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रेलवे भर्ती बोर्ड / RAILWAY RECRUITMENT BOARD
सी ई एन नं. - 03/2024 / CEN No. - 03/2024



Test Date	22/04/2025
Test Time	9:00 AM - 11:00 AM
Subject	RRB JE Stage 2 Civil and Allied Engineering

* Note
Correct Answer will carry 1 mark per Question.
Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : General Abilities

Q.1	The people of _____ were famously involved in execution of the Chipko movement.
Ans	☒ 1. Gujarat ☒ 2. Delhi ☒ 3. Garhwal Himalayas ☒ 4. Assam
Q.2	Why do covalent compounds generally have low melting and boiling points?
Ans	☒ 1. They contain metallic bonds. ☒ 2. They have strong electrostatic forces. ☒ 3. They have a rigid lattice structure. ☒ 4. They have weak intermolecular forces.
Q.3	Which of the following elements has an atomic number of 8?
Ans	☒ 1. Hydrogen ☒ 2. Nitrogen ☒ 3. Carbon ☒ 4. Oxygen
Q.4	In an aquatic ecosystem, the phenomenon of biomagnification can best be studied in the case of _____.
Ans	☒ 1. phosphates ☒ 2. chlorine ☒ 3. organochlorine ☒ 4. DDT
Q.5	Which function key is used to move text or graphics in a document?
Ans	☒ 1. F2 ☒ 2. F1 ☒ 3. F12 ☒ 4. F5

Q.6	A ball of mass 50 grams is moving with a velocity of 15 m/s. What is its kinetic energy?
Ans	✖ 1. 3.750 J ✖ 2. 1.875 J ✔ 3. 5.625 J ✖ 4. 7.500 J
Q.7	In January 2025, India launched the NVS-02 satellite to strengthen which of the following navigation systems?
Ans	✖ 1. Galileo ✖ 2. Global Positioning System (GPS) ✔ 3. Navigation with Indian Constellation (NavIC) ✖ 4. Global Navigation Satellite System (GLONASS)
Q.8	Which of the following options is NOT a greenhouse gas?
Ans	✖ 1. Methane ✔ 2. Carbon tetrachloride ✖ 3. Nitrous oxide ✖ 4. Carbon dioxide
Q.9	The main reason for which we are dependent on air is our _____.
Ans	✖ 1. osmoregulation ✖ 2. excretion ✖ 3. digestion ✔ 4. respiration
Q.10	ಮೌರ್ಯರ ಕಾಲದಲ್ಲಿ ಈ ಕೆಳಗಿನ ಯಾವುದು ಕುಶಲಕರ್ಮಿಗಳ ವೃತ್ತಿ ಸಂಘವಾಗಿರಲಿಲ್ಲ?
Ans	✔ 1. ಜ್ಯೋತಿಷಿಗಳು ✖ 2. ಬ್ಯಾಂಕರ್‌ಗಳು ಮತ್ತು ವ್ಯಾಪಾರಿಗಳು ✖ 3. ಕುಂಬಾರರು ✖ 4. ಬಡಗಿಗಳು
Q.11	ಈ ಕೆಳಗಿನವರಲ್ಲಿ ಯಾರು ನಿರ್ದೇಶಕ ತತ್ವಗಳನ್ನು ಭಾರತದ ಸಂವಿಧಾನದ 'ಜೀವ ರಕ್ಷಕ ನಿಬಂಧನೆಗಳು' (life-giving provisions) ಎಂದು ಉಲ್ಲೇಖಿಸಿದ್ದಾರೆ?
Ans	✖ 1. ಐವರ್ ಜಿನ್ನಿಂಗ್ಸ್ ✖ 2. BR ಅಂಬೇಡ್ಕರ್ ✖ 3. HM ಸೀರ್ವಾಯಿ ✔ 4. LM ಸಿಂಘ್ವಿ
Q.12	What is the primary function of a firewall tool in a computer network?
Ans	✖ 1. To speed up internet connections ✔ 2. To monitor and control incoming and outgoing network traffic ✖ 3. To store data securely ✖ 4. To detect and remove viruses
Q.13	The President has the power to dissolve which house of Parliament?
Ans	✔ 1. Lok Sabha only ✖ 2. Legislative Assembly ✖ 3. Both Rajya Sabha and Lok Sabha ✖ 4. Rajya Sabha only

Q.14	Who among the following developed the notation system for Hindustani classical music?	
Ans	 1. Pandit Ravi Shankar	
	 2. Pandit Vishnu Narayan Bhatkhande	
	 3. Ustad Bismillah Khan	
	 4. Ustad Amjad Ali Khan	

Q.15	Which of the following MS Excel functions is used to convert a numeric value into a text with a specific format?	
Ans	 1. NUMBERTOTEXT()	
	 2. VALUE()	
	 3. FORMAT()	
	 4. TEXT()	

Q.16	In which of the following events did Deepthi Jeevanji set a world record at the 2024 World Para Athletics Championships?	
Ans	 1. 400 metres T20	
	 2. 200 metres T20	
	 3. 100 metres T20	
	 4. 600 metres T20	

Q.17	A solution is prepared by dissolving 40 g of NaCl in 200 g of water. What is the mass per cent of NaCl in the solution?	
Ans	 1. 45%	
	 2. 16.67%	
	 3. 20%	
	 4. 25%	

Q.18	For the protection and improvement of the environmental quality, the Environment Protection Act came into force in the year _____.	
Ans	 1. 1984	
	 2. 1992	
	 3. 1986	
	 4. 1972	

Q.19	Who among the following Indian female cricketers won the Best International Cricketer Award (Women) at the BCCI Naman Awards 2025?	
Ans	 1. Smriti Mandhana	
	 2. Mithali Raj	
	 3. Harmanpreet Kaur	
	 4. Jhulan Goswami	

Q.20	A concave lens has a focal length of –2 cm. What is its power?	
Ans	 1. 25 D	
	 2. –50 D	
	 3. –0.5 D	
	 4. 0.5 D	

