



Recruitment Exam for Multiple Posts

Participant ID	
Participant Name	
Test Center Name	iON Digital Zone iDZ Gram Raigawan Near Patan Bypass
Test Date	03/11/2025
Test Time	9:00 AM - 11:00 AM
Subject	Assistant Engineer Civil
Marks Obtained	80

Section : Numerical Ability

Q.1 What is the remainder when 3^{423} is divided by 8?

- Ans
- ☐ 1. 2
 - ☐ 2. 0
 - ☐ 3. 7
 - ☒ 4. 3

Question Type : MCQ
Question ID : 441009896064
Status : Answered
Chosen Option : 4
Marks : 1

Q.2 Pravin can do a piece of work in 8 hours. Rishi can do it in 24 hours. With the assistance of Shan, they completed the work in 3 hours. In how many hours can Shan alone do it?

- Ans
- ☐ 1. 7
 - ☐ 2. 8
 - ☒ 3. 6
 - ☐ 4. 5

Question Type : MCQ
Question ID : 441009313122
Status : Answered
Chosen Option : 3
Marks : 1

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Q.3 A 175 cm-wide canvas is required to build a conical tent of height 28 m and floor area of 1386 m². What is the required length of the canvas (in m)? (Use $\pi = 22/7$)

- Ans
- ☒ 1. 1100
 - ☒ 2. 1320
 - ☒ 3. 1340
 - ☒ 4. 892

Question Type : MCQ
Question ID : 441009595020
Status : Answered
Chosen Option : 2
Marks : 1

Q.4 The sum of 6 numbers is 852. Find their average.

- Ans
- ☒ 1. 141
 - ☒ 2. 140
 - ☒ 3. 142
 - ☒ 4. 143

Question Type : MCQ
Question ID : 441009517262
Status : Answered
Chosen Option : 3
Marks : 1

Q.5 If a man bought 8 sharpners for ₹5, and sold them at 5 sharpners for ₹6, then the gain percentage is _____.

- Ans
- ☒ 1. 82%
 - ☒ 2. 102%
 - ☒ 3. 112%
 - ☒ 4. 92%

Question Type : MCQ
Question ID : 441009517134
Status : Answered
Chosen Option : 4
Marks : 1

Section : Reasoning and Mental Ability

Q.1 Select the pair that follows the same pattern as that followed by the two pairs given below. Both pairs follow the same pattern.

HHO : KKM
IGQ : LJO⁹⁶³

- Ans
- ☐ 1. YHP : GKM
 - ☐ 2. DNO : JQL
 - ☐ 3. SDL : TFJ
 - ☒ 4. RFJ : UIH

Question Type : MCQ
Question ID : 441009787093
Status : Answered
Chosen Option : 4
Marks : 1

Q.2 M, N, O, P, Q, R and S are sitting around a circular table facing the centre of the table. O sits to the immediate right of N. Only three people sit between O and S when counted from the left of O. Only three people sit between N and P. Q sits to the immediate right of M. How many people sit between R and M when counted from the left of M?

- Ans
- ☐ 1. One
 - ☐ 2. Three
 - ☐ 3. Four
 - ☒ 4. Two

Question Type : MCQ
Question ID : 441009788116
Status : Answered
Chosen Option : 4
Marks : 1

Q.3 Refer to the following series and answer the question (all numbers are single digit numbers only).

(Left) 9 1 8 9 7 7 1 2 5 9 1 4 4 8 9 6 3 4 4 1 9 8 7 1 5 2 2 (Right)

How many such even numbers are there each of which is immediately preceded by an odd number and also immediately followed by an odd number?¹¹⁴⁹³

- Ans
- ☐ 1. 5
 - ☐ 2. 6
 - ☐ 3. 3
 - ☒ 4. 4

Question Type : MCQ
Question ID : 441009797477
Status : Answered
Chosen Option : 4
Marks : 1

Q.4 If 1 is added to each even digit and 2 is subtracted from each odd digit in the number 8374526, what will be the sum of the digits which are second from the left and second from the right?

- Ans
- ☐ 1. 6
 - ☐ 2. 10
 - ☐ 3. 12
 - ☒ 4. 4

Question Type : MCQ
Question ID : 441009531298
Status : Answered
Chosen Option : 4
Marks : 1

Q.5 In a certain code language, 'seed chest earth' is coded as 'ax bi lk' and 'earth vow vase' is coded as 'ng ax rq'. How is 'earth' coded in the given language?

- Ans
- ☒ 1. ax
 - ☐ 2. bi
 - ☐ 3. lk
 - ☐ 4. ng

Question Type : MCQ
Question ID : 441009793758
Status : Answered
Chosen Option : 1
Marks : 1

Section : General Knowledge and Awareness

Q.1 In which state of India was a female cheetah named Dheera released into Gandhi Sagar Wildlife Sanctuary, under Project Cheetah in September 2025?

- Ans
- ☐ 1. Assam
 - ☐ 2. Maharashtra
 - ☐ 3. Kerala
 - ☒ 4. Madhya Pradesh

Question Type : MCQ
Question ID : 4410091331628
Status : Answered
Chosen Option : 4
Marks : 1

Q.2 सर्वोच्च न्यायालय ने 1992 में यह निर्णय दिया कि मौलिक कर्तव्य को प्रभावी बनाने के लिए बनाए गए कानून को किस अनुच्छेद के संबंध में 'उचित' माना जा सकता है?

