## PAPER-I

Marks: 100	Time: 120 minutes	
ROLL NO.:	NAME:	
SIGNATURE:	DATE / TIME:	

	INSTRUCTIONS FOR THE CANDIDATES			
1.	Before attempting the paper carefully read out all the Instructions & Examples given on Side 1 of Answer Sheet (OMR Sheet) supplied separately.			
2.	At the start of the examination, please ensure that all pages of your Test booklet are properly printed; your Test booklet is not damaged in any manner and contains 100 questions. In case of any discrepancy the candidate should immediately report the matter to the invigilator for replacement of Test Booklet. No claim in this regard will be entertained at the later stage.			
3.	An <b>OMR Answer Sheet</b> is being provided separately along with this Test booklet. Please fill up all relevant entries like Roll Number, Test Booklet Code etc. in the spaces provided on the OMR Answer Sheet and put your signature in the box provided for this purpose.			
4.	Make sure to fill the correct Test booklet code on Side 2 of the OMR Answer Sheet. If the space for the Booklet Code is left blank or more than one booklet code is indicated therein, it will be deemed to be an incorrect booklet code & Answer Sheet will not be evaluated. The candidate himself/herself will be solely responsible for all the consequences arising out of any error or omission in writing the test booklet code.			
5.	This Test Booklet consists of 7 pages containing 100 questions. Against each question four alternative choices (1), (2), (3), (4) are given, out of which one is correct. Indicate your choice of answer by darkening the suitable circle with <b>BLACK/BLUE pen</b> in the OMR Answer Sheet supplied to you separately. Use of Pencil is strictly prohibited. More than one answer indicated against a question will be deemed as incorrect response.			
6.	The maximum marks are 100. Each question carries one mark. There will be no negative marking. The total time allocated is 2 Hours.			
7.	Do not fold or make any stray marks on the OMR Answer Sheet. Any stray mark or smudge on the OMR Answer Sheet may be taken as wrong answer. Any damage to OMR Answer Sheet may result in disqualification of the candidate.			
8.	On completion of the test, candidate must hand over the Test Booklet and OMR Answer Sheet to the invigilator on duty in the room/hall.			
9.	Use of Mobile phones and calculators etc. are not allowed.			
10.	Keep all your belongings outside the Examination hall. Do not retain any paper except the ADMIT CARD.			

1	Which of the following methods of applying water may be used on rolling land? (1) boarder flooding (2) check flooding (3) furrow flooding (4) free flooding
2	A bar chat is drawn for
	(1) time versus activity (2) activity versus resources
	(3) resources versus progress (4) progress versus time
3	If the slump of concrete mix is 70mm, its workability is considered to be
	(1) very low (2) low (3) medium (4) high
4	The moment of inertia of a square of side (a) about an axis through its centre of gravity is
	$(1) a^4 / 4$ (2) $a^4 / 8$ (3) $a^4 / 12$ (4) $a^4 / 36$
5	For bars in tension, a standard hook has an anchorage value equivalent to a straight length
6	$(1) \otimes 0$ (2) 12 0 (3) 16 0 (4) 24 0
0	compared to velocity of the jet will be
	(1) Equal (2) Double (3) Half (4) One Fourth
7	The slope of sewer shall be
-	(1) given in the direction of natural slope of ground
	(2) given in the opposite direction of natural slope of ground
	(3) zero
	(4) steeper than 1 in 20
8	Wetted perimeter of a regime channel for a discharge of 64 cumecs as per Lacey's theory
0	(1) 19m (2) 38m (3) 57m (4) 76m
9	The chamber and gradient on earthen roads should not be more than $(1)$ 1 in 10 $(2)$ 1 in 20 $(2)$ 1 in 50 $(4)$ 1 in 80
10	The result of ring and ball softening point test on asphalts is given in terms of
10	(1) Viscosity (2) Time (3) Flow (4) Temperature
11	The moisture content in a well seasoned timber is
	(1) 5 to 7% (2) 15 to 20% (3) 13 to 18% (4) 10 to 12%
12	The relation between duty D in hectares/cumec, depth of water $\Delta$ in meters and base period
	B in days is given by
	(1) $\Delta = \underline{1.98 \text{ B}}$ (2) $\Delta = \underline{8.64 \text{ B}}$ (3) $\Delta = \underline{5.68 \text{ B}}$ (4) $\Delta = \underline{8.64 \text{ D}}$
10	D D B
13	(1) flowural tangila atranath
	(1) liexul di tensile strength (2) di ect tensile strength (3) compressive strength (4) split tensile strength
14	A man hole is generally provided at each
	(1) Bend (2) Junction and change of sewer dia
	(3) Change of gradient (4) All of the above
15	Thickness of plastering is usually
L	(1) 6mm (2) 12mm (3) 25mm (4) 40mm
16	The output of a mason for half brick wall in partition is expected to be
17	(1) 5 sq.m. per day (2) 15 sq.m. per day (3) 25 sq.m. per day (4) 45 sq.m. per day