Q.21	What does LAN stand for?	
Ans	☒ 1. Local Area Network	
	☐ 2. Large Area Network	
	☐ 3. Limited Access Node	
	☐ 4. Linked Access Network	
Q.22	ಪರಮಾಣು ತ್ಯಾಜ್ಯಗಳಿಂದ ಹೊರಸೂಸುವ ವಿಕಿರಣಗಳು ಹೆಚ್ಚಿನ ದರದಲ್ಲಿ _____ ಉಂಟುಮಾಡುತ್ತವೆ ಎಂದು ತಿಳಿದುಬಂದಿದೆ.	
Ans	☐ 1. ಭಾವನಾತ್ಮಕ ದೋಷಗಳು	
	☒ 2. ಉತ್ಪರಿವರ್ತನೆಗಳು	
	☐ 3. ಸಿಂಡ್ರೋಮ್‌ಗಳು	
	☐ 4. ರೋಗಗಳು	
Q.23	Which country proposed the idea of holding a United Nations conference on human interactions with the environment in 1968?	
Ans	☐ 1. United States	
	☐ 2. Canada	
	☐ 3. France	
	☒ 4. Sweden	
Q.24	Which formula should be entered in cell C2 to multiply the values of cells A2 and B2 in Excel?	
Ans	☐ 1. =A2+B2	
	☐ 2. =MULTIPLY(A2,B2)	
	☒ 3. =A2*B2	
	☐ 4. =A2-B2	
Q.25	An object is placed 15 cm in front of a convex lens of focal length 25 cm. The image distance will be _____.	
Ans	☒ 1. -37.5 cm	
	☐ 2. -10.0 cm	
	☐ 3. -9.37 cm	
	☐ 4. 17.5 cm	
Q.26	Due to global warming, the temperature of the earth has increased by _____	
Ans	☐ 1. 0.8°C	
	☐ 2. 0.7°C	
	☒ 3. 0.6°C	
	☐ 4. 0.5°C	
Q.27	An alloy is considered a homogeneous mixture because:	
Ans	☐ 1. it contains two or more phases	
	☒ 2. it exhibits uniform composition throughout	
	☐ 3. its components can be separated by filtration	
	☐ 4. its components are chemically combined in fixed proportions	
Q.28	Which of the following is NOT toxic to non-target organisms in the soil?	
Ans	☒ 1. Organic fertilisers	
	☐ 2. Fungicides	
	☐ 3. Herbicides	
	☐ 4. Pesticides	

Q.29	Which of the following bridges is constructed over the Brahmaputra River in India?		
Ans	✔ 1. Dhola-Sadiya Bridge		
	✘ 2. Howrah Bridge		
	✘ 3. Mahatma Gandhi Setu		
	✘ 4. Pamban Bridge		

Q.30	Which German optical technology firm inaugurated its first Global Capability Centre in Bengaluru in November 2024, with plans to double its workforce within three years?		
Ans	✘ 1. Jenoptik		
	✘ 2. Leica		
	✘ 3. Schneider Kreuznach		
	✔ 4. Carl Zeiss AG		

Q.31	The kinetic energy of an object is derived using which of the following equations of motion?		
Ans	✘ 1. $a = (v - u) / t$		
	✘ 2. $s = ut + \frac{1}{2}at^2$		
	✘ 3. $v = u + at$		
	✔ 4. $v^2 - u^2 = 2as$		

Q.32	What happens to the pH of pure water when a few drops of lemon juice are added?		
Ans	✘ 1. The pH increases		
	✘ 2. The pH remains the same		
	✘ 3. The pH becomes neutral		
	✔ 4. The pH decreases		

Q.33	Which of the following correctly differentiates mixtures and compounds?		
	Feature	Mixture	Compound
	A) Separation	Can be separated by physical methods	Requires chemical me
	B) Composition	Fixed ratio	Variable ratio
	C) Properties	Always the same as constituents	Different from consti
	D) Formation	By chemical reaction	By simple mixing
Ans	✔ 1. Option A (Separation) is correct		
	✘ 2. Option D (Formation) is correct		
	✘ 3. Option B (Composition) is correct		
	✘ 4. Option C (Properties) is correct		

Q.34	What is the general orientation of the Himalayan ranges in the northwestern part of India?		
Ans	✘ 1. East-South		
	✘ 2. Northeast to Southwest		
	✘ 3. South-North		
	✔ 4. Northwest to Southeast		

Q.35	What is the primary function of a computer firewall?		
Ans	✘ 1. To speed up internet connectivity		
	✔ 2. To prevent unauthorised access to a private network		
	✘ 3. To detect and remove computer viruses		
	✘ 4. To store user passwords securely		

Q.36	Which operating system is known for its open-source nature and community-driven development for desktops and laptops?	
Ans	 1. iOS	
	 2. macOS	
	 3. Windows	
	 4. Linux	

Q.37	Which type of RAM is faster and DOES NOT require refreshing?	
Ans	 1. SRAM	
	 2. DRAM	
	 3. Flash Memory	
	 4. ROM	

Q.38	A sound wave with a low frequency will have _____.	
Ans	 1. a low amplitude	
	 2. a short wavelength	
	 3. a high pitch	
	 4. a low pitch	

Q.39	The power to issue an ordinance when Parliament is NOT in session is given to the President under which Article?	
Ans	 1. Article 72	
	 2. Article 110	
	 3. Article 123	
	 4. Article 356	

Q.40	A metal wire is stretched, but it does not break easily. This property is known as:	
Ans	 1. hardness	
	 2. ductility	
	 3. malleability	
	 4. brittleness	

Q.41	The atomic mass of sulphur is 32 u, and sulphur exists as S ₈ molecules. What is the molecular mass of sulphur?	
Ans	 1. 256 u	
	 2. 32 u	
	 3. 64 u	
	 4. 128 u	

Q.42	Where can one find the option to change a PowerPoint template?	
Ans	 1. View → Slide Master	
	 2. Insert → Themes	
	 3. Design → Themes	
	 4. Home → Layout	

Q.43	Who is known as the leader of the Green Revolution in India?	
Ans	 1. C Subramaniam	
	 2. Prof. MS Swaminathan	
	 3. Dr. Rajendra Prasad	
	 4. Tribhuvandas Kishibhai Patel	

