

Dr. B.R.Ambedkar Institute of Technology

Recruitment for the Post of Instructor (Civil) / Lab Technician (Civil) - Shift 2

Date of Examination: 15/05/2025

Exam Time: 02:00 PM - 03:00 PM

Exam Slot: A2

#	Question ID	Question	Answer Key
1	5046	<p>F.A.R means in reference to a building is</p> <ul style="list-style-type: none"><li>a. Floor area ratio</li><li>b. Flat area ratio</li><li>c. Future Address Recognition</li><li>d. Federal Acquisition Regulation</li></ul>	
2	5051	<p>In AutoCAD, the ARRAY command is used to:</p> <ul style="list-style-type: none"><li>a. Draw rectangles</li><li>b. Make multiple copies of an object in a rectangular or circular pattern.</li><li>c. Break the line by defining two points</li><li>d. Draw a concentric circle</li></ul>	
3	5095	<p>According to Coulomb's wedge theory, the active earth pressure tends to cause the failure wedge to move</p> <ul style="list-style-type: none"><li>a) Upward and toward the retaining structure along a slip surface</li><li>b) Downward and outward along an inclined failure plane</li><li>c) Horizontally upward along the base of the wall</li><li>d) Horizontally inward along the base toward the backfill</li></ul>	
4	5121	<p>In steel beam section, the web carries</p> <ul style="list-style-type: none"><li>a. Compression</li><li>b. Tension</li><li>c. Moment</li><li>d. Shear</li></ul>	
5	5088	<p>The minimum water content at which the soil just begins to crumble when rolled into threads 3 mm in diameter, is known</p> <ul style="list-style-type: none"><li>a. Ductility limit</li><li>b. Plastic limit</li><li>c. Tensile limit</li><li>d. Permeability limit</li></ul>	
6	5082	<p>Bitumen can be dissolved in</p> <ul style="list-style-type: none"><li>a) Water</li><li>b) Carbon dioxide</li><li>c) Sodium Sulphide</li><li>d) Carbon Sulphide</li></ul>	

7	5087	<p>Steel contains carbon approximately</p> <ol style="list-style-type: none"> <li>1.20% to 4.8%</li> <li>3% to 5%</li> <li>0.05% to 1.75%</li> <li>0.25% to 1.5%</li> </ol>	
8	5107	<p>The grain size (mm) of medium grained sand lies between</p> <ol style="list-style-type: none"> <li>0.425 to 0.075</li> <li>2.0 to 0.425</li> <li>4.75 to 2.5</li> <li>20 to 5.75</li> </ol>	
9	5086	<p>For obtaining vinyl chloride acetate, the method used is</p> <ol style="list-style-type: none"> <li>Linear polymerization</li> <li>Step-growth polymerization</li> <li>Co-polymerization</li> <li>Chain transfer reaction</li> </ol>	
10	5097	<p>Accurate determination of water content, is made by</p> <ol style="list-style-type: none"> <li>Oven-drying</li> <li>Desiccator method</li> <li>Gravimetric method</li> <li>Calcium carbide method</li> </ol>	
11	5084	<p>A first class brick when immersed in cold water for 24 hours should not absorb water more than</p> <ol style="list-style-type: none"> <li>10%</li> <li>20%</li> <li>18%</li> <li>25%</li> </ol>	
12	5092	<p>Under-reamed piles are generally</p> <ol style="list-style-type: none"> <li>Screw piles</li> <li>Bored cast-in-situ piles</li> <li>Micro piles</li> <li>Steel H-piles</li> </ol>	



13	5123	<p>Any major beam in a structure is called</p> <ul style="list-style-type: none"> <li>a. Girder</li> <li>b. Subsidiary beam</li> <li>c. Joist</li> <li>d. Secondary beam</li> </ul>	
14	5059	<p>The _____ provides support to the occupants, furniture, fixtures and equipments of a building.</p> <ul style="list-style-type: none"> <li>a. Lintel</li> <li>b. Ramp</li> <li>c. Floor</li> <li>d. Lifts</li> </ul>	
15	5074	<p>Minimum required water cement ratio for a workable concrete, is</p> <ul style="list-style-type: none"> <li>a. 0.30</li> <li>b. 0.40</li> <li>c. 0.45</li> <li>d. 0.80</li> </ul>	
16	5069	<p>The head produced by a liquid of relative density 1.62 is equal to the pressure of 250 kPa. The head produced by the liquid in m</p> <ul style="list-style-type: none"> <li>a. 8.53</li> <li>b. 10.30</li> <li>c. 15.73</li> <li>d. 14.86</li> </ul>	
17	5101	<p>Gravel and sand belong to the following category of soils</p> <ul style="list-style-type: none"> <li>a) Cohesive</li> <li>b) Alluvial</li> <li>c) Expansive</li> <li>d) Marine</li> </ul>	
18	5079	<p>Which of the following has more fire resisting characteristics ?</p> <ul style="list-style-type: none"> <li>a) Marble</li> <li>b) Slate</li> <li>c) Compact sandstone</li> <li>d) Basalt</li> </ul>	
19	5031	<p>A surveyor observes a zenith angle of <math>92^{\circ} 00' 00''</math> during a theodolite survey. The corresponding vertical angle is</p> <ul style="list-style-type: none"> <li>a. <math>02^{\circ} 00' 00''</math></li> <li>b. <math>-02^{\circ} 00' 00''</math></li> <li>c. <math>88^{\circ} 00' 00''</math></li> <li>d. <math>-88^{\circ} 00' 00''</math></li> </ul>	