- Ans
- ☒ 1. अनुच्छेद 12 और अनुच्छेद 21
 - ☒ 2. अनुच्छेद 32 और अनुच्छेद 36
 - ☒ 3. अनुच्छेद 14 और अनुच्छेद 19
 - ☒ 4. अनुच्छेद 45 और अनुच्छेद 48

Question Type : MCQ
Question ID : 441009635012
Status : Answered
Chosen Option : 3
Marks : 1

Q.3 The book 'Chach Nama' provided the history of _____ during the 7th and 8th century AD.

- Ans
- ☒ 1. Surat
 - ☒ 2. Kannauj
 - ☒ 3. Sindh
 - ☒ 4. Kabul

Question Type : MCQ
Question ID : 441009632056
Status : Answered
Chosen Option : 4
Marks : 0

Q.4 South of the Bhabar belt lies in which region of India?

- Ans
- ☒ 1. Tarai
 - ☒ 2. Deccan Plateau
 - ☒ 3. Malwa Plateau
 - ☒ 4. Khadar

Question Type : MCQ
Question ID : 4410091342932
Status : Answered
Chosen Option : 2
Marks : 0

Q.5 The concept of the 'gig economy' refers to _____.

- Ans
- ☒ 1. high-paying, stable jobs with large companies
 - ☒ 2. traditional full-time employment with benefits
 - ☒ 3. short-term, contract-based work arrangements
 - ☒ 4. government-funded employment programmes

Question Type : MCQ
Question ID : 441009627021
Status : Answered
Chosen Option : 4
Marks : 0

Section : General English

Q.1 Select the most appropriate ANTONYM from the given sentence for the word 'Ebullient'.

Despite the festive atmosphere, her disposition remained inexplicably lugubrious, an unyielding sorrow that no amount of merriment could assuage.

- Ans
- ☒ 1. merriment
 - ☒ 2. disposition
 - ☒ 3. lugubrious
 - ☒ 4. assuage

Question Type : MCQ
Question ID : 4410091268475
Status : Answered
Chosen Option : 1
Marks : 0

Q.2 Select the option that can substitute the highlighted segment in the given sentence.

After days of unrelenting pressure and constant setbacks, the researcher found herself utterly exhausted and unable to endure further strain.

- Ans
- ☒ 1. at the end of her tether
 - ☒ 2. in the doldrums
 - ☒ 3. between a rock and a hard place
 - ☒ 4. on tenterhooks

Question Type : MCQ
Question ID : 4410091267972
Status : Answered
Chosen Option : 2
Marks : 0

Q.3 Select the option that can be used as a one-word substitute for the given group of words.

The practice of doing favours to one's relatives or friends, especially in giving jobs or contracts

- Ans
- ☒ 1. Patriotism
 - ☒ 2. Heroism
 - ☒ 3. Nepotism
 - ☒ 4. Neutrality

Question Type : MCQ
Question ID : 441009431884
Status : Answered
Chosen Option : 3
Marks : 1

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

His argument appeared _____ at first glance, but closer examination revealed serious logical flaws.

- Ans
- ☒ 1. mendacious
 - ☒ 2. cogent
 - ☒ 3. tenuous
 - ☒ 4. trivial

Question Type : MCQ
Question ID : 4410091260346
Status : Answered
Chosen Option : 3
Marks : 0

Q.5 Parts of a sentence are given below. The first part (1) is in the correct order, while the other parts of the sentence are jumbled up. Arrange the parts in the correct order to form a meaningful and coherent sentence.

- (1) A washing machine
- (P) washing clothes
- (Q) gadget that is
- (R) is a convenient
- (S) used for

- Ans
- ☒ 1. PSQR
 - ☒ 2. RQSP
 - ☒ 3. PQSR
 - ☒ 4. SRPQ

Question Type : MCQ
Question ID : 441009433530
Status : Answered
Chosen Option : 2
Marks : 1

Section : Power Sector Related

Q.1 What is the role of the Central Electricity Authority (CEA) in the National Training Policy?

- Ans
- ☒ 1. Implement renewable energy projects
 - ☒ 2. Conduct training programmes directly
 - ☒ 3. Set technical standards for training
 - ☒ 4. Manage power distribution networks

Question Type : MCQ
Question ID : 44100943059
Status : Answered
Chosen Option : 3
Marks : 1

Q.2 What is the primary objective of the National Electricity Fund (NEF)?

- Ans
- ☐ 1. To provide financial assistance for power generation projects
 - ☐ 2. To regulate electricity tariffs
 - ☐ 3. To subsidise domestic electricity consumers
 - ☒ 4. To promote capital investment in power distribution projects

Question Type : MCQ
Question ID : 44100943065
Status : Answered
Chosen Option : 1
Marks : 0

Q.3 What major regulatory change in 2024 impacted the Right of Way (RoW) for transmission projects?

- Ans
- ☐ 1. Reduced compensation for land acquisition
 - ☐ 2. Ban on transmission infrastructure in wildlife areas
 - ☒ 3. Increase in compensation for land use under transmission corridors
 - ☐ 4. Stricter environmental clearance norms

Question Type : MCQ
Question ID : 44100942116
Status : Answered
Chosen Option : 3
Marks : 1

Q.4 What significant technological collaboration did the Ministry of Power undertake in 2024?

- Ans
- ☐ 1. Alliance with Google for smart grid analytics
 - ☐ 2. Partnership with NASA for space-based solar power
 - ☒ 3. MoU with ISRO for transmission tower management
 - ☐ 4. Collaboration with Tesla for space technology

Question Type : MCQ
Question ID : 44100942113
Status : Answered
Chosen Option : 3
Marks : 1

Q.5 Which major renewable energy project was approved by the Cabinet Committee on Economic Affairs in 2024?