Q.44	Which of the following is NOT a source of collection of municipal solid waste?
Ans	✖ 1. Waste from homes ✔ 2. Radioactive waste ✖ 3. Waste from hospitals ✖ 4. Waste from schools
Q.45	Electricity production is categorised under which of the following economic sectors?
Ans	✖ 1. Primary sector ✔ 2. Secondary sector ✖ 3. Tertiary sector ✖ 4. Quaternary sector
Q.46	Who among the following established the Bengal Chemical Swadeshi Stores?
Ans	✖ 1. Dadabhai Naoroji ✖ 2. Surendranath Banerjee ✖ 3. BG Tilak ✔ 4. Acharya PC Ray
Q.47	The wavelength of ultraviolet radiations which is most powerful and causes damage to the DNA is _____.
Ans	✖ 1. UV-C ✔ 2. UV-B ✖ 3. UV-D ✖ 4. UV-A
Q.48	What happens when you click on the 'Forward' button in an email?
Ans	✖ 1. A blank email opens. ✔ 2. The original message is copied into a new email draft. ✖ 3. The email is permanently deleted. ✖ 4. The email is automatically sent to all contacts.
Q.49	Which of the following will increase the heat produced by a heating element?
Ans	✖ 1. Using a material with high conductivity ✖ 2. Decreasing the applied voltage ✖ 3. Using a wire of lower resistance ✔ 4. Increasing the current flowing through the wire
Q.50	A car moving at a constant speed of 123 km/hr along a straight road is an example of _____.
Ans	✔ 1. uniform motion ✖ 2. rotational motion ✖ 3. random motion ✖ 4. non-uniform motion

Q.1	ಉಣ್ಣೆ, ಸೆಣಬು, ಕಲ್ಲಾರು ಇವುಗಳನ್ನು _____ ಎಂದು ವರ್ಗೀಕರಿಸಲಾಗಿದೆ.
Ans	✖ 1. ಮಾನವ ನಿರ್ಮಿತ ನಾರುಗಳು ✔ 2. ನೈಸರ್ಗಿಕ ನಾರುಗಳು ✖ 3. ಖನಿಜ ನಾರುಗಳು ✖ 4. ಪ್ರಾಣಿಜನ್ಯ ನಾರುಗಳು
Q.2	ಮೊದಲೇ ರಚಿಸಿದ ವಸ್ತುಗಳನ್ನು ಬಳಸಿ ನಿರ್ಮಿಸಿದ ಕಟ್ಟಡಗಳಲ್ಲಿ (prefabricated buildings), ತಾಪನ ಪ್ರಸಾರದ (thermal expansion) ಕಾರಣದಿಂದ ಆಗುವ ಚಲನೆಯನ್ನು ಹೀರಿಕೊಳ್ಳಲು ಜಾಯಿಂಟ್‌ನ ಅತ್ಯುತ್ತಮ ವಿಧ ಯಾವುದು?
Ans	✔ 1. ಎಕ್ಸ್ ಪಾನ್ಸನ್ ಜಾಯಿಂಟ್ ✖ 2. ರಿವೆಟೆಡ್ ಜಾಯಿಂಟ್ ✖ 3. ಥ್ರೆಡೆಡ್ ಜಾಯಿಂಟ್ ✖ 4. ವೆಲ್ಡೆಡ್ ಜಾಯಿಂಟ್
Q.3	Which of the following prefabrication techniques is used in bridge construction?
Ans	✖ 1. Panelised Construction ✔ 2. Precast Segmental Construction ✖ 3. Formwork-Free Construction ✖ 4. Modular Construction
Q.4	Which type of window consists of two sashes sliding vertically?
Ans	✖ 1. Casement window ✖ 2. Sliding window ✔ 3. Double-hung window ✖ 4. Fixed window
Q.5	In a Symons rain gauge, the collected rainfall is measured using:
Ans	✖ 1. a digital display ✖ 2. a rotating drum ✔ 3. a graduated scale ✖ 4. a pressure sensor
Q.6	For an unsymmetrical angle section, the principal axes of inertia pass through which point?
Ans	✖ 1. The midpoint of the shorter leg ✖ 2. The intersection of the legs ✔ 3. The centroid of the section ✖ 4. The midpoint of the longer leg
Q.7	The contractors profit added in analysis of rates is:
Ans	✖ 1. 20% of the total material and labour cost ✖ 2. 20% of the total material cost ✖ 3. 10% of total material cost ✔ 4. 10% of total material and labour cost

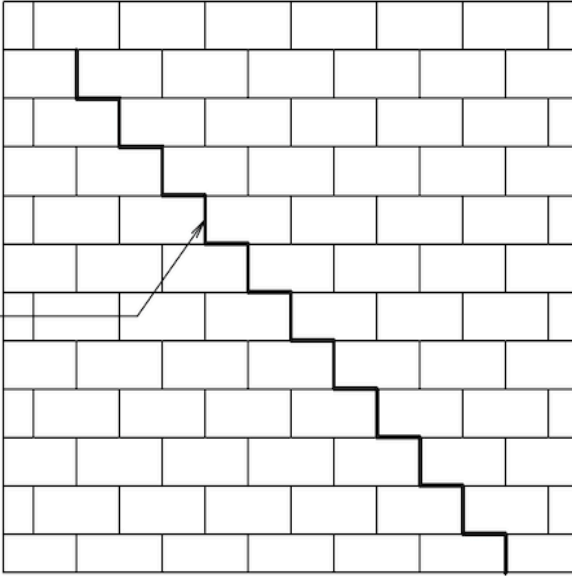
Q.8	Match the following railway zones with their headquarters. Railway Zones Headquarters A. Northern Railway 1. Kolkata B. Western Railway 2. Mumbai C. Eastern Railway 3. New Delhi D. Southern Railway 4. Chennai
Ans	✖ 1. A-1, B-3, C-2, D-4
	✖ 2. A-3, B-1, C-2, D-4
	✖ 3. A-4, B-1, C-3, D-2
	✔ 4. A-3, B-2, C-1, D-4
Q.9	The per cubic metre rates are ₹3,000 per cum for stone ballast, ₹2,000 per cum for coarse sand and ₹10,000 per cum for cement. For production of 10 m ³ of 1 : 3 : 6 cement concrete, the cost will be (to nearest thousand):
Ans	✔ 1. ₹51,000
	✖ 2. ₹66,000
	✖ 3. ₹26,000
	✖ 4. ₹84,000
Q.10	Which of the following is one of the standard gauges used in Indian Railways for Broad Gauge (BG) tracks?
Ans	✖ 1. 1220 mm
	✖ 2. 1435 mm
	✖ 3. 1000 mm
	✔ 4. 1676 mm
Q.11	The working or drawing area in the AutoCAD software is termed as _____.
Ans	✔ 1. Model Space
	✖ 2. Layout Space
	✖ 3. Screen Space
	✖ 4. Paper Space
Q.12	Which of the following is the SI unit of specific volume?
Ans	✖ 1. kg/m³
	✖ 2. m²/N
	✖ 3. N/m²
	✔ 4. m³/kg
Q.13	When rainfall intensity is greater than infiltration capacity indicated by the infiltration capacity curve, the excess water contributes to:
Ans	✖ 1. groundwater recharge
	✖ 2. evapotranspiration
	✔ 3. surface runoff
	✖ 4. evaporation
Q.14	The first paint coat on a new surface that fills the pores and facilitates adhesion of subsequent paint-coats to a surface is called _____.
Ans	✖ 1. putty coat
	✖ 2. finishing coat
	✖ 3. under coat
	✔ 4. priming coat