20	5125	<p>The distance measured along one rivet line from the centre of a rivet to the centre of adjoining rivet on an adjacent parallel rivet line is called</p> <ol style="list-style-type: none"> <li>Pitch of rivet</li> <li>Gauge distance of rivet</li> <li>Staggered pitch</li> <li>Staggered distance of rivet</li> </ol>	
21	5136	<p>The minimum cube strength of concrete used for a prestressed member is</p> <ol style="list-style-type: none"> <li>50 kg/cm<sup>2</sup></li> <li>250 kg/cm<sup>2</sup></li> <li>350 kg/cm<sup>2</sup></li> <li>300 kg/cm<sup>2</sup></li> </ol>	
22	5076	<p>The corrosion resistance property of stainless steel is primarily due to the presence of</p> <ol style="list-style-type: none"> <li>Carbon</li> <li>Sulphur</li> <li>Vanadium</li> <li>Chromium</li> </ol>	
23	5080	<p>Soundness of cement is tested by</p> <ol style="list-style-type: none"> <li>Vicat apparatus</li> <li>Briquette tensile testing machine</li> <li>Autoclave expansion apparatus</li> <li>Le-Chatelier apparatus</li> </ol>	
24	5032	<p>The angle of intersection of a contour and a ridge line is:</p> <ol style="list-style-type: none"> <li>30°</li> <li>60°</li> <li>90°</li> <li>120°</li> </ol>	
25	5122	<p>The rolled steel I sections are most commonly used as beams because these provide</p> <ol style="list-style-type: none"> <li>Large moment of inertia with less cross-sectional area</li> <li>Greater lateral stability</li> <li>Both a) and b)</li> <li>Lower longitudinal strain</li> </ol>	



26	5056	<p>The height between the floors is 3.38 m and riser is 13 cm. The number of treads will be:</p> <ol style="list-style-type: none"> <li>25</li> <li>26</li> <li>27</li> <li>13</li> </ol>	
27	5134	<p>For M 150 mix concrete, according to IS specifications, local bond stress is</p> <ol style="list-style-type: none"> <li>5 kg/cm<sup>2</sup></li> <li>15 kg/cm<sup>2</sup></li> <li>10 kg/cm<sup>2</sup></li> <li>12.5 kg/cm<sup>2</sup></li> </ol>	
28	5057	<p>Which of the following types of flooring is relatively noiseless in nature and generally preferred in libraries?</p> <ol style="list-style-type: none"> <li>Cork flooring</li> <li>Terrazzo flooring</li> <li>Mosaic flooring</li> <li>Glass flooring</li> </ol>	
29	5105	<p>When the plastic limit of a soil is greater than the liquid limit, then the plasticity index is reported as</p> <ol style="list-style-type: none"> <li>Negative</li> <li>Zero</li> <li>Non-plastic (NP)</li> <li>Zero-plastic</li> </ol>	
30	5038	<p>Among the following statements relating the fundamental lines of a transit theodolite, which one is CORRECT?</p> <ol style="list-style-type: none"> <li>The line of collimation must be perpendicular to the horizontal axis at its intersection with the vertical axis.</li> <li>The axis of altitude level must be perpendicular to the line of collimation.</li> <li>The axis of plate level must lie in a plane parallel to the vertical axis.</li> <li>The Vernier of vertical circle must read zero when the line of collimation is vertical.</li> </ol>	
31	5024	<p>The disinfection efficiency of chlorine in water treatment</p> <ol style="list-style-type: none"> <li>Does not depend on pH</li> <li>Increases with increase in pH</li> <li>Decreases with increase in pH</li> <li>Remains constant at all pH values.</li> </ol>	