17	(1) Hammer test (2) Falling weight test (3) Tensile test (4) Both (a) and (b)
18	The distance formula $\Omega = Cd \sqrt{2}dh x A$ is used for rectangular
10	(1) small orifices only (2) large orifices only
	(3) both (1) and (2) (4) for all type of orifices
19	For joining sewer pipes of diameter larger than 0.6 m. the preferred joint is
	(1) collar joint (2) simplex joint (3) socket and spigot joint (4) lock joint
20	Uniform seasoning of wood is done by
	(1) Vapour seasoning (2) Water seasoning
01	(3) Electric seasoning (4) Kiln seasoning
21	ine maximum differential settlement, in case of foundation on sandy soils is generally
	(1) 1mm (2) 5mm (3) 20mm (4) 25mm
1	

dam is       (1) clay       (2) coarse sand       (3) silty clay       (4) clay mixed with fine sand         23       The bulk density of a material depends on       (1) Void content       (2) Molitive content       (3) Porosity       (4) All of the above         24       The highest point on a carriage way is known as       (1) Grown       (2) Camber       (3) activated sludge treatment       (3) trickling filters         25       Which of the following unit works in anaerobic conditions?       (4) Gradient         26       The soundness of cement is tested by       (1) Lickling filters         26       The contalized value of the poperty would be       (1) Re. aboot       (2) Res 9000         27       A property fetches a net annual income of Rs. 900 deducting all out goings. If the rate of interest is 6% the capitalized value of the poperty would be       (1) Rs. 900       (2) Rs. 9000         28       Most suitable matterial for highway embankments is       (1) granular soli       (2) organic soil       (3) silts       (4) clays         29       The normal size of the balast used for points and crossings is       (1) forsa drains       (2) Somm       (3) 40mm       (4) Somm         30       The rails are made of       (1) forsa drains       (2) Mole drains       (3) Catch water drains       (4) Side drains         31       To merimate sons constructed on up slope of hi	22	The most suitable material for the central impervious core of a zoned embankment type			
<ul> <li>(1) Clark (1) Clark (2) Cla</li></ul>		dam is (1) clay (2) coarse cand (2) cilty clay (4) clay mixed with fine ca			
<ul> <li>119 Usid content (2) Molsture content (3) Porosity (4) All of the above</li> <li>24 The highest point on a carriage way is known as (1) Crown (2) Camber (3) Super elevation (4) Gradient</li> <li>25 Which of the following unit works in anaerobic conditions? (1) Studge digestion tank (3) activated sludge treatment (4) trickling filters (3) Activated sludge treatment (4) trickling filters (3) Vicats apparatus (2) Compression test (3) Vicats apparatus (4) Shores tester (1) Rs. 900 (2) Rs. 9000 (3) Rs. 15000 (4) Rs. 39000 (2) Rs. 9000 (3) Rs. 15000 (4) Rs. 39000 (2) Rs. 9000 (3) Suits (4) clays (4) clays (4) Somm (4) Somm (4) Clays (5) Cl</li></ul>	22	The bulk density of a material dependence	s) sity clay (4) clay mixed with	n line sand	
<ul> <li>10) Toto others and a carriage way is known as <ul> <li>(1) Crown (2) Camber (3) Super elevation (4) Gradient</li> </ul> </li> <li>25 Which of the following unit works in anaerobic conditions? <ul> <li>(1) Studge digestion tank (2) sedimentation tank</li> <li>(3) activated sludge treatment (4) trickling filters</li> </ul> </li> <li>26 The soundness of cement is tested by <ul> <li>(1) Le-chatelier apparatus (2) Compression test</li> <li>(3) Vicats apparatus (4) Shores tester</li> </ul> </li> <li>27 A property fetches a net annual income of Rs. 900 deducting all out goings. If the rate of interest is 6% the capitalized value of the property would be <ul> <li>(1) Rs. 900 (2) Rs. 9000 (3) Rs. 15000 (4) Rs. 39000</li> </ul> </li> <li>28 Most suitable material for highway embankments is <ul> <li>(1) granular soil (2) organic soil (3) sitts (4) clays</li> </ul> </li> <li>29 The normal size of the ballast used for points and crossings is <ul> <li>(1) Cross drains (2) Under drains (3) Catch water drains (4) Side drains</li> </ul> </li> <li>30 The rails are made of <ul> <li>(1) Cross drains (2) Under drains (3) Catch water drains (4) Side drains</li> </ul> </li> <li>31 The drains constructed on up slope of hill sides, are known as <ul> <li>(1) Cross drains (2) Under drains (3) Catch water drains (4) Side drains</li> </ul> </li> <li>32 To perform the initial setting time test, the water is added to the cement at the rate of by weight of cement <ul> <li>(1) 0.72 P (2) 0.78 P (3) 0.85 P (4) 0.95 P</li> </ul> </li> <li>33 A bond produced by laying alternate courses wholly composed of headers or stretchers, is known as <ul> <li>(1) Stretcher - header bond</li> <li>(2) Header - stretcher bond</li> <li>(3) English bond</li> <li>(4) The uplift pressure on a dam can be controlled by</li> <li>(i) constructing cutoff under upstream face <ul> <li>(ii) constructing drainage channels between the dam and its foundation</li> <li>(iii) by pressure grouting in foundation</li> <li>(iii) by pressure grouting in foundation</li> <li></li></ul></li></ul></li></ul>	23	(1) Void content (2) Moisture content	(3) Porosity (4) All of the a	hove	