Q.15	Slate and laterite are examples of _____.
Ans	✖ 1. argillaceous rock ✖ 2. siliceous rock ✖ 3. calcareous rock ✔ 4. argillaceous and calcareous rocks, respectively
Q.16	While painting new wood work, the process of filling up of nail holes, dents, and cracks with putty is known as _____.
Ans	✖ 1. caulking ✖ 2. blocking ✔ 3. stopping ✖ 4. knotting
Q.17	Which of the following documents will include name of authorities inviting tender, name of work and its location, time of completion, date, time and place of tender?
Ans	✔ 1. Tender notice ✖ 2. Tender opening form ✖ 3. Muster roll ✖ 4. Contract document
Q.18	_____ is used for filling in cracks, gaps, cavities, etc. for the purpose of repairing and waterproofing.
Ans	✖ 1. Curing ✖ 2. Ramming ✔ 3. Grouting ✖ 4. Tamping
Q.19	Which of the following commands is used to create a surface in Autodesk Civil 3D?
Ans	✖ 1. Define Surface ✖ 2. Surface Create ✔ 3. Create Surface ✖ 4. Surface from Objects
Q.20	The formation of hairline cracks on a plastered surface is called _____.
Ans	✖ 1. splitting ✖ 2. blistering ✔ 3. crazing ✖ 4. cracking
Q.21	Why must compression reinforcement in a doubly reinforced beam be enclosed by stirrups?
Ans	✖ 1. To reduce the amount of steel required in compression ✖ 2. To increase the slenderness ratio of the beam ✔ 3. To prevent buckling and improve ductility by confining the concrete ✖ 4. To provide additional strength to the tension reinforcement
Q.22	ರಾ ಫ್ಲಾಟ್ ಫೌಂಡೇಷನ್‌ಗಳನ್ನು ಈ ಸಂದರ್ಭಗಳಲ್ಲಿ ಶಿಫಾರಸು ಮಾಡಲಾಗುತ್ತದೆ:
Ans	✖ 1. ಮಣ್ಣು ಅಧಿಕ ಮಟ್ಟದ ಭಾರ ಹೊರುವ ಸಾಮರ್ಥ್ಯವನ್ನು ಹೊಂದಿದ್ದರೆ ✖ 2. ಲೋಡ್ ಏಕಪ್ರಕಾರವಾಗಿ ವಿತರಣೆಯಾಗಿದ್ದರೆ ✖ 3. ಕಲ್ಲಿನಂತಹ ಮೇಲ್ಮೈನ ಮೇಲೆ ಕಟ್ಟಡವನ್ನು ಕಟ್ಟಿರುವಾಗ ✔ 4. ಡಿಫರೆನ್ಶಿಯಲ್ ಸೆಟಲ್ಮೆಂಟ್ ಕಡಿಮೆಗೊಳಿಸಬೇಕಿದ್ದಾಗ

Q.23	Which of the following statements is NOT true with respect to chemical grouting?
Ans	✖ 1. Can be employed to treat very fine fractures in moist environments. ✖ 2. Can be used to treat narrow concrete cracks. ✖ 3. The chemicals react with water to form gel/solid precipitate. ✔ 4. Does not require a high level of skill for application
Q.24	Restricting the height of masonry constructed per day is a remedial measure to prevent:
Ans	✔ 1. unequal settlement of masonry ✖ 2. lateral pressure on the walls ✖ 3. unequal settlement of subsoil ✖ 4. lateral movement of subsoil
Q.25	What is a good practice to follow when mixing concrete in hot weather?
Ans	✖ 1. Add large amount of fine aggregate to the mix. ✖ 2. Use warm water for mixing. ✖ 3. Add large amount of cement to the mix. ✔ 4. Use cold water to reduce the temperature of the mix.
Q.26	As per IS 2296-1982, water is classified into five categories. Which of the following does Category E represent?
Ans	✔ 1. Surface water for irrigation ✖ 2. Surface water for aquaculture ✖ 3. Surface water for drinking ✖ 4. Surface water for outdoor bathing
Q.27	ಗೋಡೆಗಳಿಗೆ ಹಾನಿಮಾಡದ ಬಿರುಕುಗಳಿಗೆ (non-structural cracks) ಸಂಬಂಧಿಸಿದಂತೆ ಈ ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವುದು ಸರಿಯಾಗಿದೆ?
Ans	✖ 1. ಇದರ ಪರಿಣಾಮವಾಗಿ ಅಡಿಪಾಯಗಳು, ಚಪ್ಪಡಿಗಳು ಇತ್ಯಾದಿಗಳಲ್ಲಿ ವ್ಯಾಪಕವಾದ ಬಿರುಕುಗಳು ಉಂಟಾಗುತ್ತವೆ. ✖ 2. ಅವು ಕಟ್ಟಡದ ರಚನಾತ್ಮಕ ಸ್ಥಿರತೆಗೆ ಅಪಾಯವಾಗಿವೆ. ✖ 3. ಅವುಗಳನ್ನು ದುರಸ್ತಿ ಮಾಡುವುದು ಮತ್ತು ಸರಿಪಡಿಸುವುದು ಸಾಮಾನ್ಯವಾಗಿ ತುಂಬಾ ಕಷ್ಟ. ✔ 4. ಕಟ್ಟಡ ಸಾಮಗ್ರಿಗಳ ಮೇಲಿನ ಪರಿಸರದ ವ್ಯತ್ಯಾಸಗಳಿಂದ ಅವು ಉಂಟಾಗುತ್ತವೆ.
Q.28	Which type of shoring is used to support unsafe walls of a building during its repair?
Ans	✖ 1. Cantilever shoring ✖ 2. Dead shoring ✔ 3. Raking shoring ✖ 4. Flying shoring
Q.29	A simply supported beam of 10 m carries a uniformly distributed load (UDL) of 5 kN/m over its entire span. What is the reaction force at each support?
Ans	✖ 1. 20 kN ✖ 2. 30 kN ✔ 3. 25 kN ✖ 4. 50 kN

