



RRB JE 2025 CBT-2 Civil

Junior Engineer · Civil Engineering · CEN 05/2025 · CBT-2 · Question Paper

Marathi

Complete Paper · 150 Questions · Official Answer Key

About this Compilation

This booklet contains the complete question paper of the **RRB JE 2025 CBT-2 (Civil Engineering)** examination in **Marathi**, with the correct option marked as per the official answer key.

✓ Correct option (highlighted green)

55 of these 150 questions are shown in English. RRB did not release them in Marathi to any candidate whose response sheet we could reach, so the official English version is printed instead and marked with an **ENGLISH** chip. Nothing here is machine translated.

56 of these 150 questions are in English in every language paper (for example Reading Comprehension, which RRB sets in English). They are printed as asked, marked with an **ENGLISH** chip.

How to use

- Use the **Index** page to jump directly to any set (clickable).
- Questions appear section by section in the order of the paper, numbered 1 onward.
- Diagram and wide-table questions appear at full width at the end of their section.
- The correct answer is highlighted in green with a tick.

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Index — All Sets (click to open)

Set 1

02 Jul 2026

9:00 AM - 11:00 AM

General Abilities

50 Questions • Answer Key

Q1 General Abilities

सल्फर डायऑक्साइडमुळे श्वसनमार्गाच्या वरच्या भागातील श्लेष्मल पटलाची (mucous membrane) जळजळ होण्याचे मुख्य कारण काय आहे?

- A. हे श्वसनमार्गाच्या वरच्या भागातील आर्द्रतेत विरघळते आणि जळजळ निर्माण करणारा पदार्थ तयार करते. ✓
- B. ते हिमोग्लोबिनशी संयोग पावते आणि ऑक्सिजनच्या वहनावर परिणाम करते.
- C. ते इतर प्रदूषकांशी संयोग पावते आणि फुफ्फुसांमध्ये पॉलिमराइज होते.
- D. त्याचे ऑक्सीडीकरण होऊन सल्फर ट्रायऑक्साइड तयार होते आणि ते श्वासावाटे फुफ्फुसांमध्ये खोलवर जाते.

Q2 General Abilities

संकलन केल्यानंतर जैवअपघटनीय घरगुती कचऱ्याचे व्यवस्थापन करण्याची मुख्य पद्धत कोणती आहे?

- A. पुनर्प्रक्रियेसाठी पाठवणे
- B. कंपोस्टमध्ये रूपांतर करणे ✓
- C. खुल्या हवेत जाळणे
- D. सांडपाण्याच्या वाहिन्यांमध्ये टाकणे

Q3 General Abilities

भारतीय संविधानाच्या अनुच्छेद 75 नुसार, मंत्रिमंडळातील एकूण मंत्र्यांची संख्या (पंतप्रधानांसह) लोकसभेच्या, म्हणजेच लोकसभेच्या एकूण सदस्यांच्या, किती टक्क्यांपेक्षा अधिक नसावी?

- A. 25%
- B. 15% ✓
- C. 20%
- D. 10%

Q4 General Abilities

खालीलपैकी कोणता निर्देशक प्रामुख्याने शाश्वत विकासाचे मोजमाप करण्यासाठी वापरला जात नाही?

- A. मानव विकास निर्देशांक (HDI)
- B. इकोलॉजिकल फुटप्रिंट
- C. बायो कॅपॅसिटी
- D. सकल देशांतर्गत उत्पादन (GDP) वाढीचा दर ✓

Q5 General Abilities

थॉमसनच्या प्रारूपानुसार, अणूमध्ये इलेक्ट्रॉनची मांडणी कशी केलेली असते?

- A. केंद्रकाच्या आत यादृच्छिकपणे स्थित
- B. कलिंगडातील बियांसारख्या धनप्रभारित केलेल्या गोलात त्यांना अंतर्भूत केलेले असणे ✓
- C. केंद्रकाभोवती स्थिर कक्षेत फिरणे
- D. न्यूट्रॉन्सभोवती लंबवर्तुळाकार मार्गांनी परिभ्रमण करणे

Q6 General Abilities

खालीलपैकी कोणते विधान विद्युतप्रवाह वाहून नेणाऱ्या सरळ विद्युतवाहकाच्या सभोवतालच्या चुंबकीय क्षेत्र रेषांच्या वर्तनाचे सर्वोत्तम वर्णन करते?

- A. त्या तारेवरून यादृच्छिकपणे आपली दिशा बदलतात.
- B. ती वाहकावर केंद्रित असलेली समकेंद्री वर्तुळे तयार करतात. ✓
- C. त्या तारेपासून सरळ बाहेरच्या दिशेने पसरतात.
- D. त्या तारेला समांतर सरळ रेषा असतात.

Q7 General Abilities ENGLISH

The term 'smog' is a combination of _____.

- A. Fog and clouds
- B. Smoke and haze
- C. Smog and mist
- D. Smoke and fog ✓

Q8 General Abilities ENGLISH

Which of the following statements is true about the Outbox?

- A. It temporarily stores emails that are queued for sending. ✓
- B. It holds emails that have been successfully sent.
- C. It contains emails that are currently being drafted.
- D. It is used to receive incoming emails.



Q9 General Abilities

खालीलपैकी कोणते/कोणती कारणे ईमेल फसवणूक किंवा फिशिंगच्या जाळ्यात अडकण्यास कारणीभूत ठरतात?

- A) फायदेशीर ऑफर्सकडे लक्ष देणे.
- B) अज्ञात प्रेषकांकडून आलेल्या लिंक्स किंवा ॲटॅचमेंट्स न बघणे.
- C) ईमेलद्वारे अधिकृत माहिती देणे.
- D) ईमेलमध्ये पाठवलेल्या कंपनीच्या लोगोकडे लक्ष देणे.

A. केवळ A

B. केवळ A, B

C. केवळ A, B, C

D. केवळ A, B, D

Q10 General Abilities **ENGLISH**

Who won the maximum number of medals at the 38th National Games of India?

A. Manu Bhaker

B. Neeraj Chopra

C. Dhinidhi Desinghu

D. Bajrang Punia

Q11 General Abilities **ENGLISH**

What file extension is used to save an MS PowerPoint 2021 presentation?

A. .docx

B. .pdf

C. .pptx

D. .xlsx

Q12 General Abilities

खालीलपैकी कोणते अनुच्छेद व्यक्तींना अधिसंघ किंवा संघ किंवा सहकारी संस्था स्थापन करण्याच्या अधिकाराबद्दल सांगते?

A. अनुच्छेद 19 (1) (b)

B. अनुच्छेद 19 (1) (a)

C. अनुच्छेद 19 (1) (d)

D. अनुच्छेद 19 (1) (c)

Q13 General Abilities

रुग्णालयात जैव-वैद्यकीय कचरा हाताळणाऱ्यांना व्यावसायिक धोक्यांचा सामना करावा लागू शकतो. त्यांना संसर्गजन्य पदार्थांच्या संपर्कात येण्यापासून संरक्षण देण्याचा सर्वात प्रभावी मार्ग कोणता आहे?