1) Crown       (2) Camber       (3) Super elevation       (4) Gradient         25       Which of the following unit works in anaerobic conditions?       (1) Giudge digestion tank       (2) sedimentation tank         (3) activated sludge treatment       (4) trickling filters       (2) Sedimentation tank         26       The soundness of cement is tested by       (1) Le-chatelier apparatus       (2) Compression test         (3) Vicats apparatus       (4) Shores tester       (3) Sites 1000       (3) Rs. 15000       (4) Rs. 39000         27       A property teches a net annual income of Rs. 900 deducting all out goings. If the rate of interest is 6% the capitalized value of the property would be       (1) Rs. 9000       (2) Rs. 9000       (3) Rs. 15000       (4) Rs. 39000         28       Most suitable material for highway embankments is       (1) gorganic soil       (3) dumm       (4) Clays         29       The normal size of the ballast used for points and crossings is       (1) 10mm       (2) 25mm       (3) 40mm       (4) 50mm         30       Ther arias are made of       (1) Cast iron       (2) Mid Steel       (3) Adom       (4) Side drains         31       The chains constructed on up slope of hill sides, are known as       (1) Cross drains       (2) Under drains       (3) Catch water drains       (4) Side drains         32       To perform the initial setting time test,	24	The highest point on a carriage way is known		0070	
25       Which of the following unit works in anaerobic conditions?         (1) sludge digestion tank       (2) sedimentation tank         (3) activated sludge treatment       (4) trickling filters         26       The soundness of cement is tested by         (1) Lochatelier apparatus       (2) Compression test         (3) Vicats apparatus       (4) Shores tester         27       A property fetches a net annual income of Rs. 900 deducting all out goings. If the rate of interest is 6% the capitalized value of the property would be         (1) Rs. 900       (2) Rs. 9000       (3) Rs. 15000       (4) Rs. 39000         28       Most suitable material for highway embankments is       (1) granular soil       (2) organic soil       (3) silts       (4) clays         29       The normal size of the ballast used for points and crossings is       (1) 10mm       (2) 20mm       (3) 40mm       (4) Sloed Arains         30       The rails are made of       (1) Cross drains       (2) Mid Steel       (3) High Carbon Steel       (4) High Speed Steel         31       The drains constructed on up slope of hill sides, are known as       (1) Cros drains       (2) 0.78 P       (4) 0.95 P         33       A bond produced by laying alternate courses wholly composed of headers or stretchers, is known as       (1) Stretcher – header bond       (2) Header – stretcher bond       (3) English bond       (4		(1) Crown (2) Camber (3	B) Super elevation (4) Gra	adient	
(1) sludge digestion tank       (2) sedimentation tank         (3) activated sludge treatment       (4) trickling filters         26       The soundness of cement is tested by         (1) Le-chatelier apparatus       (2) Compression test         (3) Vicats apparatus       (4) Shores tester         27       A property fetches a net annual income of Rs. 900 deducting all out goings. If the rate of interest is 6% the capitalized value of the property would be         (1) Rs. 900       (2) Rs. 9000       (3) Rs. 15000       (4) Rs. 39000         28       Most suitable material for highway embankments is       (1) granular soil       (2) organic soil       (3) slits       (4) clays         29       The normal size of the ballast used for points and crossings is       (1) 10mm       (2) 25mm       (3) 40mm       (4) 50mm         30       The rains constructed on up slope of hill sides, are known as       (1) Cross drains       (2) Under drains       (3) A0mm       (4) Sloe drains         31       The drains constructed on up slope of hill sides, are known as       (1) 0.72 P       (2) 0.78 P       (3) 0.85 P       (4) 0.95 P         33       A bond produced by laying alternate courses wholly composed of headers or stretchers, is known as       (1) Stretcher - header bond       (2) Header - stretcher bond         (3) Ensitish bond       (4) Flemish bond       (4) 10.95 P	25	Which of the following unit works in anaerobic	conditions?		