Q.30	According to the Indian Road Congress(IRC73-1980), in the calculation of Overtaking Sight Distance (OSD), the reaction time 't' of the driver is assumed to be:
Ans	☒ 1. 1 second
	☒ 2. 3 seconds
	☒ 3. 5 seconds
	☒ 4. 2 seconds

Q.31	Which of the following equipment is essential for the well-point system?
Ans	☒ 1. Reciprocating pump
	☒ 2. Jet pump
	☒ 3. Centrifugal pump
	☒ 4. Sump pump

Q.32	The building crack shown in the figure is a _____ crack. Identify the type of crack 
Ans	☒ 1. toothed
	☒ 2. vertical
	☒ 3. diagonal
	☒ 4. horizontal

Q.33	A simply supported beam of 8 m has two vertical point loads: 10 kN at 2 m from the left support, 10 kN at 6 m from the left support. Using the graphical method, what is the approximate reaction at the left support (R_A)?
Ans	☒ 1. 12 kN
	☒ 2. 8 kN
	☒ 3. 15 kN
	☒ 4. 10 kN

Q.34	What is the primary mechanism by which a hydraulic pump moves fluid?
Ans	☒ 1. By generating an electric charge to attract the fluid
	☒ 2. By using thermal expansion of the fluid
	☒ 3. By creating a vacuum to draw fluid in and then pressurising it
	☒ 4. By using gravity to push the fluid through the system

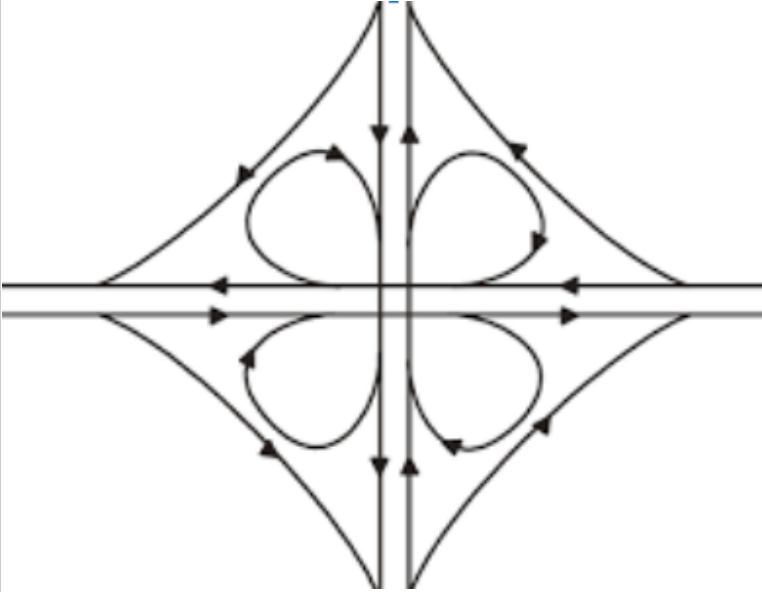
Q.35	For a column subjected to bending and compression, the maximum slenderness ratio as per IS 800:2007 is:
Ans	☒ 1. 180
	☐ 2. 200
	☐ 3. 300
	☐ 4. 250
Q.36	Which type of excavation is used for laying large pipelines?
Ans	☐ 1. Muck excavation
	☐ 2. Rock excavation
	☒ 3. Trench excavation
	☐ 4. Open excavation
Q.37	Which type of wall is designed to resist lateral forces, like wind or earthquakes?
Ans	☐ 1. Cavity wall
	☐ 2. Partition wall
	☐ 3. Load-bearing wall
	☒ 4. Shear wall
Q.38	For a built-up column with lacing, what percentage of the axial load is considered as the transverse shear force (V_t) that the lacing system must resist?
Ans	☐ 1. 1.5%
	☒ 2. 2.5%
	☐ 3. 2.0%
	☐ 4. 3.0%
Q.39	Which of the following statements about friction is correct?
Ans	☐ 1. Kinetic friction is greater than static friction.
	☒ 2. Friction is independent of the surface area in contact.
	☐ 3. Friction force does not depend on the nature of surfaces.
	☐ 4. Friction does not depend on the normal reaction.
Q.40	When two walls meet at right angles, which of the following bonds is generally used to maintain structural strength?
Ans	☐ 1. Flemish bond
	☐ 2. Header bond
	☐ 3. Stretcher bond
	☒ 4. English bond
Q.41	The collar beam in a collar beam roof performs which of the following functions?
Ans	☐ 1. It supports the ridge beam.
	☐ 2. It forms an extension to the eaves.
	☐ 3. It ties the wall plates together.
	☒ 4. It prevents rafters from bending.
Q.42	Which of the following best explains why rail transport is preferred over road transport for bulk goods movement?
Ans	☐ 1. Rail transport requires more energy due to heavier infrastructure.
	☐ 2. Rail transport is only suitable for short-distance bulk movement.
	☒ 3. Rail transport require less energy to haul a unit load over a unit distance.
	☐ 4. Rail transport is always faster than road transport for all types of goods.

