The peasants attacked indigo factories with spears and swords. Planters who demanded rent were beaten. Even women participated by fighting with pots and pans. It was especially powerful in the Pabna district where the ryots vehemently refused to sow indigo.

SubQuestion No: 8

- Q.8 Read the given sentences.
 - A. The system of Ryoti in indigo plantation was such that it exploited the peasants.
 - B. The peasants revolted against the Indigo planters and refused to sow indigo.

Select the correct option about these statements.

Ans X 1. Both statements A and B are true but A does not explain the reason for B.

2. Both statements A and B are true and A explains the reason for B.

X 3. Statement A is true but statement B is false

X 4. Statement A is false but statement B is true

Question ID: 630680197328

Status: Not Answered

Chosen Option: --

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Comprehension:

Read the given passage and answer the questions that follow.

They say that the colour of revolution is red. Not always. Sometimes, it's blue. It was the summer of 1859 in Bengal when thousands of ryots (peasants) refused to grow indigo for the European planters (owners of land and indigo factories). It was a show of rage and undying resolve. It became one of the most remarkable peasant movements of Indian history. It came to be called the Neel Bidroha or the Indigo Revolt.

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SubQuestion No: 9

'Ryoti was the predominant form of indigo cultivation in Bengal'. The word 'predominant'

Ans

X 1. cheap

X 2. normal

3. conventional

/ 4. main

Question ID: 630680197329 Status: Not Answered

Comprehension:

Read the given passage and answer the questions that follow.

They say that the colour of revolution is red. Not always. Sometimes, it's blue. It was the summer of 1859 in Bengal when thousands of ryots (peasants) refused to grow indigo for the European planters (owners of land and indigo factories). It was a show of rage and undying resolve. It became one of the most remarkable peasant movements of Indian history. It came to be called the Neel Bidroha or the Indigo Revolt.

Indigo was being cultivated in Bengal since the end of the 18th century. It was practiced mainly in two forms, the Nij-abad and the Ryoti. In the Nij or 'own' system, the planter produced indigo on lands that he directly controlled. In the Ryoti cultivation, the ryots cultivated indigo on their own lands as part of a contract with the planters. Ryoti was the predominant form of indigo cultivation in Bengal. The ryots sowed indigo under a contract system. It extended to a period of either one, three to five or ten years. At the inception of the contract, the planter made an advance payment to the ryot to meet the expenses of cultivation. In return, the ryot agreed to cultivate indigo on his land. The system of indigo cultivation was inherently exploitative. Emerging in 1859 in the Nadia district, the Bidroha spread to in different districts of Bengal in the 1860s. The peasants attacked indigo factories with spears and swords. Planters who demanded rent were beaten. Even women participated by fighting with pots and pans. It was especially powerful in the Pabna district where the ryots vehemently refused to sow indigo.

SubQuestion No: 10

Q.10 What is the main theme of the passage?

Ans

X 1. Exploitation of Indigo farmers

X 2. Indigo plantation in Bengal

💢 3. Ryoti system in Indigo cultivation

4. Indigo revolt in Bengal

Question ID: 630680197327 Status: Answered

Chosen Option : 4

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