- Ans
- ☒ 1. Green Energy Corridor Phase-II
 - ☐ 2. Green Energy Corridor Phase-I
 - ☐ 3. National Wind Energy Mission
 - ☐ 4. National Solar Mission

Question Type : MCQ
Question ID : 44100942107
Status : Answered
Chosen Option : 1
Marks : 1

Section : Discipline Related

Q.1 What is the initial process by which a cyclone separator removes particulates from air emissions?

- Ans
- ☒ 1. Electrostatic attraction
 - ☐ 2. Centrifugal force
 - ☐ 3. Chemical absorption
 - ☐ 4. Gravitational settling

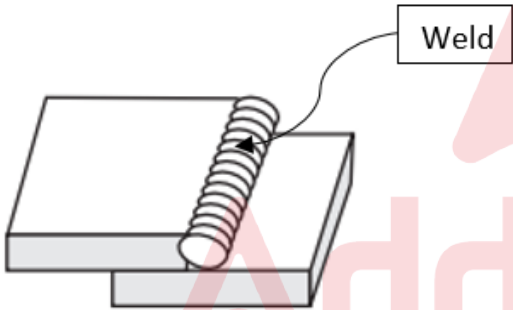
Question Type : MCQ
Question ID : 4410091402045
Status : Answered
Chosen Option : 2
Marks : 1

Q.2 What is the purpose of trip distribution in transportation planning?

- Ans
- ☒ 1. To allocate parking spaces in commercial areas
 - ☐ 2. To determine how trips move between zones
 - ☐ 3. To calculate toll charges on expressways
 - ☐ 4. To design traffic signal timings

Question Type : MCQ
Question ID : 441009317227
Status : Answered
Chosen Option : 2
Marks : 1

Q.3 From the given figure, identify the correct type of weld joint.



- Ans
- ☒ 1. Lap joint weld
 - ☐ 2. Edge joint weld
 - ☐ 3. Corner joint weld
 - ☐ 4. Butt joint weld

Question Type : MCQ
Question ID : 4410091365425
Status : Answered
Chosen Option : 1
Marks : 1

Q.4 In a pumping station, the dry well and wet well arrangement is provided to:

- Ans
- ☒ 1. allow sewage and storm water to mix
 - ☐ 2. house pumps and motors separately from sewage
 - ☒ 3. store treated effluent
 - ☒ 4. prevent leakage between pumps

Question Type : MCQ
Question ID : 4410091402013
Status : Answered
Chosen Option : 2
Marks : 1

Q.5 According to Meyerhoff's theory of bearing capacity, as the angle of friction of soil increases:

- Ans
- ☒ 1. the bearing capacity factors N_y , N_q and N_c decrease
 - ☒ 2. the bearing capacity factors N_y , N_q and N_c remain constant
 - ☒ 3. the bearing capacity factors N_c , N_q increases and N_y decrease
 - ☐ 4. the bearing capacity factors N_c , N_q and N_y increase

Question Type : MCQ
Question ID : 4410091380518
Status : Answered
Chosen Option : 4
Marks : 1

Q.6 A soil has a Poisson's ratio of 0.20. Find the coefficient of earth pressure at rest.

- Ans
- ☒ 1. 0.80
 - ☒ 2. 0.20
 - ☐ 3. 0.25
 - ☒ 4. 1.00

Question Type : MCQ
Question ID : 4410091380330
Status : Answered
Chosen Option : 3
Marks : 1

Q.7 Which material from municipal solid waste is most effectively reused without significant processing for applications like construction fill?

- Ans
- ☒ 1. Glass bottles
 - ☒ 2. Food waste
 - ☒ 3. Plastic bags
 - ☐ 4. Construction debris

Question Type : MCQ
Question ID : 4410091402085
Status : Answered
Chosen Option : 4
Marks : 1

Q.8 Two forces act at a point with an included angle of 90°. The magnitude of their resultant equals either force when:

- Ans
- ☒ 1. forces are unequal but opposite
 - ☒ 2. one force is zero
 - ☒ 3. both forces are equal
 - ☒ 4. angle between forces is 180°

Question Type : MCQ
Question ID : 4410091371491
Status : Answered
Chosen Option : 2
Marks : 1

Q.9 Which of the following is the correct and complete sequence of operations involved in laying a new railway line?

- Ans
- ☒ 1. Reconnaissance survey → Preliminary survey → Detailed survey → Alignment fixing → Earthwork → Plate laying → Ballasting
 - ☒ 2. Reconnaissance survey → Preliminary survey → Earthwork → Detailed survey → Plate laying → Alignment fixing → Ballasting
 - ☒ 3. Detailed survey → Reconnaissance survey → Preliminary survey → Plate laying → Alignment fixing → Earthwork → Ballasting
 - ☒ 4. Preliminary survey → Reconnaissance survey → Detailed survey → Earthwork → Ballasting → Alignment fixing → Plate laying

Question Type : MCQ
Question ID : 441009317269
Status : Answered
Chosen Option : 1
Marks : 1

Q.10 In construction using concrete, the term 'bleeding' in fresh concrete refers to which of the following?

- Ans
- ☒ 1. Upward movement of water to the surface
 - ☒ 2. Excessive shrinkage after hardening
 - ☒ 3. Formation of surface cracks due to rapid drying
 - ☒ 4. Loss of cement paste from the mix

Question Type : MCQ
Question ID : 4410091357113
Status : Answered
Chosen Option : 1
Marks : 1

Q.11 Which coefficient is the primary parameter used to determine the rate at which primary consolidation occurs in a saturated clay layer?

- Ans
- ☒ 1. The Compression Index (Cc).
 - ☒ 2. The Coefficient of Volume Compressibility (mv).
 - ☒ 3. The Coefficient of Consolidation (Cv).
 - ☒ 4. The Coefficient of Permeability (k).

