



RRB JE 2025 CBT-2 Civil

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

Marathi

Complete Paper · 100 Questions · Technical Abilities Section · 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** (**Technical Abilities** section only), with the correct option marked as per the official answer key.

✓ Correct option (highlighted green)

30 of these 100 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 100 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

Technical Abilities

100 Questions • Answer Key

Q1 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

Q2 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

Q3 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

Q4 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°

Q5 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
- Administrative approval accepts project 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

Q6 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

Q7 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



Q8 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

Q9 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

Q10 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

Q11 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)

Q12 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** ✓

Q13 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

Q14 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** ✓

Q15 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** ✓



Q16 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. ✓

Q17 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

Q18 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

Q19 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

Q20 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) ✓

Q21 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

Q22 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

Q23 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



Q24 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

Q25 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

Q26 Technical Abilities

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

- A. डायोक्सेन ✓
- B. नायट्रोजन
- C. ऑक्सेजन
- D. मिथेन

Q27 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 ✓

Q28 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.

Q29 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

Q30 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

Q31 Technical Abilities

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

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



Q32 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 ✓

Q33 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 प्लोअरिंगचा प्रकार

Q34 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)

Q35 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

Q36 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

Q37 Technical Abilities ENGLISH

Which material is preferred for railway track ballast?

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

Q38 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

Q39 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

Q40 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.



Q41 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

Q42 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

Q43 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

Q44 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

Q45 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

Q46 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

Q47 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.

Q48 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



Q49 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

Q50 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

Q51 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 ✓

Q52 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

Q53 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

Q54 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

Q55 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

Q56 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



Q57 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

Q58 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

Q59 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

Q60 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

Q61 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

Q62 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

Q63 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

Q64 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



Q65 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.

Q66 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

Q67 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

Q68 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 ✓

Q69 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 ✓

Q70 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

Q71 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. ✓

Q72 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



Q73 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

Q74 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 ✓

Q75 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.

Q76 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)

Q77 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 ✓

Q78 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 ✓

Q79 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

Q80 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 ✓



Q81 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

Q82 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

Q83 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

Q84 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

Q85 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.

Q86 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 ✓

Q87 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

Q88 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 ✓



Q89 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.

Q90 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 ✓

Q91 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

Q92 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

Q93 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

Q94 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 ✓

Q95 Technical Abilities **ENGLISH**

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

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

Q96 Technical Abilities **ENGLISH**

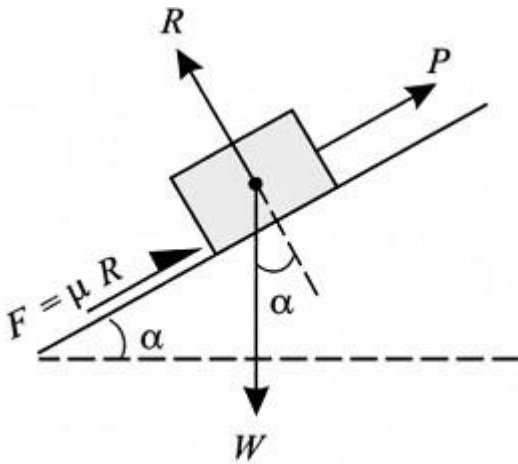
Which combination of factors is most likely to result in cracks due to shrinkage in plaster?

- 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



Q97 Technical Abilities ENGLISH

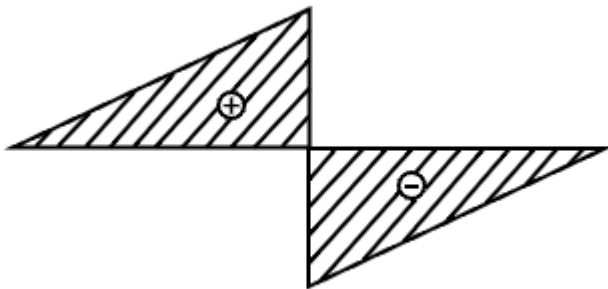
A block of weight (W) rests on a rough inclined plane with an angle of inclination α shown in the figure. The coefficient of friction between the block surface and the plane is μ , R is the normal reaction perpendicular to the inclined plane. A force (P) is applied parallel to the plane to prevent the 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. $P = W (\cos \alpha - \mu \sin \alpha)$

Q98 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



Q99 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



Q100 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