32	5061	<p>Which of the following is not a type of flooring?</p> <ul style="list-style-type: none"> <li>a. Marble flooring</li> <li>b. Mosaic flooring</li> <li>c. Stone flooring</li> <li>d. Tiles flooring</li> </ul>	
33	5116	<p>A simply supported beam of span <math>L</math> carries two equal concentrated loads <math>P</math>, each positioned at a distance <math>L/4</math> from each support. Calculate the maximum bending moment in the beam.</p> <ul style="list-style-type: none"> <li>a. <math>PL/2</math></li> <li>b. <math>PL/3</math></li> <li>c. <math>PL/4</math></li> <li>d. <math>PL/8</math></li> </ul>	
34	5040	<p>If a line of 10 cm shrunk to 9 cm, determine the correct area corresponding to a measured area of <math>81 \text{ m}^2</math></p> <ul style="list-style-type: none"> <li>a. <math>81 \text{ m}^2</math></li> <li>b. <math>90 \text{ m}^2</math></li> <li>c. <math>100 \text{ m}^2</math></li> <li>d. <math>120 \text{ m}^2</math></li> </ul>	
35	5093	<p>Factor of safety against sliding of a slope is defined as the ratio of</p> <ul style="list-style-type: none"> <li>a. Actual cohesion to the cohesion required to maintain slope stability</li> <li>b. Shear strength to shear stress along the potential failure surface</li> <li>c. Neither (A) nor (B)</li> <li>d. Both (A) and (B)</li> </ul>	
36	5035	<p>Which one of the following methods of computation of area assumes that the short length of the boundary between are parabolic</p> <ul style="list-style-type: none"> <li>a. Average ordinate rule</li> <li>b. Middle ordinate rule</li> <li>c. Simpson's rule</li> <li>d. Trapezoidal rule</li> </ul>	
37	5058	<p>The part of the building above the ground level and up to the floor level immediately above the ground is known as _____.</p> <ul style="list-style-type: none"> <li>a. Silt level</li> <li>b. Formation level</li> <li>c. Lintel level</li> <li>d. Plinth level</li> </ul>	



38	5045	<p>Which of the following positions of the door and the type of door shutter offers more privacy to the room?</p> <ol style="list-style-type: none"> <li>Center door - single shutter</li> <li>Center door – double shutter</li> <li>Corner door – single shutter</li> <li>Corner door – double shutter</li> </ol>	
39	5104	<p>Hydrometer is used to measure</p> <ol style="list-style-type: none"> <li>Velocity of fluids</li> <li>Velocity of gases</li> <li>Specific gravity of liquids</li> <li>Flow of fluids</li> </ol>	
40	5090	<p>In a triaxial test, if drainage is allowed during the application of initial normal stress but not during shear, and full primary consolidation occurs before shearing, the test is called</p> <ol style="list-style-type: none"> <li>Unconsolidated undrained test</li> <li>Partially drained test</li> <li>Consolidated undrained test</li> <li>Saturated compression test</li> </ol>	
41	5109	<p>A three-hinged arch is said to be</p> <ol style="list-style-type: none"> <li>Statically indeterminate structure</li> <li>Statically determinate structure</li> <li>A bent beam</li> <li>A straight beam</li> </ol>	
42	5081	<p>Forge pig may be converted to wrought iron by</p> <ol style="list-style-type: none"> <li>Melting</li> <li>Casting</li> <li>Moulding</li> <li>Puddling</li> </ol>	
43	5132	<p>An R.C.C. column is treated as long if its slenderness ratio is greater than</p> <ol style="list-style-type: none"> <li>12</li> <li>45</li> <li>25</li> <li>60</li> </ol>	

44	5133	<p>Cantilever retaining walls can safely be used for a height not more than</p> <ol style="list-style-type: none"> <li>6 m</li> <li>5 m</li> <li>8 m</li> <li>3 m</li> </ol>	
45	5034	<p>Which of the following surveys employs alidade</p> <ol style="list-style-type: none"> <li>Contour survey</li> <li>Archeological survey</li> <li>Plane-table survey</li> <li>Reconnaissance survey</li> </ol>	
46	5037	<p>The imaginary level surface with reference to which vertical distances of the points are measured is called as:</p> <ol style="list-style-type: none"> <li>Mean sea level</li> <li>Horizontal Plane</li> <li>Reduced level</li> <li>Datum surface</li> </ol>	
47	5113	<p>If the shear force along a section of a beam is zero, the bending moment at the section is</p> <ol style="list-style-type: none"> <li>Maximum</li> <li>Minimum</li> <li>Zero</li> <li>Maximum – Minimum</li> </ol>	
48	5119	<p>The typical shape of a three-hinged arch is:</p> <ol style="list-style-type: none"> <li>Parabolic</li> <li>Circular</li> <li>Hyperbolic</li> <li>Elliptical</li> </ol>	
49	5021	<p>The hardness of a water sample is measured directly by titration with ethylenediamine tetraacetic acid (EDTA) using</p> <ol style="list-style-type: none"> <li>Methyl orange indicator</li> <li>Ferriin Indicator</li> <li>Eriochrome Black T indicator</li> <li>Phenolphthalein indicator</li> </ol>	