Question Type : MCQ
Question ID : 4410091372215
Status : Answered
Chosen Option : 3
Marks : 1

Q.12 Which angle is measured in the 'direct observation of angle method' of theodolite traversing?

- Ans
- ☒ 1. Included angle between survey lines
 - ☒ 2. Vertical angle of slope
 - ☒ 3. Azimuth from north
 - ☒ 4. Magnetic bearing

Question Type : MCQ
Question ID : 4410091350167
Status : Answered
Chosen Option : 1
Marks : 1

Q.13 What is the primary purpose of a triangulation system in geodetic surveying?

- Ans
- ☒ 1. To determine magnetic bearings of survey lines
 - ☒ 2. To establish precise horizontal control networks
 - ☒ 3. To measure elevations using levelling instruments
 - ☒ 4. To locate underground utilities

Question Type : MCQ
Question ID : 4410091350195
Status : Answered
Chosen Option : 2
Marks : 1

Q.14 If a soil sample experiences unloading such that σ_1 decreases and σ_3 is constant, the stress path on the p-q plane will generally move:

- Ans
- ☒ 1. downward and leftward
 - ☒ 2. horizontally to the right
 - ☒ 3. upward and rightward
 - ☒ 4. vertically upward

Question Type : MCQ
Question ID : 4410091372233
Status : Answered
Chosen Option : 1
Marks : 1

Q.15 Which factor limits the natural self-cleansing capacity of the environment for air pollutants like sulfur dioxide?

- Ans
- ☒ 1. Soil microbial activity
 - ☒ 2. Excessive emission rates overwhelming radical reactions
 - ☒ 3. Low sunlight in polar regions
 - ☒ 4. High humidity promoting rainout

Question Type : MCQ
Question ID : 4410091402042
Status : Answered
Chosen Option : 4
Marks : 0

Q.16 A cylindrical pipe has an internal diameter of 400 mm and a wall thickness of 10 mm. It carries water under an internal pressure of 1 MPa. Assuming that the pipe is thin-walled, what is the hoop stress in the pipe wall?

- Ans
- ☒ 1. 10 MPa
 - ☒ 2. 25 MPa
 - ☒ 3. 20 MPa
 - ☒ 4. 15 MPa

Question Type : MCQ
Question ID : 441009287925
Status : Answered
Chosen Option : 3
Marks : 1

Q.17 How is an Effective Rainfall Hydrograph (ERH) derived from a Total Rainfall Hydrograph?

- Ans
- ☒ 1. By averaging the total rainfall over a period
 - ☒ 2. By integrating rainfall and streamflow data
 - ☒ 3. By subtracting infiltration, evaporation and other losses
 - ☒ 4. By considering only peak rainfall values

Question Type : MCQ
Question ID : 44100988819
Status : Answered
Chosen Option : 3
Marks : 1

Q.18 In laminar flow over a flat plate, the velocity profile near the plate follows which boundary condition?

- Ans
- ☐ 1. Velocity is maximum at the plate
 - ☐ 2. Velocity is the same as free-stream velocity at the plate
 - ☒ 3. Velocity is zero at the plate due to the no-slip condition
 - ☐ 4. Velocity is independent of distance from the plate

Question Type : MCQ
Question ID : 44100980832
Status : Answered
Chosen Option : 3
Marks : 1

Q.19 Which of the following is a key advantage of using sludge drying beds for domestic wastewater sludge disposal?

- Ans
- ☐ 1. Complete pathogen elimination
 - ☒ 2. Low operational cost
 - ☐ 3. Rapid processing time
 - ☐ 4. High energy consumption

Question Type : MCQ
Question ID : 4410091402034
Status : Answered
Chosen Option : 2
Marks : 1

Q.20 The minimum gradient of a sewer between two manholes is fixed to maintain:

- Ans
- ☐ 1. maximum discharge
 - ☐ 2. minimum excavation cost
 - ☐ 3. laminar flow
 - ☒ 4. self-cleansing velocity

Question Type : MCQ
Question ID : 4410091402001
Status : Answered
Chosen Option : 4
Marks : 1

Q.21 Which of the following is NOT an application of hydrology in engineering?

- Ans
- ☐ 1. Flood risk assessment
 - ☐ 2. Sediment transport analysis
 - ☒ 3. Analysis of wind currents over oceans
 - ☐ 4. Design of irrigation systems

Question Type : MCQ
Question ID : 44100988684
Status : Answered
Chosen Option : 3
Marks : 1

Q.22 For a simply supported beam with a span of 4 metres, what is the maximum permissible final deflection as per IS 456 : 2000 including all loads?

- Ans
- ☒ 1. 11.4 mm
 - ☒ 2. 10 mm
 - ☒ 3. 16 mm
 - ☒ 4. 20 mm

Question Type : MCQ
Question ID : 4410091329604
Status : Answered
Chosen Option : 2
Marks : 0

Q.23 Which factors influence the short-term deflection of a slab in the limit state of serviceability?

- Ans
- ☒ 1. Span length and aggregate size
 - ☒ 2. Age of concrete and water-cement ratio
 - ☒ 3. Creep and shrinkage of concrete
 - ☒ 4. Magnitude of live loads, amount of steel reinforcement, and concrete strength

Question Type : MCQ
Question ID : 4410091329620
Status : Answered
Chosen Option : 4
Marks : 1

Q.24 Among different types of construction projects, the distinguishing feature of industrial construction is:

- Ans
- ☒ 1. exclusively residential utility
 - ☒ 2. minimal use of structural steel
 - ☒ 3. short construction duration and low cost
 - ☒ 4. high emphasis on specialised design, machinery integration and durability

Question Type : MCQ
Question ID : 4410091357134
Status : Answered
Chosen Option : 4
Marks : 1

Q.25 According to IS 456:2000, what is the maximum diameter allowed for reinforcing bars in a reinforced concrete solid slab?