A. रंगानुसार चिन्हांकित कचरापेट्यांमध्ये कचऱ्याचे वर्गीकरण

B. सामान्य संसर्गाविरुद्ध लसीकरण

C. नियमित वैद्यकीय तपासणी

D. संरक्षक उपकरणांचा वापर आणि सुरक्षित हाताळणी

Q14 General Abilities

खालीलपैकी कोणते विधान हवेतून ध्वनी कसा प्रवास करतो याचे सर्वोत्तम वर्णन करते?

A. तरंग पुढे सरकताना हवेचे कण वर्तुळाकार मार्गाने फिरतात.

B. हवेचे कण तरंगाच्या दिशेला समांतर पुढे आणि मागे कंपन करतात.

C. तरंग पुढे सरकताना हवेचे कण स्थिर राहतात.

D. हवेचे कण तरंगाच्या दिशेला लंबवत वर आणि खाली कंपन करतात.

Q15 General Abilities

खालीलपैकी कोणती नदी पूर्व किनारपट्टीच्या मैदानी प्रदेशात त्रिभुज प्रदेश निर्माण करते?

A. गोदावरी

B. गंगा

C. तापी

D. नर्मदा

Q16 General Abilities **ENGLISH**

Which of the following options must be DISABLED before manually setting the date and time in Windows?

A. Set time automatically

B. Enable multiple clocks

C. Night Light

D. Set time zone globally



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Q17 General Abilities

खालील स्तंभांच्या जोड्या लावा.

माफी देण्याचा अधिकार	कार्य
1. लघुकरण (Commutation)	a. शिक्षा आणि दोषसिद्धी दोन्ही पूर्णपणे रद्द करणे.
2. प्रविलंबन (Reprieve)	b. विशेष परिस्थितीमुळे मूळ शिक्षेऐवजी कमी शिक्षा देणे.
3. विराम (Respite)	c. शिक्षेचे स्वरूप न बदलता केवळ तिचा कालावधी कमी करणे.
4. परिहार (Remission)	d. शिक्षेच्या अंमलबजावणीला तात्पुरती स्थगिती देणे.
5. क्षमा (Pardon)	e. शिक्षेचे स्वरूप बदलून ते सौम्य करणे.

A. 1-c, 2-e, 3-b, 4-a, 5-d

B. 1-a, 2-c, 3-d, 4-e, 5-b

C. 1-e, 2-d, 3-b, 4-c, 5-a

D. 1-d, 2-b, 3-e, 4-c, 5-a

Q18 General Abilities **ENGLISH**

When was the 11th National Handloom Day celebrated across India under the coordination of the Ministry of Textiles?

A. September 7, 2025

B. August 7, 2025

C. November 7, 2025

D. October 7, 2025

Q19 General Abilities

कोणते फंक्शन सर्वात लहान मूल्य देते?

A. MAX()

B. MIN()

C. COUNT()

D. AVERAGE

Q20 General Abilities **ENGLISH**

Which of the following is a primary mission under India's National Action Plan on Climate Change (NAPCC)?

A. National Solar Mission

B. National Highway Development Project

C. National Rural Livelihood Mission

D. National Nutrition Mission

Q21 General Abilities **ENGLISH**

A construction worker needs to lift a heavy metal beam using a lever but has a limited length of plank. Which adjustment would allow the worker to lift the beam with the least effort if the position of the fulcrum can be changed but the plank length remains constant?

A. Keep the fulcrum fixed at any point

B. Move the fulcrum closer to the worker

C. Move the fulcrum closer to the beam

D. Place the fulcrum at the center of the plank

Q22 General Abilities **ENGLISH**

If cell A1 = 10 and B1 = 20, what will '=A1+B1' return?

A. 30

B. 200

C. Error

D. 1020

Q23 General Abilities **ENGLISH**

A field exposed to excessive pesticide use shows a sharp decline in earthworm population. The resulting effect on soil is:

A. Enhanced decomposition

B. Reduced soil fertility

C. Improved aeration

D. Increased water retention

Q24 General Abilities

तुम्हाला प्रेझेंटेशन दरम्यान, नरेशन (narration) आणि ॲनिमेशनसह स्लाइड्स आपोआप पुढे सरकवायच्या आहेत. हे साध्य करण्यासाठी तुम्हाला MS PowerPoint मधील कोणते फीचर (feature) वापरावे लागेल?

A. Action Buttons (ॲक्शन बटन्स)

B. Rehearse Timings (रिहर्स टाइमिंग्ज)

C. Slide Sorter (स्लाइड सॉर्टर)

D. Presenter View (प्रेझेंटर व्ह्यू)



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Q25 General Abilities

MS वर्ड 2010 मध्ये, परिच्छेदातील केवळ निवडक शब्दांना किंवा स्वतंत्र अक्षरांना कोणता क्विक स्टाईल प्रकार लागू होतो?

A. कॅरक्टर स्टाईल्स



B. पेज स्टाईल्स

C. पॅराग्राफ स्टाईल्स

D. लिंकड स्टाईल्स

Q26 General Abilities **ENGLISH**

Consider the following statements regarding chemical reactions and choose the correct option.

Statement I: Every reaction in which two or more reactants combine to form a single product is classified as a combination reaction regardless of heat change.
Statement II: The reaction $\text{CaO(s)} + \text{H}_2\text{O(l)} \rightarrow \text{Ca(OH)}_2\text{(aq)} + \text{heat}$ is both a combination reaction and an exothermic reaction.

A. Both statements are incorrect

B. Only Statement II is correct

C. Only Statement I is correct

D. Both statements are correct

**Q27 General Abilities** **ENGLISH**

If 10 grams of salt are dissolved in 100 mL of water, which component is the solute?

A. Water only

B. Salt only



C. Neither

D. Both salt and water

Q28 General Abilities

एक शेतकरी अनेक वर्षांपासून मोठ्या प्रमाणात रासायनिक खतांचा वापर करतो. या पद्धतीमुळे होणाऱ्या कोणत्या परिणामांमुळे मृदा प्रदूषण होण्याची सर्वाधिक शक्यता आहे?

A. जमिनीत विषारी पदार्थांचा संचय



B. प्रत्येक हंगामात वनस्पतींची जलद वाढ

C. गांडुळांच्या संख्येत वाढ

D. पृष्ठभागावरील मातीच्या थरांची धूप

Q29 General Abilities **ENGLISH**

Which of the following statements best describes how the power of accommodation enables the human eye to focus on both near and distant objects?

A. The cornea provides all the focusing power required for clear vision

B. The eye lens changes its focal length by altering its shape through ciliary muscle action



C. The retina moves forward and backward to adjust the focus

D. The iris controls the amount of light entering and helps to focus

Q30 General Abilities

19 व्या शतकातील मप्पिला बंड प्रामुख्याने भारताच्या कोणत्या प्रदेशात झाले?