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(1) Le-chatelier apparatus       (2) Compression test         (3) Vioats apparatus       (4) Shores tester         27       A property fetches a net annual income of Rs. 900 deducting all out goings. If the rate of interest is 5% the capitalized value of the property would be         (1) Rs. 900       (2) Rs. 9000       (3) Rs. 15000         28       Most suitable material for highway embankments is         (1) granular soil       (2) organic soil       (3) slits       (4) clays         29       The normal size of the ballast used for points and crossings is       (1) Cast iron       (2) Smm       (3) 40mm       (4) 50mm         30       The rails are made of       (1) Cast iron       (2) Mild Steel       (3) High Carbon Steel       (4) High Speed Steel         31       The drains constructed on up slope of hill sides, are known as       (1) Cross drains       (2) Under drains       (3) Catch water drains       (4) 0.95 P         32       To perform the initial setting time test, the water is added to the cement at the rate of by weight of cement       (1) 0.72 P       (2) 0.78 P       (3) 0.85 P       (4) 0.95 P         33       A bond produced by laying alternate courses wholly composed of headers or stretchers, is known as       (1) Stretcher – header bond       (2) Header – stretcher bond       (3) English bond         34       The uplift pressure on a dam can be controlled by       (i)	26	The soundness of cement is tested by			
<ul> <li>(3) Vicats apparatus</li> <li>(4) Shores tester</li> <li>(7) A property fetches a net annual income of Rs. 900 deducting all out goings. If the rate of interest is 6% the capitalized value of the property would be</li> <li>(1) Rs. 900</li> <li>(2) Rs. 900</li> <li>(3) Rs. 15000</li> <li>(4) Rs. 39000</li> <li>(2) Most suitable matrial for highway embankments is</li> <li>(1) granular soil</li> <li>(2) organic soil</li> <li>(3) sitts</li> <li>(4) clays</li> </ul> 29 The normal size of the ballast used for points and crossings is <ul> <li>(1) 10mm</li> <li>(2) 25mm</li> <li>(3) 40mm</li> <li>(4) 50mm</li> </ul> 30 The raits are made of <ul> <li>(1) Cast iron</li> <li>(2) Mid Steel (3) High Carbon Steel</li> <li>(4) High Speed Steel</li> </ul> 31 The drains constructed on up slope of hill sides, are known as <ul> <li>(1) Cross drains</li> <li>(2) Under drains</li> <li>(3) Catch water drains</li> <li>(4) Side drains</li> </ul> 32 To perform the initial setting time test, the water is added to the cement at the rate of by weight of cement <li>(1) 0.72 P</li> <li>(2) 0.78 P</li> <li>(3) 0.85 P</li> <li>(4) 0.95 P</li> 33 A bond produced by laying alternate courses wholly composed of headers or stretchers, is known as <ul> <li>(1) Stretcher – header bond</li> <li>(2) Header – stretcher bond</li> <li>(3) English bond</li> <li>(4) Flemish bond</li> </ul> 34 The uplift pressure on a dam can be controlled by <ul> <li>(i) constructing colf under upstream face</li> <li>(ii) constructing colf under upstream face</li> <li>(ii) constructing colf under upstream face</li> <li>(i) only (i)</li> <li>(2) both (i) and (ii)</li> <li>(3) both (i) and (iii)</li> <li>(4) Rotation of the planes</li> </ul> 36 As the elastic limit reaches, tensile strain <ul> <li>(1) Incera transverse displacement</li> <li>(2) curved displacement</li> <li>(3) No displacement</li> <li>(4) Rotation of the planes</li> </ul> 37 The defect in painting over a smooth and glossy surface due to whic		(1) Le-chatelier apparatus (2	<ol><li>Compression test</li></ol>		
<ul> <li>A property fetches a net annual income of Rs. 900 deducting all out goings. If the rate of interest is 6% the capitalized value of the property would be (1) Rs. 900 (2) Rs. 9000 (3) Rs. 15000 (4) Rs. 39000</li> <li>Most suitable material for highway embankments is (1) granular soil (2) organic soil (3) slits (4) clays (2) granular soil (2) arganic soil (3) 40mm (4) 50mm</li> <li>The normal size of the ballast used for points and crossings is (1) 10mm (2) 25mm (3) 40mm (4) 50mm</li> <li>The rails are made of (1) Cast iron (2) Mild Steel (3) High Carbon Steel (4) High Speed Steel</li> <li>The drains constructed on up slope of hill sides, are known as (1) Cross drains (2) Under drains (3) Catch water drains (4) Side drains (1) Cross drains (2) Under drains (3) Catch water drains (4) Side drains (1) Ors? P (2) 0.78 P (3) 0.85 P (4) 0.95 P</li> <li>A bond produced by laying alternate courses wholly composed of headers or stretchers, is known as (1) Stretcher – header bond (2) Header – stretcher bond (3) English bond (4) Flemish bond</li> <li>The uplift pressure on a dam can be controlled by (1) constructing drainage channels between the dam and its foundation (ii) by pressure grouting in foundation The correct answer is (1) only (1) (2) both (1) and (ii) (3) both (1) and (iii) (4) (1), (ii) and (iii)</li> <li>The shear force on a beam causes (1) Linear transverse displacement (2) Curved displacement (3) No displacement (2) Alligatoring (3) Sagging (4) Blistering</li> <li>The defect in painting over a smooth and glossy surface due to which paint does not stick to the surface, is known as (1) Scaling (2) Alligatoring (3) 1600 kg (4) 2600 kg</li> <li>The deflection of any rectangular beam simply supported is (1) directly proportional to the suber (2) 42mm diameter (1) 3 (2) 5 (3) 6 (4) 4</li> <li>The deflection of any rectangular beam simply supported is (1) directly proportional to the cube of its length (3) inversely proportional to the cube of its length (4) directly proportional to the cube of its length (</li></ul>		(3) Vicats apparatus (4	) Shores tester		
interest is 5% the capitalized value of the property would be         (1) Rs. 9000       (2) Rs. 9000       (3) Rsi. 15000       (4) Rs. 39000         28       Most suitable material for highway embankments is       (1) granular soil       (2) organic soil       (3) silts       (4) clays         29       The normal size of the ballast used for points and crossings is       (1) 10mm       (2) 25mm       (3) 40mm       (4) 50mm         30       The rails are made of       (1) Cast iron       (2) Mild Steel       (3) High Carbon Steel       (4) High Speed Steel         31       The drains constructed on up slope of hill sides, are known as       (1) Cross drains       (2) Under drains       (3) Catch water drains       (4) Side drains         32       To perform the initial setting time test, the water is added to the cement at the rate of by weight of cement       (1) 0.72 P       (2) 0.78 P       (3) 0.85 P       (4) 0.95 P         33       A bond produced by laying alternate courses wholly composed of headers or stretchers, is known as       (1) Stretcher – header bond       (2) Header – stretcher bond       (3) English bond       (4) Flexibar         (1)       constructing drainage channels between the dam and its foundation       (ii)       constructing drainage channels between the dam and its foundation       (iii)       (j) ecreases more rapidly       (j) corstructing drainage channels between the dam and its foundation	27	A property fetches a net annual income of R	s. 900 deducting all out goings. If	the rate of	
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<ul> <li>Most suitable frateriation inginway entrolation fields is <ol> <li>granular soli</li> <li>granular soli</li> <li>granular soli</li> <li>fingmanular soli</li> <li>fin</li></ol></li></ul>	00	(1) RS. 900 (2) RS. 9000 (3	8) RS. 15000 (4) RS. 39000		
<ul> <li>(1) granual solin (2) sitis (4) days (4) days (4) days (4) days (4) days (4) form ormal size of the ballast used for points and crossings is (1) 10mm (2) 25mm (3) 40mm (4) 50mm</li> <li>30 The rails are made of (1) Cast iron (2) Mild Steel (3) High Carbon Steel (4) High Speed Steel</li> <li>31 The drains constructed on up slope of hill sides, are known as (1) Cross drains (2) Under drains (3) Catch water drains (4) Side drains (1) Cross drains (2) Under drains (3) Catch water drains (4) Side drains (1) Cross drains (2) Under drains (3) Catch water drains (4) Side drains (1) 0.72 P (2) 0.78 P (3) 0.85 P (4) 0.95 P</li> <li>33 A bond produced by laying alternate courses wholly composed of headers or stretchers, is known as (1) Stretcher – header bond (2) Header – stretcher bond (3) English bond (4) Flemish bond</li> <li>34 The uplift pressure on a dam can be controlled by (i) constructing drainage channels between the dam and its foundation (ii) onstructing drainage channels between the dam and its foundation (iii) by pressure grouting in foundation The correct answer is (1) Linear transverse displacement (2) Curved displacement (3) No displacement (4) Rotation of the planes</li> <li>36 As the elastic limit reaches, tensile strain (1) increases more rapidly (2) decreases in proportion to the stress (1) Scaling (2) Alligatoring (3) Sagging (4) Blistering</li> <li>37 The defect in painting over a smooth and glossy surface due to which paint does not stick to the surface, is known as (1) Scaling (2) Alligatoring (3) Gagging (4) Blistering</li> <li>38 One cubic meter of sand will roughly weigh (1) 100 kg (2) (5) (3) 6 (4) 4</li> <li>40 The deflection of any rectangular beam simply supported is (1) directly proportional to the cube of its length (4) directly proportional to the cube of its length</li> <li>41 Lapped splices in tensile reinforcement are generally not used for bars of size larger than (1) 18mm diameter (2) 24mm diameter (2) 24mm diameter</li> </ul>	28	(1) grapular soil	(2) silts	(4) clave	