- Ans ☒ 1. One-eighth of the slab thickness
- ☐ 2. One-quarter of the slab thickness
- ☐ 3. One-twelfth of the slab thickness
- ☐ 4. One-sixth of the slab thickness

Question Type : MCQ
Question ID : 4410091329625
Status : Answered
Chosen Option : 1
Marks : 1

Q.26 In the plane strain condition, the state of stress at a point is represented on a Mohr's Circle. Which of the following statements about the Mohr's Circle under plane strain condition is correct?

- Ans ☐ 1. Mohr's Circle for plane strain is constructed using only the out-of-plane stress and shear stress.
- ☒ 2. Mohr's Circle for plane strain includes only in-plane stresses and ignores the out-of-plane stress component.
- ☐ 3. Mohr's Circle for plane strain is identical to that of plane stress.
- ☐ 4. Mohr's Circle for plane strain is drawn using the in-plane principal strains and the out-of-plane strain.

Question Type : MCQ
Question ID : 4410091326540
Status : Answered
Chosen Option : 2
Marks : 1

Q.27 In the matrix analysis of structures, the global coordinate system is used to:

- Ans ☐ 1. define the local orientation of each member
- ☐ 2. calculate the fixed-end moments for members
- ☐ 3. determine the carry-over factor during moment distribution
- ☒ 4. describe the forces and displacements of the entire structure on a common reference frame

Question Type : MCQ
Question ID : 4410091367086
Status : Answered
Chosen Option : 4
Marks : 1

Q.28 What is the maximum permissible vertical deflection under live load for purlins supporting brittle cladding in an industrial building, according to IS 800:2007?

- Ans ☒ 1. Span/180
- ☒ 2. Span/240
- ☒ 3. Span/500
- ☒ 4. Span/300

Question Type : MCQ
Question ID : 4410091365393
Status : Answered
Chosen Option : 4
Marks : 0

Q.29 Which of the following is NOT a requirement of canal lining?

- Ans ☒ 1. To retard the growth of weed
- ☒ 2. To minimise the seepage loss
- ☒ 3. To decrease the discharge in canal section
- ☒ 4. To prevent the erosion of bed and side

Question Type : MCQ
Question ID : 4410091378306
Status : Answered
Chosen Option : 3
Marks : 1

Q.30 Which of the following is a temporary adjustment in levelling instruments?

- Ans ☒ 1. Focusing the eyepiece
- ☒ 2. Collimation error correction
- ☒ 3. Permanent axis alignment
- ☒ 4. Replacing the bubble tube

Question Type : MCQ
Question ID : 4410091350140
Status : Answered
Chosen Option : 1
Marks : 1

Q.31 On what basis are streams classified?

- Ans ☒ 1. Depth of water
- ☒ 2. Salinity levels
- ☒ 3. Temperature of water
- ☒ 4. Flow characteristics and origin

Question Type : MCQ
Question ID : 44100988777
Status : Answered
Chosen Option : 4
Marks : 1

Q.32 Generally, the center to center spacing of piles in a group, should be kept 2.5 B to 3.5 B. The value B represents:

- Ans
- ☐ 1. diameter of pile cap
 - ☐ 2. width of equivalent raft foundation
 - ☐ 3. width of whole pile group
 - ☒ 4. diameter of single pile

Question Type : MCQ
Question ID : 4410091380643
Status : Answered
Chosen Option : 4
Marks : 1

Q.33 Which of the following factors has the most significant influence on both the Optimum Moisture Content (OMC) and the Maximum Dry Density ($\gamma_{d,max}$) of a soil during compaction?

- Ans
- ☒ 1. Compactive effort applied
 - ☐ 2. Specific gravity of soil solids (Gs)
 - ☐ 3. Type of clay mineral and soil structure
 - ☐ 4. Temperature of the soil and initial water content

Question Type : MCQ
Question ID : 4410091372208
Status : Answered
Chosen Option : 3
Marks : 0

Q.34 According to IS 456, the actual concrete cover should NOT deviate from the required nominal cover by_____.

- Ans
- ☐ 1. (+/- 10 mm)
 - ☐ 2. (+/- 5 mm)
 - ☒ 3. 0 mm to +10 mm (no reduction allowed)
 - ☐ 4. no tolerance allowed

Question Type : MCQ
Question ID : 4410091329612
Status : Answered
Chosen Option : 3
Marks : 1

Q.35 In construction cost estimate and valuation, 'plinth area estimate' is commonly used for which of the following purposes?

- Ans ☒ 1. Quick estimation of building cost based on built-up area
- ☐ 2. Calculating only the foundation cost
- ☐ 3. Industrial construction projects
- ☐ 4. Estimating the cost of roads and bridges

Question Type : MCQ
Question ID : 4410091357156
Status : Answered
Chosen Option : 1
Marks : 1

Q.36 Which vehicle type is most frequently used for transporting municipal solid waste to disposal sites?

- Ans ☐ 1. Open trucks
- ☒ 2. Compactor trucks
- ☐ 3. Flatbed trailers
- ☐ 4. Vacuum tankers

Question Type : MCQ
Question ID : 4410091402081
Status : Answered
Chosen Option : 1
Marks : 0

Q.37 A simply supported beam of span 'L' carries a point load 'P' at the midspan. What is the maximum bending moment in the beam and its location?