A. महाराष्ट्राचा कोकण प्रदेश

B. पश्चिम बंगालचा सुंदरबन प्रदेश

C. तमिळनाडूचा कोरोमंडल किनारा

D. केरळाचा मलबार प्रदेश

**Q31 General Abilities** **ENGLISH**

The Atal Bhujal Yojana 2020 focused on improving water resources management of how many states?

A. seven



B. ten

C. eight

D. five

Q32 General Abilities **ENGLISH**

Which type of computer virus attaches itself to executable files and gets activated when the file is run?

A. Macro Virus

B. Boot Sector Virus

C. Worm

D. File Infector Virus



Q33 General Abilities **ENGLISH**

On which date is National Handloom Day observed in India?

- A. 18 August
- B. 7 August ✓
- C. 2 October
- D. 5 September

Q34 General Abilities **ENGLISH**

Which condition is required for a displacement reaction between a metal and salt solution?

- A. Salt must be insoluble in water
- B. Reaction must be endothermic
- C. Metal must be higher in reactivity series ✓
- D. Metal must be same as salt constituent

Q35 General Abilities **ENGLISH**

In a real-life scenario, a chemist discovers a compound with the formula $\text{CH}_3\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}_2\text{CH}_2\text{OH}$. What is the correct IUPAC name for this compound?

- A. 2-methylhexanol
- B. 3-methylhexanol
- C. 3-methylpentan-1-ol ✓
- D. 4-methylpentanol

Q36 General Abilities **ENGLISH**

Which of the following best describes the velocity-time graph for an object moving with uniform velocity?

- A. A line starting from the origin and sloping upwards
- B. A straight line sloping upwards from the time axis
- C. A curved line above the time axis
- D. A straight horizontal line parallel to the time axis ✓

Q37 General Abilities **ENGLISH**

A factory plans to install a powerful electromagnet for lifting metal scraps. To maximize the magnetic field strength around the coil, which of the following combinations would be most effective?

- A. Using an air core, decreasing coil turns, and keeping current constant
- B. Using a steel core, decreasing coil turns, and lowering current
- C. Using a soft iron core, increasing coil turns, and increasing current through the coil ✓
- D. Using a copper core, increasing coil turns, and lowering current

Q38 General Abilities

प्रदूषकांचा कोणता गट सामान्यतः महासागरांमधील तेल गळतीशी संबंधित आहे?

- A. पेट्रोलियम उत्पादने ✓
- B. कृषी कीटकनाशके
- C. कृत्रिम डिटर्जेंट
- D. रासायनिक खते

Q39 General Abilities

स्टेट ऍक्शन प्लॅन ऑन क्लायमेट चेंज (SAPCC) अनुकूलन नियोजनात सामान्यतः कोणत्या क्षेत्रांच्या जोडीचा विचार (addressed) एकत्रितपणे केला जातो?

- A. जलसंपदा आणि आरोग्य व्यवस्था ✓
- B. अवजड उद्योग आणि मनोरंजन
- C. वस्त्र डिझाइन आणि फॅशन विपणन
- D. माहिती तंत्रज्ञान आणि अंतराळ संशोधन

Q40 General Abilities

वातावरणातील कोणता घटक बहुतांशपणे अभिक्रियाशील नाही?

- A. अर्गॉन (Argon) ✓
- B. कार्बन डायऑक्साइड
- C. ऑक्सीजन
- D. मिथेन (Methane)



Q41 General Abilities

प्रधानमंत्री ग्राम सडक योजनेचे (PMGSY) प्राथमिक उद्दिष्ट काय आहे?

- A. शहरांमधील दूरसंचार सेवांमध्ये सुधारणा करणे
- B. रस्ते बांधणीद्वारे ग्रामीण भागाला जोडणी उपलब्ध करून देणे ✓
- C. शहरी पायाभूत सुविधा विकसित करणे
- D. नवीकरणीय ऊर्जा वापराला प्रोत्साहन देणे

Q42 General Abilities ENGLISH

A student pushes a heavy box that is already moving across a rough floor. If the force applied by the student is exactly equal to the frictional force opposing the motion, what will happen to the box?

- A. The box will move at a constant speed ✓
- B. The box will move at increasing speed
- C. The box will accelerate forward
- D. The box will gradually come to rest

Q43 General Abilities ENGLISH

What is the general formula of alkenes?

- A. C_nH_{2n} ✓
- B. C_nH_{2n+2}
- C. C_nH_n
- D. C_nH_{2n-2}

Q44 General Abilities

कोल विद्रोहाचा (1831 – 32) प्रामुख्याने कोणत्या पठारी प्रदेशावर परिणाम झाला?

- A. दख्खनचे पठार
- B. मेघालय पठार
- C. माळवा पठार
- D. छोटानागपूर पठार ✓

Q45 General Abilities ENGLISH

A student accidentally spills some hydrochloric acid on a table. Which substance should be used to neutralise the acid safely?

- A. Vinegar
- B. Lemon juice
- C. Sugar solution
- D. Baking soda solution ✓

Q46 General Abilities

एका मोठ्या डिरेक्टरीमध्ये, ज्या फाईलचे एक्स्टेंशन माहित आहे, पण नाव माहित नाही, अशी फाईल आपण कशी शोधू शकतो?

- A. dir कमांडचा वापर करणे
- B. फाइल एक्सप्लोररद्वारे
- C. रिसायकल बिन तपासणे
- D. फाइल एक्सप्लोररमधील सर्च बॉक्समध्ये *.ext वापरणे ✓

Q47 General Abilities

मुंबईतील 1888 मध्ये पूर्ण झालेल्या कोणत्या ब्रिटिश वसाहतकालीन इमारतीमध्ये व्हिक्टोरियन गांथिक आणि भारतीय वास्तुकलेच्या घटकांचा मिलाफ दिसून येतो?

- A. छत्रपती शिवाजी महाराज टर्मिनस ✓
- B. राजाबाई क्लॉक टॉवर
- C. गेटवे ऑफ इंडिया
- D. बॉम्बे टाउन हॉल

Q48 General Abilities ENGLISH

Which new warship was commissioned by the Indian Navy in November, 2025, to strengthen anti-submarine and coastal defence capabilities?

- A. INS Vikrant
- B. INS Arnala
- C. INS Ikshak
- D. INS Mahe ✓

Q49 General Abilities ENGLISH

Which of the following satellites was launched on November 2, 2025, to enhance the Indian Navy's secure communication network and maritime surveillance capabilities?

- A. GSAT-6A
- B. Cartosat-3
- C. CMS-03 (GSAT-7R) ✓
- D. RISAT-2B



Q50 General Abilities

कोणत्या प्रायोगिक शोधाने थॉमसनच्या अणु प्रारूपाचे खंडन केल्यामुळे त्याला (थॉमसनच्या अणु प्रारूपाला) नाकारण्यात आले?