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<ul> <li>10) The rails are made of (1) Cast iron (2) Mild Steel (3) High Carbon Steel (4) High Speed Steel</li> <li>31 The rails are made of (1) Cast iron (2) Mild Steel (3) High Carbon Steel (4) High Speed Steel</li> <li>31 The drains constructed on up slope of hill sides, are known as (1) Cross drains (2) Under drains (3) Catch water drains (4) Side drains</li> <li>32 To perform the initial setting time test, the water is added to the cement at the rate of by weight of cement (1) 0.72 P (2) 0.78 P (3) 0.85 P (4) 0.95 P</li> <li>33 A bond produced by laying alternate courses wholly composed of headers or stretchers, is known as (1) Stretcher – header bond (2) Header – stretcher bond (3) English bond (4) Flemish bond</li> <li>34 The uplift pressure on a dam can be controlled by (i) constructing cutoff under upstream face (ii) constructing drainage channels between the dam and its foundation the correct answer is (1) only (i) (2) both (i) and (ii) (3) both (i) and (iii) (4) (i), (ii) and (iii)</li> <li>35 The shear force on a beam causes (1) Linear transverse displacement (2) Curved displacement (3) No displacement (4) Rotation of the planes</li> <li>36 As the elastic limit reaches, tensile strain (1) increases in proportion to the stress (4) decreases in proportion to the stress (1) Scaling (2) Alligatoring (3) Sagging (4) Blistering</li> <li>39 One cubic meter of sand will roughly weigh (1) 100 kg (2) 600 kg (3) 1600 kg (4) 2600 kg</li> <li>39 The deflect in painting over a smooth and glossy surface due to which paint does not stick to the surface, is known as (1) Scaling (2) 600 kg (3) 1600 kg (4) 2600 kg</li> <li>39 The deflection of any rectangular beam simply supported is (1) directly proportional to its weight (2) inversely proportional to the cube of its depth (4) directly proportional to the cube of its depth (4) directly proportional to the cube of its depth (4) directly proportional to the cube of its depth (4) directly proportional to the cube of its depth (4) directly proportional to the cube of its</li></ul>	25	(1) 10 mm $(2) 25 mm$ $(3)$	3) 40mm (4) 50mm		
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(1) Scaling       (2) Alligatoring       (3) Sagging       (4) Bilstering         38       One cubic meter of sand will roughly weigh       (1) 100 kg       (2) 600 kg       (3) 1600 kg       (4) 2600 kg         39       The number of seismic zones in which the country has been divided are       (1) 3       (2) 5       (3) 6       (4) 4         40       The deflection of any rectangular beam simply supported is       (1) directly proportional to its weight       (2) inversely proportional to its weight       (2) inversely proportional to the cube of its depth         (4) directly proportional to the cube of its length       (4) directly proportional to the cube of its length       (4) directly proportional to the cube of its length         41       Lapped splices in tensile reinforcement are generally not used for bars of size larger than       (1) 18mm diameter       (2) 24mm diameter         (3) 30mm diameter       (4) 26mm diameter       (4) 26mm diameter		the surface, is known as	(0) Consists (1) Dis	to vice of	
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<ul> <li>39 The number of seismic zones in which the country has been divided are <ul> <li>(1) 3</li> <li>(2) 5</li> <li>(3) 6</li> <li>(4) 4</li> </ul> </li> <li>40 The deflection of any rectangular beam simply supported is <ul> <li>(1) directly proportional to its weight</li> <li>(2) inversely proportional to its width</li> <li>(3) inversely proportional to the cube of its depth</li> <li>(4) directly proportional to the cube of its length</li> </ul> </li> <li>41 Lapped splices in tensile reinforcement are generally not used for bars of size larger than <ul> <li>(1) 18mm diameter</li> <li>(2) 24mm diameter</li> <li>(3) 30mm diameter</li> <li>(4) 26mm diameter</li> </ul> </li> </ul>	30	(1) 100  kg $(2) 600  kg$ $(3)$	3) 1600 kg (4) 2600 kg		
<ul> <li>(1) 3 (2) 5 (3) 6 (4) 4</li> <li>40 The deflection of any rectangular beam simply supported is         <ul> <li>(1) directly proportional to its weight</li> <li>(2) inversely proportional to its width</li> <li>(3) inversely proportional to the cube of its depth</li> <li>(4) directly proportional to the cube of its length</li> </ul> </li> <li>41 Lapped splices in tensile reinforcement are generally not used for bars of size larger than             <ul> <li>(1) 18mm diameter</li> <li>(2) 24mm diameter</li> <li>(3) 30mm diameter</li> <li>(4) 26mm diameter</li> </ul> </li> </ul>	39	The number of seismic zones in which the cou	Intry has been divided are		