Q.43	Which of the following waterproofing methods is often used for external surfaces of concrete structures?	
Ans	✖ 1. Root barriers	
	✖ 2. Cavity wall construction	
	✔ 3. Membrane waterproofing	
	✖ 4. Integral waterproofing	
Q.44	Cracks in buildings due to atmospheric drying of moisture in building materials cause:	
Ans	✖ 1. structural cracks	
	✔ 2. shrinkage cracks	
	✖ 3. thermal cracks	
	✖ 4. settlement cracks	
Q.45	The plinth area of a building is measured at which level?	
Ans	✔ 1. Ground floor level	
	✖ 2. Top of the damp-proof course	
	✖ 3. Mid-level of the foundation	
	✖ 4. Top of the plinth	
Q.46	In the plastering of surfaces with three coats, the second coat of plaster applied is also known as ____.	
Ans	✖ 1. under coat	
	✖ 2. rendering coat	
	✖ 3. setting coat	
	✔ 4. floating coat	
Q.47	Which of the following is the primary reason for adopting deep foundations over shallow foundations?	
Ans	✔ 1. Poor soil bearing capacity at shallow depths	
	✖ 2. Faster construction speed	
	✖ 3. High water table	
	✖ 4. Low construction cost	
Q.48	What is the correct method to determine the moment of inertia of a symmetrical T-section about its centroidal axis?	
Ans	✖ 1. Consider only the moment of inertia of the flange, as it dominates the shape	
	✖ 2. Assume it behaves as a solid rectangular section of the same overall dimensions	
	✖ 3. Use the perpendicular axis theorem directly	
	✔ 4. Use the parallel axis theorem to sum the moments of inertia of the flange and web	
Q.49	The sewerage system in which the society's waste is carried in buckets or carts is called:	
Ans	✖ 1. hygienic system	
	✖ 2. water carriage system	
	✔ 3. conservancy system	
	✖ 4. bucket system	

Q.50	The contract in which the contractor needs to complete the work within a fixed sum and fixed time, irrespective of the qualities of different items, is:
Ans	☒ 1. Fixed contract
	☒ 2. Lump sum contract
	☒ 3. Item rate contract
	☒ 4. Schedule contract

Q.51

The given figure shows which type of interchanges under grade separated intersection?



Ans	☒ 1. Full coverage leaf
	☒ 2. Rotary
	☒ 3. Partial coverage leaf
	☒ 4. Diamond

Q.52	According to IS 456:2000, the maximum compressive strain in concrete under axial loading at the limit state of collapse is specified as ____.
Ans	☒ 1. 0.002
	☒ 2. 0.0015
	☒ 3. 0.0025
	☒ 4. 0.003

Q.53	What is the primary function of a fish plate in rail joints?
Ans	☒ 1. To reduce track curvature
	☒ 2. To provide better track drainage
	☒ 3. To join two rails together
	☒ 4. To hold the sleepers together

Q.54	What is the optimum moisture content (OMC) range for compacting cohesive soils, as per IS 2720 (Part 8) - 1983?
Ans	☒ 1. 10–14%
	☒ 2. 12–16%
	☒ 3. 8–12%
	☒ 4. 15–20%

Q.55	The Moment of Resistance (M_R) in a beam is defined as:
Ans	✓ 1. the internal moment developed due to bending stresses ✗ 2. the product of shear force and bending moment ✗ 3. the sum of shear forces in the beam ✗ 4. the external moment applied to the beam
Q.56	What is the fire point test conducted on Bitumen also known as?
Ans	✗ 1. Softening point test ✗ 2. Penetration test ✓ 3. Pensky Marten test ✗ 4. Flash point test
Q.57	What is air seasoning for timber also called?
Ans	✓ 1. Natural seasoning ✗ 2. Controlled seasoning ✗ 3. Kiln seasoning ✗ 4. Artificial seasoning
Q.58	ಒಂದು ಕಟ್ಟಡದ ಮುಂಭಾಗದ ಮತ್ತು ಬದಿಯ ರೂಪವನ್ನು ತೋರಿಸುವ ಡ್ರಾಯಿಂಗ್ ಅನ್ನು _____ ಎಂದು ಕರೆಯುತ್ತಾರೆ.
Ans	✓ 1. ಬಿಲ್ಡಿಂಗ್ ಎಲೆವೇಶನ್ ✗ 2. ಏರಿಯಲ್ ವ್ಯೂ ✗ 3. ಬಿಲ್ಡಿಂಗ್ ಪ್ಲಾನ್ ✗ 4. ಬಿಲ್ಡಿಂಗ್ ಸೆಕ್ಷನ್
Q.59	Which of the following plastics is used in fiber-reinforced composites for bridges and structural applications?
Ans	✗ 1. Acrylic ✗ 2. Acrylonitrile Butadiene Styrene ✓ 3. Epoxy resin ✗ 4. Nylon
Q.60	ಫ್ರಾಂಜ್‌ನಲ್ಲಿನ ಬಾಗುವಿಕೆಯ ಒತ್ತಡಗಳನ್ನು ಮಾರ್ಪಡಿಸುವ ಶೀಯರ್ ಸ್ಟ್ರೇನ್‌ಗಳಿಂದಾಗಿ ಯಾವ ವಿದ್ಯಮಾನವು ಸಂಭವಿಸುತ್ತದೆ ಮತ್ತು ವಿಭಾಗಗಳು ಡೊಂಕಾಗಲು (warp) ಕಾರಣವಾಗುತ್ತದೆ?
Ans	✗ 1. ಲೋಕಲ್ ಬಕ್ಲಿಂಗ್ ✗ 2. ವೆಬ್ ಕ್ರಿಪ್ಪಿಂಗ್ ✗ 3. ಟೋರ್ಷನ್‌ನಲ್ ಇನ್ ಸ್ಟೆಬಿಲಿಟಿ ✓ 4. ಶೀಯರ್ ಲ್ಯಾಗ್
Q.61	Which of the following statements is/are correct about the variation of magnetic declination? Statement I: Magnetic declination is more at magnetic poles and less at equator. Statement II: Magnetic declination is more in the summer than in the winter. Statement III: Magnetic declination is more at night and less in the day.
Ans	✗ 1. Statements I and II only ✓ 2. Statement I only ✗ 3. Statement II only ✗ 4. Statements II and III only