- A. बोहर यांच्याद्वारे हायड्रोजनच्या रेखीय वर्णपंक्तीचे निरीक्षण
- B. जेम्स चॅडविक यांच्याद्वारे न्यूट्रॉनचा शोध
- C. क्ष-किरण विवर्तन वापरून अणूच्या त्रिज्येचे मापन
- D. मोठ्या कोनांवर विचलन दर्शवणारे अल्फा कणांचे विकिरण ✓

Technical Abilities

100 Questions • Answer Key

Q51 Technical Abilities ENGLISH

Which layer of soil is compacted to increase its bearing strength and reduce settlement in construction work?

- A. Base layer
- B. Topsoil layer
- C. Subgrade layer ✓
- D. Surface layer

Q52 Technical Abilities ENGLISH

The fineness of cement is generally expressed in terms of specific surface, which is measured in:

- A. $\text{cm}^2\text{-g}$
- B. $\text{m}^2\text{-g}$
- C. m^2/kg ✓
- D. kg/cm^2

Q53 Technical Abilities ENGLISH

Which type of stone is laid with its length perpendicular to the face of the wall so that it extends into the thickness of the wall in stone masonry?

- A. Stretcher
- B. Header ✓
- C. Bed
- D. Tail

Q54 Technical Abilities ENGLISH

As per Indian Railways standards, what is the degree of curvature for a railway curve with a radius of 875 m?

- A. 1°
- B. 4°
- C. 2° ✓
- D. 3°

Q55 Technical Abilities ENGLISH

Which statement correctly distinguishes administrative approval from technical sanction in civil engineering estimation?

- Administrative approval authorizes procurement,
 - A. while technical sanction approves staffing requirements
 - B. necessity, while technical sanction verifies design and estimates ✓
- Administrative approval checks material quality,
 - C. while technical sanction determines project duration
- Administrative approval controls work execution,
 - D. while technical sanction manages contractor payments

Q56 Technical Abilities ENGLISH

For compression members, the I-section is preferred because it _____.

- A. is more flexible compared to other sections
- B. has a lower weight for the same strength ✓
- C. has better resistance to lateral-torsional buckling
- D. requires more material to provide equivalent strength



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Q57 Technical Abilities **ENGLISH**

According to Euler's theory, the design load for a column depends on:

- A. The column's length and radius of gyration** ✓
- B. The moment of inertia and shear stress
- C. The bending moment applied at the column's base
- D. The material's ultimate tensile strength

Q58 Technical Abilities **ENGLISH**

Which modelling method in CAD is used for creating and manipulating the external, visible surfaces of a 3D object, focusing on the shape, aesthetics, and form rather than its internal structure?

- A. Surface modelling** ✓
- B. Solid modelling
- C. Isometric projection
- D. Parametric modelling

Q59 Technical Abilities **ENGLISH**

Which statement best describes the primary structural function of pile caps in foundation systems?

- A. Distributing structural loads among supporting piles** ✓
- B. Protecting exposed pile surfaces from environmental damage
- C. Providing waterproof protection around foundation piles
- D. Connecting foundation piles directly to floor beams

Q60 Technical Abilities **ENGLISH**

Which of the following automatic rain gauges gives a continuous graph of rainfall vs. time?

- A. Float type recording gauge** ✓
- B. Tipping bucket gauge
- C. Symons gauge
- D. Non-recording gauge

Q61 Technical Abilities

अभियांत्रिकी कराराचा असा कोणता प्रकार आहे, ज्यामध्ये पूर्वनियोजित दरांनुसार (agreed rates) प्रत्यक्ष पूर्ण झालेल्या कामाच्या मोजमापावर आधारित देयक दिले जाते?

- A. परिपूर्ण करार (Turnkey contract)
- B. वस्तू दर करार (Item rate contract)** ✓
- C. परिव्ययाधिक करार (Cost-plus contract)
- D. ठोक रक्कम करार (Lump sum contract)

Q62 Technical Abilities **ENGLISH**

In considering thermosetting plastics versus thermoplastics for a high-heat application, which type should be chosen and why?

- A. Thermoplastics, because they are heat resistant
- B. Thermosetting plastics, because they get remoulded upon heating
- C. Thermoplastics, because they do not soften on heating
- D. Thermosetting plastics, because they do not soften on heating** ✓

Q63 Technical Abilities **ENGLISH**

What is the primary risk of placing concrete in cold weather?

- A. Higher heat of hydration
- B. Increased setting time** ✓
- C. Increased air content
- D. Increased hydration rate

Q64 Technical Abilities **ENGLISH**

What is an effective way to limit settlement due to subsoil moisture movement?

- A. Increasing the height of the masonry wall structure
- B. Adding additional reinforcement within the foundation system
- C. Reducing the thickness of the foundation wall structure
- D. Providing plinth protection and proper compaction** ✓



Q65 Technical Abilities

खालीलपैकी कोणता परिणाम, हा उच्च पातळीच्या ध्वनी प्रदूषणाच्या दीर्घकालीन संपर्कामुळे होणारा थेट आरोग्यविषयक परिणाम आहे?

- A. वाढलेली भूक
- B. सुधारित स्मृती
- C. त्वचेची जळजळ
- D. उच्च रक्तदाब

**Q66 Technical Abilities ENGLISH**

How does a barrage differ from a dam?

- A. A dam controls only floods, while a barrage is used for irrigation.
- B. A barrage is used for hydroelectric power generation, whereas a dam is not.
- C. A dam is always smaller in height compared to a barrage.
- D. A barrage regulates river flow using gates, while a dam stores water in a reservoir.

**Q67 Technical Abilities ENGLISH**

In a micro-optic theodolite, the optical path used for reading angles is typically:

- A. Optical and magnified via micrometer eyepiece
- B. Interferometric
- C. Satellite via micrometer eyepiece
- D. Manual and scale-based

**Q68 Technical Abilities ENGLISH**

In urban planning, GIS is commonly used to:

- A. analyse traffic patterns and optimise signal timings
- B. determine the color scheme of buildings
- C. measure the weight of vehicles directly
- D. calculate the cost of concrete per cubic meter

**Q69 Technical Abilities ENGLISH**

What is the importance of the narrower bottom in oval-shaped sewers during low-flow conditions?

- A. Reduced construction cost
- B. Enhanced structural strength
- C. Maintained higher flow velocity
- D. Easier maintenance access

**Q70 Technical Abilities ENGLISH**

During a rapid field test for identifying fine-grained soil, a wetted sample is shaken vigorously in the palm of the hand. If the surface quickly becomes glossy or wet (exhibits 'quicker' behavior), and the gloss disappears immediately upon squeezing the sample, which soil type is the sample most likely to be?