<ul> <li>40 The deflection of any rectangular beam simply supported is         <ul> <li>(1) directly proportional to its weight</li> <li>(2) inversely proportional to its width</li> <li>(3) inversely proportional to the cube of its depth</li> <li>(4) directly proportional to the cube of its length</li> </ul> </li> <li>41 Lapped splices in tensile reinforcement are generally not used for bars of size larger than             <ul> <li>(1) 18mm diameter</li> <li>(2) 24mm diameter</li> <li>(3) 30mm diameter</li> <li>(4) 26mm diameter</li> </ul> </li> </ul>		(1) 3 (2) 5 (3) 6 (4	H) 4		
<ul> <li>(1) directly proportional to its weight         <ul> <li>(2) inversely proportional to its width</li> <li>(3) inversely proportional to the cube of its depth</li> <li>(4) directly proportional to the cube of its length</li> </ul> </li> <li>41 Lapped splices in tensile reinforcement are generally not used for bars of size larger than             <ul> <li>(1) 18mm diameter</li> <li>(2) 24mm diameter</li> <li>(3) 30mm diameter</li> <li>(4) 26mm diameter</li> </ul> </li> </ul>	40	The deflection of any rectangular beam simply	supported is		
<ul> <li>(2) inversely proportional to its width         <ul> <li>(3) inversely proportional to the cube of its depth</li> <li>(4) directly proportional to the cube of its length</li> </ul> </li> <li>41 Lapped splices in tensile reinforcement are generally not used for bars of size larger than         <ul> <li>(1) 18mm diameter</li> <li>(2) 24mm diameter</li> <li>(3) 30mm diameter</li> <li>(4) 26mm diameter</li> </ul> </li> </ul>		(1) directly proportional to its weight			
<ul> <li>(3) inversely proportional to the cube of its depth</li> <li>(4) directly proportional to the cube of its length</li> <li>41 Lapped splices in tensile reinforcement are generally not used for bars of size larger than</li> <li>(1) 18mm diameter</li> <li>(2) 24mm diameter</li> <li>(3) 30mm diameter</li> </ul>		(2) inversely proportional to its width			
<ul> <li>(4) directly proportional to the cube of its length</li> <li>41 Lapped splices in tensile reinforcement are generally not used for bars of size larger than         <ul> <li>(1) 18mm diameter</li> <li>(2) 24mm diameter</li> <li>(3) 30mm diameter</li> <li>(4) 26mm diameter</li> </ul> </li> </ul>		(3) inversely proportional to the cube of its dep	oth		
<ul> <li>Lapped splices in tensile reinforcement are generally not used for bars of size larger than</li> <li>(1) 18mm diameter</li> <li>(2) 24mm diameter</li> <li>(3) 30mm diameter</li> <li>(4) 26mm diameter</li> </ul>	44	(4) directly proportional to the cube of its lengt	h	a, a, y, bl	
(1) romin diameter (2) 24 min diameter	41	Lapped splices in tensile reinforcement are ge	nerally not used for bars of size lan	ger man	
		(1) Tomm diameter (2) 24mm diameter (3) 30mm diameter			

40	The quantity of each measury work is calculated by the relation			
42	(1) Span of arch X broadth of well X thickness of arch			
	(1) Span of arch X breadth of wall X thickness of arch			
	(2) Mean length of arch X breadth of wall X thickness of arch			
	(3) (Span of arch + 2 X breadth of wall) X thickness of arch			
	(4) Outer length of arch X breadth of wall – thickness of arch			
43	The railway station at which a track line meets a main line is called			
	(1) Way side station (2) Junction station			
	(3) Terminal station (4) Flag station			
44	The individual variation between test strength of sample should not be more than			
	(1) + 5% of average $(2) + 10%$ of average			
	$(2) \pm 10\%$ of average $(2) \pm 10\%$ of average $(4) + 20\%$ of average			
45	ABCD is a rectangular plot of land. If the bearing of the side AB is 750, the bearing of DC is			
73	(1) $75^{\circ}$ (2) $255^{\circ}$ (3) $105^{\circ}$ (4) $285^{\circ}$			
46	$(1) 75 \qquad (2) 255 \qquad (3) 105 \qquad (4) 265$			
40	1% of voids in a concrete mix would reduce its strength by about			
	(1) 5% (2) 10% (3) 15% (4) 20%			
47	Softening point of bitumen to be used for road construction at a place where maximum			
	temperature is 40° C should be			
	(1) less than $40^{\circ}$ C (2) greater than $40^{\circ}$ C (3) equal to $40^{\circ}$ C (4) None of the above			
48	For walls, columns and vertical faces of all structural members, the form work is generally			
	removed after			
	(1) 24 to 48 hours (2) 3 days (3) 7 days (4) 14 days			
49	Whenever an activity has zero total float, then			
	(1) free float of the activity must be zero but independent float need not be zero			
	(2) independent float must be zero but free float need not be zero			
	(2) free fleat and independent fleat both must be zero			
	(3) free float and independent float both must be zero			
50	(4) nee noat and independent noat both need not be zero			
50	In a slab, the pitch of the main reinforcement should not exceed its effective depth			
	(1) three times (2) four times (3) five times (4) two times			
51	In brick masonry the frog of the brick is generally kept on			
	(1) Top face (2) Bottom face (3) Exposed face (4) Interior face			
52	The gradual exhaustion of the usefulness of a property is known as			