Q.62	A plan that has detailed drawings of building foundation is known as _____.
Ans	✔ 1. foundation plan
	✖ 2. basement plan
	✖ 3. ground level plan
	✖ 4. survey plan
Q.63	Clay possesses the highest strength in which of the following conditions?
Ans	✔ 1. When heated to very high temperatures, up to redness
	✖ 2. When at liquid limit
	✖ 3. When with kaolinite at room temperatures
	✖ 4. When at shrinkage limit
Q.64	In which of the following types of estimates for buildings will the running meter cost of walls be required?
Ans	✖ 1. Plinth Area method
	✖ 2. Cubical method
	✔ 3. Approximate quantity method
	✖ 4. Linear method
Q.65	Which of the following options is used to enhance the alignment and strength of adjoining stones in stone masonry?
Ans	✖ 1. Flush joint
	✖ 2. Key joint
	✖ 3. Recessed joint
	✔ 4. Dowel joint
Q.66	Which type of support allows only rotational movement but resists both horizontal and vertical forces?
Ans	✖ 1. Roller support
	✖ 2. Fixed support
	✖ 3. Free support
	✔ 4. Pinned support
Q.67	Even when the normal forces are reduced to zero, some part of shear strength is still left on the soil. This strength is due to:
Ans	✔ 1. true cohesion
	✖ 2. interlocking friction
	✖ 3. sliding friction
	✖ 4. apparent cohesion
Q.68	Efflorescence on plastered surface causes which of the following effects to appear?
Ans	✖ 1. Rust stains or patches
	✖ 2. Growth patches of organic matter
	✖ 3. Oozing out of a viscous liquid
	✔ 4. Whitish crystalline substance

Q.69	What is the initial setting time of Portland-Pozzolana Cement when tested by the Vicat apparatus method as described in IS 4031 (Part 5):1988?
Ans	✖ 1. 60 minutes
	✔ 2. 30 minutes
	✖ 3. 40 minutes
	✖ 4. 10 minutes

Q.70	Which of the following types of junction is formed when two walls intersect at an acute angle?
Ans	✖ 1. Skew junction
	✔ 2. Mitred junction
	✖ 3. Butt junction
	✖ 4. Lap junction

Q.71	Which of the following types of glass fibre is most commonly used for reinforcement in construction?
Ans	✔ 1. E - glass
	✖ 2. A - glass
	✖ 3. S - glass
	✖ 4. C - glass

Q.72	In structural applications, what is a potential drawback of using High Performance Concrete?
Ans	✖ 1. Lower bond strength with reinforcement
	✔ 2. Difficulty in achieving proper compaction due to high stiffness
	✖ 3. Increased susceptibility to chemical reactions in marine environments
	✖ 4. Lower strength compared to conventional concrete

Q.73	Drawing files generated in the AutoCAD software have which of the following file extensions?
Ans	✖ 1. .XML
	✔ 2. .DWG
	✖ 3. .PSD
	✖ 4. .DOC

Q.74	The plastic limit of a soil is 20% and its liquid limit is 50%. If its flow index is 30%, find the value of the toughness index of the soil.
Ans	✔ 1. 1
	✖ 2. 0.5
	✖ 3. 3
	✖ 4. 1.5

Q.75	The ratio of total covered area of all floors to the area of the plot on which the building is to be built is known as:
Ans	✖ 1. ground coverage
	✔ 2. floor area ratio
	✖ 3. built up area %
	✖ 4. carpet area %

Q.76	Which of the following factors determines the frequency of a concrete vibrator?	
Ans	☒ 1. The ambient temperature	
	☒ 2. The type of cement used	
	☒ 3. The water-cement ratio	
	☒ 4. The size of the aggregate in the mix	
Q.77	Which type of soil is commonly used for the core of an embankment to minimise seepage?	
Ans	☒ 1. Clay	
	☒ 2. Sand	
	☒ 3. Silty sand	
	☒ 4. Gravel	
Q.78	In structural analysis, Clapeyron's Theorem of Three Moments is primarily used to:	
Ans	☒ 1. analyse the shear forces in a cantilever beam	
	☒ 2. calculate the bending moments at the supports of a continuous beam	
	☒ 3. determine the deflection at the midpoint of a simply supported beam	
	☒ 4. evaluate the torsional stresses in circular shaft	
Q.79	The drawing that gives information about the placement of rooms in a building along with their length and width measurements is known as _____.	
Ans	☒ 1. building elevation	
	☒ 2. building plan	
	☒ 3. building section	
	☒ 4. aerial view	
Q.80	Why is the Slope-Deflection Method considered more efficient than the Force Method for analysing indeterminate structures?	
Ans	☒ 1. It cannot be used for beams and frames	
	☒ 2. It involves fewer equations and unknowns, making it easier to solve	
	☒ 3. It requires writing compatibility equations for unknown forces	
	☒ 4. It is limited to structures with low degrees of indeterminacy	
Q.81	A good average value of the crushing strength of aggregates, suitable for concrete, is _____.	
Ans	☒ 1. 100-300 MPa	
	☒ 2. 80-100 MPa	
	☒ 3. 60-80 MPa	
	☒ 4. 40-60 MPa	
Q.82	Bitumen is used in the all of the following, EXCEPT:	
Ans	☒ 1. waterproofing	
	☒ 2. damp proofing	
	☒ 3. turfing	
	☒ 4. roofing	
Q.83	In RCC beams, which type of reinforcement is provided to resist shear?	
Ans	☒ 1. Compression bars	
	☒ 2. Stirrups	
	☒ 3. Lateral ties	
	☒ 4. Longitudinal bars	