- A. Highly plastic clay (CH)
- B. Lean clay (CL)
- C. Organic clay (OH)
- D. Inorganic silt (ML)

**Q71 Technical Abilities ENGLISH**

In fluid mechanics, zero absolute pressure corresponds to which condition?

- A. Superheated steam
- B. Perfect vacuum
- C. Atmospheric pressure
- D. Gauge pressure

**Q72 Technical Abilities ENGLISH**

A door designed with inclined slats to permit ventilation while restricting direct visibility is classified as which type?

- A. Collapsible door
- B. Louvered door
- C. Panel door
- D. Flush door



Q73 Technical Abilities ENGLISH

In a multi-story portal frame, how does increasing the number of stories affect the moment distribution in the frame?

- A. The moment at the base of the frame decreases as more stories are added
- B. The moments in the lower stories increase, while the upper stories experience lesser moments ✓
- C. The moments are uniformly distributed across all stories
- D. The number of stories does not affect the moment distribution

Q74 Technical Abilities

वाहतूक नियंत्रणातील पिवळ्या सिग्नलचा अर्थ काय आहे?

- A. वाहनांनी त्यांच्या हालचालीत व्यत्यय न आणता पुढे जाणे आवश्यक आहे, हे दर्शवणे
- B. गर्दी नसलेल्या वेळेत लुकलुकणारा इशारा देणारा दिवा म्हणून काम करणे
- C. थांबा आणि जा यांमधील बदल दर्शवते, चालकांना रस्ता मोकळा करण्यास किंवा थांबण्याची तयारी करण्यास इशारा देणे ✓
- D. आडव्या दिशेने येणाऱ्या वाहतुकीला जाण्याचा पहिला अधिकार आहे हे दर्शवणे

Q75 Technical Abilities ENGLISH

Which of the following RCC elements transfers the Floor finish load to supporting beams?

- A. Parapet wall
- B. Lintel
- C. Slab ✓
- D. Column

Q76 Technical Abilities

ऊर्जा पुनर्प्राप्ती प्रणालींमध्ये, कचरा जाळण्याच्या प्रक्रियेदरम्यान आरोग्यास निर्माण होणाऱ्या धोक्यांमुळे, खालीलपैकी कोणत्या प्रदूषकांवर बारकाईने लक्ष ठेवले जाते?

- A. डायॉक्सीन ✓
- B. नायट्रोजन
- C. ऑक्सीजन
- D. मिथेन

Q77 Technical Abilities

उच्च दर्जाच्या हॉटेलच्या लॉबीला आलिशान स्वरूप देण्यासाठी खालीलपैकी कोणत्या प्रकारचे फ्लोअरिंग सर्वात योग्य आहे?

- A. सिमेंट काँक्रीट फ्लोअरिंग
- B. लिनोलियम फ्लोअरिंग
- C. PVC फ्लोअरिंग
- D. मार्बल फ्लोअरिंग ✓

Q78 Technical Abilities ENGLISH

The cut section in the method of sections must satisfy which of the following conditions? (Consider that not more than two members are meeting at a joint.)

- A. It should pass through at least four members.
- B. It should pass through at most three members of a truss. ✓
- C. It should be taken only at the midpoint of the truss.
- D. It should be made parallel to the support reactions.

Q79 Technical Abilities ENGLISH

The minimum slope for an accessible ramp as per most building codes is _____.

- A. 1 : 20
- B. 1 : 25
- C. 1 : 12 ✓
- D. 1 : 15

Q80 Technical Abilities ENGLISH

A drafter needs to create a parallel copy of an existing line at a specified distance while keeping the original line unchanged. Which AutoCAD command is most suitable for this task?

- A. Stretch
- B. Extend
- C. Offset ✓
- D. Break



Q81 Technical Abilities

आपत्ती व्यवस्थापनात, GIS महत्वाचे कार्य करते, कारण ते _____.

- A. हजार्ड मॅपिंगसाठी उथळ पायांमध्ये सेटलमेंटची मोजणी करते
- B. हजार्ड मॅपिंगसाठी स्टील प्रबलनाचे ताण सामर्थ्य निर्धारित करते
- C. हजार्ड मॅपिंगसाठी स्पेसिअल (spatial) आणि एट्रिब्यूट्स डेटा एकत्रित करते ✓
- D. हजार्ड मॅपिंगसाठी मातीच्या नमुन्यांची पारगम्यता (permeability) मोजते

Q82 Technical Abilities ENGLISH

The primary function of the switch rails in a turnout is to:

- A. Maintain proper gauge
- B. Provide structural stability
- C. Provide a smooth passage through the crossing
- D. Guide wheels from main line to turnout line ✓

Q83 Technical Abilities

खालीलपैकी तपशीलांचा कोणता संच सामान्यतः इमारतीच्या सेक्शन ड्राईंगमध्ये दर्शविला जातो?

- A. फर्निचरचे स्थान, विद्युत स्विचची स्थिती, ड्रेनेज लाईन्स आणि दरवाजाचे क्रमांक
- B. जागेच्या सीमा, उत्तर दिशा, भूखंडाची मापे आणि रस्त्यावरून मिळणारा प्रवेश यांविषयीची माहिती
- C. जोत्याची उंची, मजल्यांची उंची, भिंतींची जाडी आणि संरचनात्मक घटकांचे आकार ✓
- D. कार्पेट एरिया, खोल्यांची संख्या, बाहेरील रंग आणि वापरलेला फ्लोरिंगचा प्रकार

Q84 Technical Abilities

सिंगल-फ्रेम स्कॅफोल्डिंगमध्ये लेजरला (ledger) थेट संरचनेशी जोडणाऱ्या लहान भागाला काय म्हणतात?

- A. टो बोर्ड (Toe board)
- B. गार्डरेल (Guardrail)
- C. पुटलॉग (Putlog) ✓
- D. ब्रेस (Brace)

Q85 Technical Abilities ENGLISH

Which type of soil requires deeper excavation to avoid structural damage due to swelling and shrinkage?

- A. Loamy soil
- B. Black cotton soil ✓
- C. Sandy soil
- D. Gravelly soil

Q86 Technical Abilities ENGLISH

When reactions are found graphically for a simply supported beam with vertical point loads, the length of the reaction vector is proportional to:

- A. The magnitude of reaction force at the support ✓
- B. The beam's deflection at mid span
- C. The span length of the beam only
- D. The distance between loads

Q87 Technical Abilities ENGLISH

Which material is preferred for railway track ballast?

- A. Crushed stone ✓
- B. Sand
- C. Lime
- D. Gravel

Q88 Technical Abilities ENGLISH

The maximum stress induced in a member is always:

- A. zero in tension
- B. greater than or equal to the average stress ✓
- C. less than the average stress
- D. equal to the minimum stress

Q89 Technical Abilities ENGLISH

A body is resting on a rough inclined plane. If the frictional force is equal to the component of weight along the plane, the body is in:

- A. uniform motion
- B. free fall
- C. equilibrium ✓
- D. acceleration



Q90 Technical Abilities **ENGLISH**

Which of the following best explains why timber with straight grains is often preferred for structural use?