- Ans ☐ 1. 0.125PL, at one-fourth span
- ☒ 2. 0.25PL, at the centre of the span
- ☐ 3. 0.50PL, at the left support
- ☐ 4. 0.50PL, at the centre of the span

Question Type : MCQ
Question ID : 4410091326571
Status : Answered
Chosen Option : 2
Marks : 1

Q.38 With respect to load carrying capacity of piles, the term $q \times N_q \times A_p$ will calculate:
[q = overburden pressure, N_q = bearing capacity factor, A_p = base area of the pile]

- Ans
- ☐ 1. skin friction load carrying capacity of piles in cohesive soil
 - ☐ 2. skin friction load carrying capacity of piles in granular soil
 - ☒ 3. end bearing load carrying capacity of piles in granular soil
 - ☐ 4. end bearing load carrying capacity of piles in cohesive soil

Question Type : MCQ
Question ID : 4410091380613
Status : Answered
Chosen Option : 3
Marks : 1

Q.39 What is the typical process for disposing excess sludge in wastewater treatment systems?

- Ans
- ☐ 1. Aeration and mixing
 - ☐ 2. Filtration and reuse
 - ☐ 3. Chlorination
 - ☒ 4. Thickening, digestion and drying

Question Type : MCQ
Question ID : 4410091402031
Status : Answered
Chosen Option : 4
Marks : 1

Q.40 According to IS 800:2007, the size of a butt weld shall be specified by:

- Ans
- ☐ 1. the leg length
 - ☒ 2. the effective throat thickness
 - ☐ 3. the penetration depth
 - ☐ 4. the actual weld width

Question Type : MCQ
Question ID : 4410091365430
Status : Answered
Chosen Option : 3
Marks : 0

Q.41 Which of the following describes the requirements, dimensions, materials and procedures that are used to achieve the construction of any building?

- Ans
- ☒ 1. Description of contract
 - ☒ 2. Specification
 - ☒ 3. Bill of quantities
 - ☒ 4. Schedule of rates

Question Type : MCQ
Question ID : 4410091351907
Status : Answered
Chosen Option : 2
Marks : 1

Q.42 Select the option that is true regarding the following two statements labelled Assertion (A) and Reason (R).

Assertion (A): Subgrade soil must have good drainage properties.
Reason (R): Good drainage helps reduce moisture retention and frost action.

- Ans
- ☒ 1. Both A and R are true, but R is not the correct explanation of A.
 - ☒ 2. A is true, but R is false.
 - ☒ 3. Both A and R are true, and R is the correct explanation of A.
 - ☒ 4. A is false, but R is true.

Question Type : MCQ
Question ID : 441009317254
Status : Answered
Chosen Option : 3
Marks : 1

Q.43 Under a biaxial loading condition with no shear stress, which of the following statements about principal stresses and planes is true?

- Ans
- ☒ 1. Principal planes are the planes on which shear stress is zero and only normal stresses act.
 - ☒ 2. Principal stresses are equal in magnitude but opposite in direction under all biaxial loading conditions.
 - ☒ 3. The principal planes are always inclined at 30° to the direction of the applied stresses.
 - ☒ 4. Principal stresses occur where the shear stress is maximum.

Question Type : MCQ
Question ID : 4410091326527
Status : Answered
Chosen Option : 1
Marks : 1

Q.44 Which combination of the Coefficient of Uniformity (C_u) and the Coefficient of Curvature (C_c) is required for a clean, coarse-grained soil to be classified as Well-Graded Sand (SW) under the Unified Soil Classification System (USCS)?

- Ans
- ☐ 1. $C_u \geq 4$ and $1 \leq C_c \leq 3$
 - ☐ 2. $C_u \geq 6$ or $C_c > 3$
 - ☐ 3. $C_u < 6$ and $C_c > 3$
 - ☒ 4. $C_u \geq 6$ and $1 \leq C_c \leq 3$

Question Type : MCQ
Question ID : 4410091372160
Status : Answered
Chosen Option : 4
Marks : 1

Q.45 How is the final alignment decided before the detailed survey?

- Ans
- ☒ 1. After comparative study of all preliminary survey data
 - ☐ 2. After studying the shortest route on map
 - ☐ 3. Based only on soil test results
 - ☐ 4. After local public approval

Question Type : MCQ
Question ID : 441009317009
Status : Answered
Chosen Option : 1
Marks : 1

Q.46 The tangential component of acceleration represents the rate of change of which of the following?

- Ans
- ☐ 1. Momentum
 - ☐ 2. Angular velocity
 - ☒ 3. Speed
 - ☐ 4. Direction

Question Type : MCQ
Question ID : 4410091371518
Status : Answered
Chosen Option : 2
Marks : 0

Q.47 In canal distribution systems, which distributary of canal is called Rajbha?

- Ans
- ☐ 1. Minor distributary
 - ☐ 2. Branch canal
 - ☐ 3. Main canal
 - ☒ 4. Major distributary

Question Type : MCQ
Question ID : 4410091378230
Status : Answered
Chosen Option : 3
Marks : 0

Q.48 What is the main advantage of using a telescopic levelling staff?

- Ans ☒ 1. It is collapsible and easy to carry.
- ☐ 2. It requires calibration before each use.
- ☐ 3. It provides angular readings.
- ☐ 4. It is heavier and more stable.

Question Type : MCQ
Question ID : 4410091350117
Status : Answered
Chosen Option : 3
Marks : 0

Q.49 Which of the following option is correct with respect to the given statements regarding the lift and drag forces on submerged bodies?

Statement 1: Lift force acts perpendicular to the direction of airflow, while drag force acts parallel to the airflow.