50	5110	<p>The shape of the bending moment diagram over the length of a beam, having no external load, is always</p> <ul style="list-style-type: none"> <li>a. Parabolic</li> <li>b. Linear</li> <li>c. Circular</li> <li>d. Cubical</li> </ul>	
51	5118	<p>A two-hinged arch is classified as a:</p> <ul style="list-style-type: none"> <li>a. Statically indeterminate structure</li> <li>b. Statically determinate structure</li> <li>c. Unstable structure</li> <li>d. Redundant structure</li> </ul>	
52	5048	<p>Which direction aspect is best suitable for the Gallery or the Verandah?</p> <ul style="list-style-type: none"> <li>a. North or North-east</li> <li>b. South or South-east</li> <li>c. North or North-west</li> <li>d. South or South-west</li> </ul>	
53	5100	<p>The weight of a pycnometer containing 400 g sand and water full to the top is 2150 g. The weight of pycnometer full of clean water is 1950 g. If specific gravity of the soil is 2.5, the water content is <math>1.00 \text{ g/cm}^3</math></p> <ul style="list-style-type: none"> <li>a) 10%</li> <li>b) 20%</li> <li>c) 25%</li> <li>d) 5%</li> </ul>	
54	5049	<p>Drawing files generated in the AutoCAD software have which of the following file extensions?</p> <ul style="list-style-type: none"> <li>a. .XML</li> <li>b. .PSD</li> <li>c. .DWG</li> <li>d. .DOC</li> </ul>	
55	5041	<p>Which levelling error occurs due to the bending of light rays as they pass through the Earth's atmosphere?</p> <ul style="list-style-type: none"> <li>a. Curvature error</li> <li>b. Refraction error</li> <li>c. Collimation error</li> <li>d. Parallax error</li> </ul>	

56	5094	<p>A partially saturated sample of soil has a unit weight of <math>1.0 \text{ g/cm}^3</math> and specific gravity of soil particles are 2.7. If the moisture content in the soil is 15%, the degree of saturation is</p> <ol style="list-style-type: none"> <li>18.7</li> <li>19.2</li> <li>20.8</li> <li>16.4</li> </ol>	
57	5060	<p>The short height wall constructed above Roof Slab in open terrace is called as</p> <ol style="list-style-type: none"> <li>Boundary wall</li> <li>Partition wall</li> <li>Plinth wall</li> <li>Parapet wall</li> </ol>	
58	5103	<p>Water content of a soil sample is the difference of the weight of the given sample at the given temperature and the weight determined after drying it for 24 hours at temperature ranging from_____</p> <ol style="list-style-type: none"> <li><math>80^\circ</math> to <math>90^\circ \text{ C}</math></li> <li><math>90^\circ</math> to <math>95^\circ \text{ C}</math></li> <li><math>95^\circ</math> to <math>100^\circ \text{ C}</math></li> <li><math>105^\circ</math> to <math>110^\circ \text{ C}</math></li> </ol>	
59	5127	<p>The maximum deflection for a simply supported beam should not exceed</p> <ol style="list-style-type: none"> <li>1/125 of span</li> <li>1/175 of span</li> <li>1/325 of span</li> <li>1/425 of span</li> </ol>	
60	5070	<p>Mastic asphalt is commonly used for</p> <ol style="list-style-type: none"> <li>Sound insulation</li> <li>Waterproofing</li> <li>Fireproofing</li> <li>Thermal insulation</li> </ol>	



**Post of Lab Technician/ Instructor (CIVIL) Answer Key**

**Date of Exam: 15/05/2025 (Shift 2)**

S.No.	QID	Answer Key
1	5046	A
2	5051	B
3	5095	B
4	5121	D
5	5088	B
6	5082	D
7	5087	C
8	5107	B
9	5086	C
10	5097	A
11	5084	B
12	5092	B
13	5123	A
14	5059	C
15	5074	C
16	5069	C
17	5101	B
18	5079	C
19	5031	B
20	5125	C
21	5136	C
22	5076	D
23	5080	D
24	5032	C
25	5122	C
26	5056	A
27	5134	C
28	5057	B
29	5105	C
30	5038	A
31	5024	C
32	5061	C
33	5116	C
34	5040	C
35	5093	D
36	5035	C
37	5058	D
38	5045	D
39	5104	C
40	5090	C
41	5109	B

S.No.	QID	Answer Key
42	5081	D
43	5132	A
44	5133	A
45	5034	C
46	5037	D
47	5113	A
48	5119	A
49	5021	C
50	5110	B
51	5118	A
52	5048	A
53	5100	B
54	5049	C
55	5041	B
56	5094	B
57	5060	D
58	5103	D
59	5127	C
60	5070	B