- A. Straight grains reduce the weight of the timber.
- B. Straight grains provide uniform strength. ✓
- C. Straight grains make the timber more flexible.
- D. Straight grains increase the hardness significantly.

Q91 Technical Abilities **ENGLISH**

What is a common shape of steel fibers used in fiber-reinforced concrete?

- A. Cylindrical
- B. Hooked-end ✓
- C. Cubic
- D. Round

Q92 Technical Abilities **ENGLISH**

As per IRC:SP:90-2010, the minimum vertical clearance requirement for road underpasses is:

- A. 4.5 m in all cases
- B. 5.0 m in general and 5.5 m in urban areas ✓
- C. 6.25 m above railway track level
- D. 3.5 m for minor roads only

Q93 Technical Abilities **ENGLISH**

The assumption in pure bending that plane sections remain plane after bending leads to which stress distribution?

- A. Exponential stress variation
- B. Uniform stress throughout the depth
- C. Linear stress variation ✓
- D. Parabolic stress variation

Q94 Technical Abilities **ENGLISH**

A summit curve is provided on a road profile where:

- A. Two ascending gradients intersect smoothly
- B. An ascending gradient meets a falling one ✓
- C. Two descending gradients come together
- D. A descending gradient meets a level section

Q95 Technical Abilities **ENGLISH**

If the calculated nominal shear stress τ_v in a reinforced concrete beam exceeds the maximum permissible shear stress in concrete $\tau_{c,max}$ as per IS 456:2000, what is the appropriate course of action?

- A. Provide additional shear reinforcement only
- B. Increase the beam width only
- C. Increase the effective depth of the beam or redesign the section ✓
- D. Use a lower grade of concrete to reduce stress

Q96 Technical Abilities **ENGLISH**

Which equipment is most suitable for tunnel excavation in medium-strength rock where precise profiling is required?

- A. Tunnel Boring Machine (TBM) ✓
- B. Explosives
- C. Dragline excavator
- D. Hydraulic hammer

Q97 Technical Abilities **ENGLISH**

Which of the following is a limitation of the Direct Shear Test?

- A. The failure plane is predetermined and may not be the weakest plane in the soil specimen. ✓
- B. It can only be used for clayey soils and not for sandy soils.
- C. It requires a very long time to conduct, making it unsuitable for quick analysis.
- D. The test cannot measure shear strength parameters like cohesion and angle of internal friction.

Q98 Technical Abilities **ENGLISH**

Removal of topsoil, grading to formation level, and forming cuttings or embankments during earthworks is most effectively carried out using which of the following equipment?

- A. Pile driver
- B. Tractor shovel with a 4-in-1 bucket ✓
- C. Tower crane
- D. Concrete mixer



Q99 Technical Abilities **ENGLISH**

What is the primary purpose of pressure grouting in building foundation treatment work?

- A. Applying protective surface coating for improving appearance of foundation surfaces
- B. Increasing thermal insulation performance within external foundation wall assemblies
- C. Improving soil strength and reducing water penetration below foundation structures ✓
- D. Supporting internal wall finishes against mechanical damage during building service

Q100 Technical Abilities

इमारतीमधील कोणत्या प्रकारच्या जागेसाठी झडप असलेला दरवाजा (लूकर दरवाजा) आदर्श असतो?

- A. मुख्य प्रवेशद्वार
- B. गॅरेज दरवाजा
- C. कपडे धुण्याची खोली ✓
- D. संकटकालीन निर्गममार्ग

Q101 Technical Abilities **ENGLISH**

As per IS 17953 : 2023 (uPVC Profiles for Windows and Doors — Specification), for the determination of resistance to weathering, the range of the radiant exposure wavelength used is _____.

- A. 150 nm to 300 nm
- B. 200 nm to 500 nm
- C. 50 nm to 150 nm
- D. 300 nm to 800 nm ✓

Q102 Technical Abilities **ENGLISH**

A water pipe has a smooth interior. Over the time, scaling increases the roughness. What happens to the frictional head loss for the same flow rate?

- A. Remains same
- B. Increases ✓
- C. Decreases
- D. Becomes zero

Q103 Technical Abilities **ENGLISH**

In a building drawing, a sectional elevation is prepared by imagining a vertical cut through the structure from top to bottom. Which additional information is mainly obtained from a sectional elevation compared to a front elevation?

- A. External appearance of walls, front architectural style, and side view details
- B. Plot boundaries, setback distances, and site alignment details
- C. Cut portions of structural elements, plinth levels, and foundation details ✓
- D. Location of rooms, circulation passages, and furniture arrangement details

Q104 Technical Abilities **ENGLISH**

In a homogenous and prismatic continuous beam under uniformly distributed load, the bending moment at an intermediate support is:

(Consider that the length of each intermediate span measures the same.)

- A. zero
- B. equal to the midspan moment
- C. hogging ✓
- D. sagging

Q105 Technical Abilities **ENGLISH**

Which roof type is most suitable for covering spans greater than 9 m?

- A. King post truss
- B. Aisle Roof
- C. Queen post truss ✓
- D. Couple Roof

Q106 Technical Abilities **ENGLISH**

Pipes of different diameters and lengths connected end to end to form a pipe line are called _____.

- A. Branched pipes
- B. Equivalent pipes
- C. Compound pipes ✓
- D. Pipes in parallel



Q107 Technical Abilities **ENGLISH**

In a reinforced concrete beam, the development length is provided to prevent ____.

A. slipping of reinforcement ✓

B. crushing of concrete

C. torsional failure

D. excessive deflection

Q108 Technical Abilities **ENGLISH**

Which of the following is the function of a head regulator in a barrage?

A. To serve as one side wall of fish ladder

B. To admit water into the off taking canal ✓

C. To prevent erosion of riverbanks

D. To prevent the river from outflanking the barrage

Q109 Technical Abilities **ENGLISH**

During maintenance, a valve in a water supply system needs to be shut. To avoid water hammer, the valve should be:

A. Closed immediately

B. Closed gradually ✓

C. Left open

D. Closed halfway

Q110 Technical Abilities **ENGLISH**

Higher water absorption in coarse aggregates indicates:

A. higher durability of concrete

B. increased workability of concrete

C. higher porosity and lower strength ✓

D. better bonding with cement

Q111 Technical Abilities **ENGLISH**

A uniform bar is heated uniformly but prevented from expanding in any direction. What type of internal stress develops as a result?

A. Compressive stress ✓

B. Bending stress

C. No stress

D. Tensile stress

Q112 Technical Abilities **ENGLISH**

Which of the following is a necessary condition for plane table surveying?