Statement 2: The coefficient of drag (C_D) remains constant for an object, regardless of the Reynolds number.

- Ans ☒ 1. Statement 1 is true, but Statement 2 is false
- ☐ 2. Both statements are false
- ☐ 3. Both statements are true
- ☐ 4. Statement 1 is false, but Statement 2 is true

Question Type : MCQ
Question ID : 44100980862
Status : Answered
Chosen Option : 3
Marks : 0

Q.50 In water supply engineering, the ratio used to quantify the variability in water usage throughout a day is called the:

- Ans ☐ 1. Variability Index
- ☐ 2. Demand Ratio
- ☐ 3. Water Use Multiplier
- ☒ 4. Peak Factor

Question Type : MCQ
Question ID : 4410091401459
Status : Answered
Chosen Option : 2
Marks : 0

Q.51 An airport is planned at an elevation of 1,200 metres above mean sea level. The basic runway length required at sea level under standard atmospheric conditions is 2,000 metres. If the correction for elevation is taken as 7% increase in length per 300 metres rise, what will be the corrected runway length due to elevation only?

- Ans
- ☒ 1. 2,440 metres
 - ☒ 2. 2,560 metres
 - ☒ 3. 2,280 metres
 - ☒ 4. 2,720 metres

Question Type : MCQ
Question ID : 441009318768
Status : Answered
Chosen Option : 2
Marks : 1

Q.52 In earthen dam at the entry point, the phreatic line must be normal to the _____.

- Ans
- ☒ 1. directrix
 - ☒ 2. focus
 - ☒ 3. upstream face
 - ☒ 4. downstream dam

Question Type : MCQ
Question ID : 4410091378346
Status : Answered
Chosen Option : 3
Marks : 1

Q.53 What is meant by 'face left' and 'face right' in theodolite surveying?

- Ans
- ☒ 1. Orientation of the tripod legs
 - ☒ 2. Position of the vertical circle relative to the observer
 - ☒ 3. Alignment of the telescope with the bubble tube
 - ☒ 4. Direction of magnetic north

Question Type : MCQ
Question ID : 4410091350148
Status : Answered
Chosen Option : 2
Marks : 1

Q.54 Select the option that is true regarding the following two statements labelled Assertion (A) and Reason (R).

Assertion (A): The Central Road Research Institute (CRRl) was established in 1950 in New Delhi.

Reason (R): One of the Jayakar Committee's recommendations was the establishment of a central research organization for highways.

- Ans ☒ 1. Both A and R are true, and R is the correct explanation of A.
- ☐ 2. Both A and R are true, but R is not the correct explanation of A.
- ☐ 3. A is true, but R is false.
- ☐ 4. A is false, but R is true.

Question Type : MCQ
Question ID : 441009316778
Status : Answered
Chosen Option : 1
Marks : 1

Q.55 When using Castigliano's theorem to find a redundant reaction in a statically indeterminate beam with uniform EI, the partial derivative of the strain energy with respect to the redundant is equal to which of the following?

- Ans ☒ 1. The known displacement at the redundant's location
- ☐ 2. The shear force at mid-span
- ☐ 3. The applied moment
- ☐ 4. The slope at the support

Question Type : MCQ
Question ID : 4410091366099
Status : Answered
Chosen Option : 1
Marks : 1

Q.56 A structure formed by connecting two or more simple rigid frames by means of hinges or links is known as a:

- Ans ☐ 1. built up frame
- ☐ 2. determinate frame
- ☒ 3. compound frame
- ☐ 4. simple frame

Question Type : MCQ
Question ID : 4410091366068
Status : Answered
Chosen Option : 3
Marks : 1

Q.57 The first 20-year road development plan was called the:

- Ans
- ☒ 1. Lucknow Road Plan
 - ☒ 2. Nagpur Road Plan
 - ☒ 3. Delhi Road Plan
 - ☒ 4. Bombay Road Plan

Question Type : MCQ
Question ID : 441009330927
Status : Answered
Chosen Option : 2
Marks : 1

Q.58 The Motor Vehicle Act in India was first introduced in which year?

- Ans
- ☒ 1. 1943
 - ☒ 2. 1934
 - ☒ 3. 1935
 - ☒ 4. 1939

Question Type : MCQ
Question ID : 441009314729
Status : Answered
Chosen Option : 4
Marks : 1

Q.59 Which station is primarily used for train overtaking?

- Ans
- ☒ 1. Junction station
 - ☒ 2. Flag station
 - ☒ 3. Crossing station
 - ☒ 4. Terminal station

Question Type : MCQ
Question ID : 441009317331
Status : Answered
Chosen Option : 3
Marks : 1

Q.60 A maintenance management system does NOT include:

- Ans
- ☒ 1. estimation of pavement deterioration rate
 - ☒ 2. field surveys of road condition
 - ☒ 3. design of a new highway alignment
 - ☒ 4. economic evaluation of alternatives

Question Type : MCQ
Question ID : 441009326985
Status : Answered
Chosen Option : 3
Marks : 1

Q.61 In the context of Mohr's Circle under a hydrostatic loading condition (i.e., equal normal stresses in all directions and no shear stress), what is the correct representation of the stress state?

- Ans**
- ☒ 1. The Mohr's Circle is undefined under hydrostatic conditions.
 - ☒ 2. The Mohr's Circle reduces to a point on the horizontal axis at the value of the hydrostatic stress.
 - ☒ 3. The Mohr's Circle lies on the vertical axis with radius equal to hydrostatic stress.
 - ☒ 4. The Mohr's Circle has maximum radius but zero centre.