Q.84	Units of measurement for a drawing in AutoCAD can be set up using the command:	
Ans	☒ 1. Scale	
	☒ 2. Grid	
	☒ 3. Limits	
	☒ 4. Units	
Q.85	As per IS 800: 2007, which type of beam does NOT need a lateral torsional buckling check?	
Ans	☒ 1. Plate girders	
	☒ 2. Beams bending about their major axis with λ_{LT} more than 0.4	
	☒ 3. Hollow rectangular or tubular sections	
	☒ 4. I-section beams with a long span	
Q.86	Which of the following correctly represents the ultimate tensile force (T_u) in the tensile reinforcement (A_s) of a singly reinforced beam at the ultimate limit state of flexure, considering the characteristic yield strength of steel (f_y)?	
Ans	☒ 1. $T_u = 0.5 f_y A_s$	
	☒ 2. $T_u = 0.87 f_y A_s$	
	☒ 3. $T_u = 0.67 f_y A_s$	
	☒ 4. $T_u = f_y A_s$	
Q.87	The egg-shaped sewer is placed, such that:	
Ans	☒ 1. the velocity of flow is always lesser than the velocity of flow in hydraulically equivalent circular sewer	
	☒ 2. the larger base has to support the weight of the upper smaller section	
	☒ 3. the smaller base has to support the weight of the upper broader section	
	☒ 4. the base and upper section has the same area and the middle section has large area	
Q.88	As per IS 1200 Part I, the measurement of:	
Ans	☒ 1. length shall be done to nearest 0.01 m, areas to nearest 0.01 m ² and volume to nearest 0.01 m ³	
	☒ 2. length shall be done to nearest 0.01 m, areas to nearest 0.01 m ² and volume to nearest 0.001 m ³	
	☒ 3. length shall be done to nearest 1 m, areas to nearest 1 m ² and volume to nearest 1 m ³	
	☒ 4. length shall be done to nearest 0.1 cm, areas to nearest 0.1 cm ² and volume to nearest 0.1 cm ³	
Q.89	Which prefabricated element is structurally designed to resist lateral loads in high-rise buildings?	
Ans	☒ 1. Shear wall panel	
	☒ 2. Precast column	
	☒ 3. Hollow core slab	
	☒ 4. Lintel beam	
Q.90	Which type of wall is primarily used for partitioning internal spaces?	
Ans	☒ 1. Load-bearing wall	
	☒ 2. Cavity wall	
	☒ 3. Shear wall	
	☒ 4. Partition wall	

Q.91	Which of the following statements is correct with respect to the difference between hydrostatics and hydrodynamics?	
Ans	✖ 1. Hydrostatics deals with only compressible fluids, while hydrodynamics deals with only incompressible fluids. ✔ 2. Hydrostatics studies fluid at rest, while hydrodynamics studies fluid in motion. ✖ 3. Hydrostatics focuses on turbulent flow, while hydrodynamics focuses on laminar flow. ✖ 4. Hydrostatics ignores pressure effects, while hydrodynamics considers them.	
Q.92	Which type of chemical is typically used in chemical rebar anchoring?	
Ans	✖ 1. Cement slurry ✔ 2. Epoxy resin ✖ 3. Lime mortar ✖ 4. Acrylic paint	
Q.93	If A_v is the area of voids in cross-section and A is the total area of cross-section, the relation between seepage velocity (v_s) and superficial velocity (v) is correctly represented as:	
Ans	✖ 1. $v_s = AvA_v$ ✖ 2. $v_s = A_vv/A$ ✖ 3. $v = Av_sA_v$ ✔ 4. $v = A_vv_s/A$	
Q.94	In a traverse survey, if the direction of the progress of the survey is _____, then the angles measured in the clockwise direction are directly the _____ angles.	
Ans	✖ 1. counterclockwise; excluded ✔ 2. counterclockwise; included ✖ 3. clockwise; excluded ✖ 4. clockwise; included	
Q.95	What is the primary difference between a lift and an elevator in building terminology?	
Ans	✔ 1. There is no functional difference. ✖ 2. Lifts are vertical; elevators are inclined. ✖ 3. Lifts are for goods; elevators are for passengers. ✖ 4. Lifts are manual; elevators are automatic.	
Q.96	Which of the following factors does NOT affect the moment of inertia of a plane lamina?	
Ans	✖ 1. The axis about which it is rotating ✔ 2. The angular velocity of rotation ✖ 3. The shape and size of the body ✖ 4. The mass of the body	
Q.97	According to the Parallelogram Law of Forces, the resultant of two forces acting at an angle to each other is represented by:	
Ans	✖ 1. the perpendicular bisector of the two forces ✖ 2. the difference of their magnitudes ✖ 3. the sum of their magnitudes ✔ 4. the diagonal of the parallelogram formed by the two forces	

Q.98	The combined effects of the earth's curvature and refraction is eliminated in _____.	
Ans	✗ 1. longitudinal sectioning	
	✗ 2. profile levelling	
	✗ 3. cross sectioning	
	✓ 4. reciprocal levelling	

Q.99	Which structural element is placed directly above a window to bear the load of the wall above?	
Ans	✓ 1. Lintel	
	✗ 2. Cornice	
	✗ 3. Chejja	
	✗ 4. Sill	

Q.100	ಯಾವ ಪ್ಲಾಸ್ಟರ್ ಫಿನಿಷ್‌ನಲ್ಲಿ ಸೂಕ್ತ ಸಲಕರಣೆಗಳನ್ನು ಬಳಸಿ ಪ್ಲಾಸ್ಟರ್‌ನ ಅಂತಿಮ ಲೇಪನದ ಮೇಲೆ ಆಲಂಕಾರಿಕ ಪ್ಯಾಟರ್ನ್‌ಗಳು ಅಥವಾ ಟೆಕ್ಸ್ಟರ್‌ನಿಂದ ಕೂಡಿದ ಮೇಲ್ಮೈ (ಸರ್ಫೇಸ್) ಗಳನ್ನು ರಚಿಸಲಾಗುತ್ತದೆ?	
Ans	✗ 1. ಸ್ಮೂತ್ ಕಾಸ್ಟ್ ಫಿನಿಷ್	
	✗ 2. ರಫ್ ಕಾಸ್ಟ್ ಫಿನಿಷ್	
	✗ 3. ಸ್ಕ್ವಾಟರ್ ಡ್ರಾಪ್ ಫಿನಿಷ್	
	✓ 4. ಟೆಕ್ಸ್ಟರ್ಡ್ ಫಿನಿಷ್	