A. All the stations must be established on a slope of the terrain

B. The plane table must be levelled and properly oriented at each station ✓

C. Contours must be measured and plotted before starting the survey

D. Only a single station is required for the entire survey

Q113 Technical Abilities **ENGLISH**

The primary purpose of a seal coat in bituminous pavement construction is to:

A. strengthen the granular base

B. provide skid resistance and waterproofing ✓

C. replace the bituminous binder layer

D. improve the compaction of subgrade soil

Q114 Technical Abilities **ENGLISH**

Which of the following types of flooring is preferably used in dancing halls and in auditoriums?

A. Ceramic Tile flooring

B. Timber Flooring ✓

C. Brick Flooring

D. Porcelain Tile flooring



Q115 Technical Abilities

विटांच्या बांधकामाच्या संदर्भात, मॉड्युलर विटा ट्रेडिशनल विटांपेक्षा कशामुळे वेगळ्या ठरतात?

- A. मॉड्युलर विटा प्रमाणित मापांमध्ये तयार केल्या जातात. ✓
- B. मॉड्युलर विटांचे उत्पादन प्रामुख्याने हाताने केले जाते.
- C. ट्रेडिशनल विटा मोठ्या प्रमाणित आकारात तयार केल्या जातात.
- D. ट्रेडिशनल विटा हलक्या वजनाच्या साहित्याचा वापर करून तयार केल्या जातात.

Q116 Technical Abilities ENGLISH

What is the recommended sequence for setting CAD software on a computer without operating system (OS)?

- A. Download drawing - Start drawing - Install CAD
- B. Install OS - Install CAD software - Configure settings ✓
- C. Launch Software - Install key drivers - Install OS
- D. Create layers - Save file - Install OS

Q117 Technical Abilities ENGLISH

Identify the correct statement(s) about a change point in a levelling operation.

Statement I : It is also known as turning point.
Statement II : The plus sight is taken on the change point on one set of instrument to ascertain the elevation of the point.
Statement III : The minus sight is taken on the change point to establish the new height of the instrument.

- A. Statement I and II only
- B. Statement III only
- C. Statement I and III only ✓
- D. Statement I only

Q118 Technical Abilities ENGLISH

Which of the following is NOT a type of clay tile for roofing?

- A. Mangalore pattern tile
- B. Spanish tile
- C. Allahabad tile
- D. Terracotta Jali ✓

Q119 Technical Abilities ENGLISH

In geometric design of highways, while on rolling terrain, design speeds are generally:

- A. Higher than plain terrain
- B. Unrelated to terrain type
- C. Same as mountainous terrain
- D. Lower than plain terrain ✓

Q120 Technical Abilities ENGLISH

Which method is primarily used to fill cracks, voids, and fissures in loose gravels and rocky strata?

- A. Guniting
- B. Cavity wall construction
- C. Grouting ✓
- D. Surface treatment

Q121 Technical Abilities ENGLISH

In soil mechanics, the seepage velocity is related to the discharge velocity and porosity of the soil. Which of the following statements is correct?

- A. Seepage velocity is independent of soil porosity.
- B. Seepage velocity is equal to discharge velocity multiplied by porosity.
- C. Seepage velocity is always less than discharge velocity.
- D. Seepage velocity is equal to discharge velocity divided by porosity. ✓

Q122 Technical Abilities ENGLISH

Which of the following advanced technologies is commonly used to ensure uniform compaction of concrete in modern construction projects?

- A. Vibratory compaction equipment ✓
- B. High-pressure water jets
- C. Laser levelling devices
- D. Manual tamping methods



Q123 Technical Abilities **ENGLISH**

Which of the following correctly represents the concrete contribution to shear strength V_c in Limit State Method (LSM) design?

- A. V_c is calculated based on concrete grade (f_{ck}) ✓
- B. V_c is always taken equal to the total applied shear force
- C. V_c depends only on the tensile strength of concrete
- D. V_c is neglected entirely in shear design

Q124 Technical Abilities **ENGLISH**

Which type of glass is commonly used in doors and windows?

- A. Borosilicate glass
- B. Lead glass
- C. Flint glass
- D. Soda-lime glass ✓

Q125 Technical Abilities

सबस्ट्रक्चरच्या कामाची आखणी करताना परिसरातील भूमिगत सुविधांचा विचार करणे का आवश्यक आहे?

- A. ते उत्खननादरम्यान इमारतीच्या आराखड्याचे एकूण स्वरूप सुधारतात.
- B. ते उत्खननादरम्यान जागेच्या सविस्तर सर्वेक्षणाच्या कामाची गरज कमी करतात.
- C. उत्खनना दरम्यान अस्तित्वात असलेल्या भूमिगत सेवांचे नुकसान होऊ शकते. ✓
- D. ते कार्यस्थळावरील उत्खननाचे काम सुलभ करतात.

Q126 Technical Abilities

लँडफिल्समध्ये, कोणता थर निचऱ्याचे स्थलांतर/गळती रोखतो?

- A. सॉइल कव्हर (Soil Cover)
- B. इम्पर्मिबल लाइनर (Impermeable Liner) ✓
- C. वेस्ट लेयर (Waste Layer)
- D. गॅस व्हेंट (Gas Vent)

Q127 Technical Abilities **ENGLISH**

Which is the most appropriate definition of the origin point in an AutoCAD 2D co-ordinate system?

- A. Effective diameter of the cursor on screen
- B. Measured distance from a fixed reference point
- C. Measured distance from the cursor to previous location
- D. 0,0 location ✓

Q128 Technical Abilities **ENGLISH**

For a symmetrical channel section with a moment of inertia $I_{xx} = 9.45 \times 10^7 \text{ mm}^4$ and an area $A = 4500 \text{ mm}^2$, what is its radius of gyration k_{xx} ?

- A. 116.34 mm
- B. 175.48 mm
- C. 159.56 mm
- D. 144.92 mm ✓

Q129 Technical Abilities **ENGLISH**

Which of the following should be minimized in the design of a tension member?

- A. Gross sectional area
- B. Net sectional area
- C. Deduction for rivet and bolt holes ✓
- D. Allowable stress in tension

Q130 Technical Abilities

जवळच्या उत्खननामुळे इमारतीला तात्पुरता आधार हवा असल्यास कोणत्या प्रकारच्या शोरिंगचा वापर केला जातो?

- A. फ्लाईंग शोरिंग
- B. डेड शोरिंग
- C. अंडरपिनींग
- D. रेकिंग शोरिंग ✓



Q131 Technical Abilities ENGLISH

The quantity estimation of structural timber work (wooden beams) is generally calculated based on:

A. Volume of timber used ✓

B. Floor area of building

C. Number of rooms

D. Weight of timber used

Q132 Technical Abilities ENGLISH

Which of the following is the non-recording type of rain gauge prescribed by the India Meteorological Department?

A. Weighted bucket rain gauge

B. Tipping bucket rain gauge

C. Symon's rain gauge ✓

D. Float type rain gauge

Q133 Technical Abilities ENGLISH

Which of the following is an essential component commonly included in a construction tender document?