Question Type : **MCQ**
Question ID : **4410091326549**
Status : **Answered**
Chosen Option : **2**
Marks : **1**

Q.62 The period of rolling of a floating body depends on the:

- Ans**
- ☒ 1. volume of the floating body
 - ☒ 2. density of fluid only
 - ☒ 3. metacentric height and mass moment of inertia
 - ☒ 4. viscosity of the fluid

Question Type : **MCQ**
Question ID : **44100980213**
Status : **Answered**
Chosen Option : **3**
Marks : **1**

Q.63 In a roof truss system, purlins are primarily used to:

- Ans**
- ☒ 1. support the roof trusses
 - ☒ 2. provide lateral bracing to the bottom chord
 - ☒ 3. act as the main compressive members
 - ☒ 4. transfer the load from the roof sheeting to the truss joints

Question Type : **MCQ**
Question ID : **4410091366128**
Status : **Answered**
Chosen Option : **4**
Marks : **1**

Q.64 For water containing both iron and manganese, the preferred treatment sequence is:

- Ans ☒ 1. Aeration → Filtration → Chlorination
- ☒ 2. Lime softening → Filtration
- ☒ 3. Coagulation → Filtration → Disinfection
- ☒ 4. Chlorination → Sedimentation → Filtration

Question Type : MCQ
Question ID : 4410091401468
Status : Answered
Chosen Option : 1
Marks : 1

Q.65 What does the head-discharge curve of a centrifugal pump typically show?

- Ans ☒ 1. Head remains constant regardless of discharge
- ☒ 2. Pump efficiency is independent of head
- ☒ 3. Discharge remains constant with varying head
- ☒ 4. Head decreases as discharge increases

Question Type : MCQ
Question ID : 44100981038
Status : Answered
Chosen Option : 4
Marks : 1

Q.66 Which of the following statements is true about the effect of thermal expansion on the density of fluids?

- Ans ☒ 1. Density decreases as temperature increases
- ☒ 2. Density increases as temperature increases
- ☒ 3. Density remains constant during thermal expansion
- ☒ 4. The effect of thermal expansion on density is the same for all substances

Question Type : MCQ
Question ID : 44100980174
Status : Answered
Chosen Option : 1
Marks : 1

Q.67 A uniform ladder leans against a rough wall and rests on a smooth floor. The frictional force acts:

- Ans ☒ 1. vertically at the wall
- ☒ 2. downwards at the wall
- ☒ 3. upwards at the wall
- ☒ 4. horizontally at the wall

Question Type : MCQ
Question ID : 4410091371502
Status : Answered
Chosen Option : 3
Marks : 1

Q.68 Which of the following heads is calculated to fix the rate per unit item in the analysis of rates?

- Ans
- ☒ 1. Duration of the project
 - ☐ 2. Quantity and cost of the material
 - ☒ 3. Schedule of the project
 - ☒ 4. Land cost of the project

Question Type : MCQ
Question ID : 4410091351888
Status : Answered
Chosen Option : 2
Marks : 1

Q.69 Which of the following is a fundamental principle of chain surveying?

- Ans
- ☒ 1. Use of GPS instruments
 - ☐ 2. Surveying by triangulation
 - ☒ 3. Measurement of angles only
 - ☒ 4. Use of aerial photographs

Question Type : MCQ
Question ID : 4410091350031
Status : Answered
Chosen Option : 2
Marks : 1

Q.70 Which of the following best describes a dumpy level?

- Ans
- ☒ 1. A level used only for angular measurements
 - ☒ 2. A GPS-based levelling device
 - ☐ 3. A compact, fixed telescope instrument for levelling
 - ☒ 4. A level with a telescope that can be removed

Question Type : MCQ
Question ID : 4410091350102
Status : Answered
Chosen Option : 2
Marks : 0

Q.71 The development allowance considered in the Nagpur Road Plan was:

- Ans
- ☒ 1. 5%
 - ☐ 2. 15%
 - ☒ 3. 20%
 - ☒ 4. 10%

Question Type : MCQ
Question ID : 441009316768
Status : Answered
Chosen Option : 2
Marks : 1

Q.72 When multiple forces act on a rigid body, the first step to determine equilibrium is to:

- Ans
- ☐ 1. identify the line of action of moments
 - ☐ 2. compute internal stresses
 - ☐ 3. find the centroid of the body
 - ☒ 4. draw the free-body diagram

Question Type : MCQ
Question ID : 4410091371489
Status : Answered
Chosen Option : 4
Marks : 1

Q.73 Which aquatic species is most sensitive to a decrease in dissolved oxygen?

- Ans
- ☐ 1. Mosquito larvae
 - ☐ 2. Catfish
 - ☐ 3. Carp
 - ☒ 4. Trout

Question Type : MCQ
Question ID : 4410091401389
Status : Answered
Chosen Option : 2
Marks : 0

Q.74 What is the correct definition of airport capacity in terms of operational planning?

- Ans
- ☐ 1. Maximum fuel storage capacity
 - ☐ 2. Total runway length available
 - ☒ 3. Number of aircraft that can be handled per hour
 - ☐ 4. Passenger seating capacity in terminal buildings

Question Type : MCQ
Question ID : 441009318781
Status : Answered
Chosen Option : 3
Marks : 1

Q.75 Which of the following terms describes the actual water pressure remaining in the pipes that is available to push water out of a tap or fixture?

- Ans
- ☐ 1. Static Head
 - ☐ 2. Working Pressure
 - ☐ 3. Friction Head
 - ☒ 4. Residual Pressure

Question Type : MCQ
Question ID : 4410091401465
Status : Answered
Chosen Option : 4
Marks : 1