A. Technical specifications describing project requirements ✓

B. Financial records of all participating contractors

C. Project drawings prepared without technical specifications

D. Promotional brochures issued for project advertisement

Q134 Technical Abilities

एका सिम्पली सपोर्टेड बीमची लांबी 6 m असून त्यावर 4 m चा ओव्हरहँग आहे. या 4 m च्या ओव्हरहँग भागावर 6 kN/m इतका समवितरित भार (UDL) कार्यरत आहे. सर्वात जवळच्या सपोर्टवर निर्माण होणारी रिअॅक्शन किती असेल?

A. 24 kN

B. 32 kN ✓

C. 6 kN

D. 10 kN

Q135 Technical Abilities ENGLISH

With respect to shear strength of soils, refer to the following Assertion and Reason and select the correct statement from the options given.

Assertion (A): For cohesionless soils, the failure does not occur on the plane of maximum shear stress.

Reason (R): Failure in soil takes place due to shear failure when compressive load is applied.

A. A is true and R is false.

B. A is false and R is true.

C. Both A and R are true and R is not the correct explanation of A. ✓

D. Both A and R are true and R is the correct explanation of A.

Q136 Technical Abilities ENGLISH

Under which of the following types of the dampness-checking materials categories, does cement concrete fall?

A. grout

B. flexible

C. temporary

D. rigid ✓

Q137 Technical Abilities ENGLISH

The bending moment diagram (BMD) for a simply supported beam carrying a uniformly distributed load over its entire span is:

A. rectangular in shape

B. triangular in shape

C. parabolic in shape ✓

D. linear in shape

Q138 Technical Abilities ENGLISH

Soda-lime glass is predominantly utilised in architectural construction for:

A. structural load-bearing components

B. fire-resistant partitions

C. thermal insulation boards

D. transparent window panes and glazing ✓



Q139 Technical Abilities **ENGLISH**

Which of the following statements is NOT correct about working drawings?

- A. They are detailed drawings of the building.
- B. They are fully dimensioned.
- C. They do not include schedule of openings. ✓
- D. They are drawn to a suitable scale.

Q140 Technical Abilities **ENGLISH**

The property of timber which enables it to absorb sudden shocks or impact loads is called _____.

- A. Tenacity
- B. Elasticity
- C. Hardness
- D. Toughness ✓

Q141 Technical Abilities **ENGLISH**

Which of the following types of welds is primarily designed to transmit shear forces in a connection?

- A. Fillet weld ✓
- B. Slot weld
- C. Groove weld
- D. Butt weld

Q142 Technical Abilities **ENGLISH**

According to IS 1892:2021, for a compact building site of about 0.4 hectare area, what is the recommended minimum number and location of boreholes or test pits for soil investigation?

- A. Boreholes spaced uniformly every 50 meters over the site
- B. One borehole or test pit at the center of the site only
- C. One borehole or test pit at each corner and one at the center ✓
- D. At least ten boreholes evenly spaced regardless of site size

Q143 Technical Abilities **ENGLISH**

The friction factor used in geometric design of highways is provided by the:

- A. Indian Road Congress (IRC) ✓
- B. National Highways Authority
- C. Bureau of Indian Standards (BIS)
- D. Ministry of Railways

Q144 Technical Abilities **ENGLISH**

Which types of piles are typically used in areas with expansive soils?

- A. Sheet piles
- B. Friction piles
- C. Screw piles
- D. Under-reamed piles ✓

Q145 Technical Abilities **ENGLISH**

_____ formwork is used for continuous vertical structures like chimneys, silos, and towers.

- A. Timber
- B. Plastic
- C. Slip ✓
- D. Steel

Q146 Technical Abilities **ENGLISH**

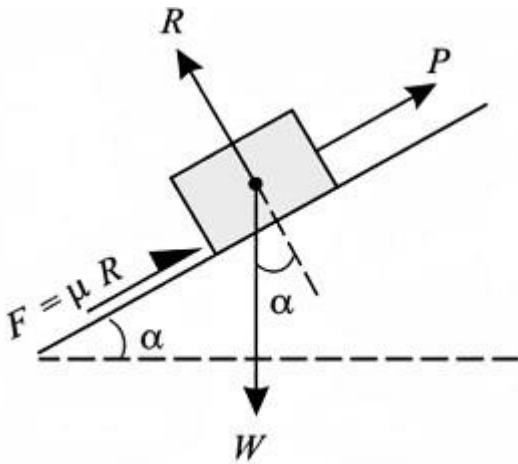
Which combination of factors is most likely to result in cracks due to shrinkage in plaster?

- A. Thin coat with slow drying conditions
- B. Application of thick coat and rapid drying ✓
- C. Thin coat and moist curing process
- D. Thick coat with slow drying conditions



Q147 Technical Abilities **ENGLISH**

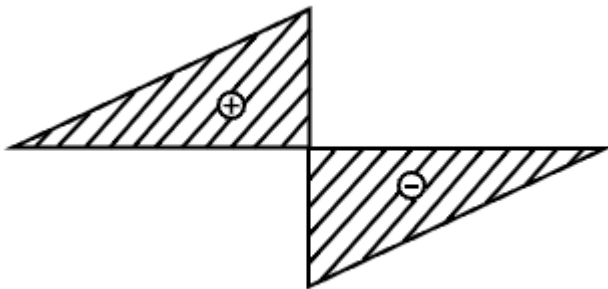
A block of weight (W) rests on a rough inclined plane with an angle of inclination α shown in the figure. The coefficient of friction between the block surface and the plane is μ , R is the normal reaction perpendicular to the inclined plane. A force (P) is applied parallel to the plane to prevent the block from sliding down. Which of the following represents the minimum value of (P) required to maintain equilibrium?



- A. $P = W (\cos \alpha - \tan \alpha)$
- B. $P = W (\sin \alpha - \mu \cos \alpha)$ ✓
- C. $P = W (\sin \alpha + \mu \cos \alpha)$
- D. $P = W (\cos \alpha - \mu \sin \alpha)$

Q148 Technical Abilities **ENGLISH**

The following bending moment diagram corresponds to a simply supported beam. The diagram shows a sudden jump (discontinuity) in bending moment at a point between the supports. Which of the following loading conditions produces this type of bending moment diagram?



B.M. Diagram

- A. A concentrated load acting at the midpoint of the beam
- B. Equal and opposite vertical forces acting at the supports
- C. A couple acting at a point between the supports ✓
- D. A uniformly distributed load acting over the entire span



Q149 Technical Abilities **ENGLISH**

Which material in section is represented by the hatch shared below as per IS 982 (1989)?



A. Wood

B. Earth

C. Brick

D. Concrete



Q150 Technical Abilities **ENGLISH**

For a column with both ends hinged (pinned–pinned), the effective length L_{eff} is ____ times the actual length of the column.

A. equal to 2

B. equal to 1

C. equal to 1.5

D. equal to 0.5