	(1) Devaluation (2) Revaluation (3) Depreciation (4) Appreciation			
53	The discharge of a liquid of kinematic viscosity 4 cm2/sec through a 8cm diameter pipe is			
	3200 $\pi$ cm3/sec. The type of flow expected is			
	(1) laminar flow (2) transition flow			
	(3) turbulent flow (4) not predictable from the given data			
54	A vertical triangular area with vertex downward and altitude 'h' has its base lying on the free			
	surface of a liquid. The centre of pressure below the free surface is at a distance			
	(1) $h/4$ (2) $h/3$ (3) $h/2$ (4) $2h/3$			
55	The different between the most probable value of a quantity and its observed value is			
	(1) true error (2) weighted observation (3) conditional error (4) residual error			
56	The shear strength of a soil			
50	(1) increases with an increases in the normal stress			
	(1) increase with an increase in the normal stress			
	(2) is proportional to the correspondence of the solition $(2)$ is generally known as the strength of the solition			
	(3) IS generally known as the strength of the soli			
	(4) All of the above			
57	The point of contratiexure is a point where			
	(1) shear force changes sign (2) bending moment changes sign			
	(3) shear force is maximum (4) bending moment is maximum			
58	For any steel pipe work, important dimension is			
	(1) Length (2) Diameter (3) Gauge (4) All of the above			
59	The workability of concrete is defined as the			
	(1) ease with which it can be mixed, transported and placed in position in a homogeneous state			
	(2) breaking up of cohesion in a mass of concrete			
	(3) separation of water or water-cement mixture from the freshly mixed concrete			
	(4) none of the above			
60	A hydroelectric scheme operating under a head of 80m will be classified as			
	(1) low head scheme (2) medium head scheme			
1				

61	In a simply supported slab the minimum spacing of distribution reinforcement should be four			
	times the effective thickness of the slab or			
	(1) 20 cm (2) 30 cm	(3) 40 cm	(4) 60 cm	
62	The reception signal is			
	(i) outer signal			
	(II) nome signal			
	(III) Starter			
	(IV) advanced stanter			
	(1) (i) and (ii) (2) (ii) and (iii)	(3) (iii) and (iv)	$(\Lambda)$ (i) and (ivd)	
63	Contours of different elevations may	cross each other only		
05	(1) an over hanging cliff $(2)$ a v	ertical cliff (3) a sa	addle (4) an inclined plane	
64	Two like parallel forces are acting a	t a distance of 24mm a	part and their resultant is 20N. If	
•	the line of action of the resultant is 6mm from any given force, the two forces are			
	(1) 15 N and 5 N (2) 20 N and 5	5 N (3) 15 N and 1	5 N (4) none of these	
65	The shear strength of a soil in the pl	astic limit state is		
	(1) Zero (2) Re	easonable		
	(3) Small (4) Cl	ose to saturated soil str	ength	
66	For class A Airport the difference of	reduced levels of high	er and lower edges of the control	
	surface is	··· ==		
	(1) 25 m (2) 50 m	(3) 75m	(4) 100m	
67	In general brittle materials have ade	quate resistance to		
	(1) Compression (2) Bei	nding (3) Ten	sion (4) Impacts	
68	Creep of rails is measured by		have (4) Name of these	
60	(1) Creep Indicator (2) Fis	ning string (3) And	nors (4) None of these	
69	(1) time of concentration	(2) time of ove	rland flow	
	(1) time of concentration (3) concentration time of overland flo	(2) time of ove	the rainfall	
70	A brick masonry can fail due to			
10	(1) Crushing due to over loading	(2) Shearing a	long a horizontal plane	
	(3) Rupture along a vertical joint	(4) Any of the a	above	
71	Uniform flow is said to occur when			
	(1) size and shape of the cross-sect	ion in a particular lengtl	n remain constant	
	(2) size and shape of the cross-sect	ion change along a len	gth	
	(3) frictional loss in the particular length of the channel will be more than the drop in its			
	elevation			
70	(4) frictional loss in the particular len	igth of the channel will I	be loss than the drop in elevation	
72	The forces which do not meet at or	ie point and their lines	of action do not lie on the same	
	(1) contanar concurrent forces	(2) conlanar no	on-concurrent forces	
	(3) non-conlanar concurrent forces	(2) copianal fit		
73	Which of the following represents ha	ardest grade of bitumen	?	
	(1) 30/40 (2) 60/70	(3) 80/100	(4) 100/120	
74	The percentage of fine aggregate to	the combined aggrega	te (P) is obtained by the relation	
	(1) $P = X + Y \times 100$	(2) $P = X - Y \times 100$		
	$\overline{X + Z}$	$\overline{X-Z}$		
	(3) $P = X - Z \times 100$	(4) P = <u>Z – Y</u> x 100		
	Z-Y	X - Z		
75	The resultant of two forces P and Q	(such that P>Q) acting	along the same straight line, but	
	in opposite direction, is give by			
76	$\begin{array}{c} (1) P + Q \\ \hline \end{array} \qquad (2) P - Q \\ \hline \end{array}$	(3) F / Q	(4) Q / M	
01	(1) bar chart	(2) modified milectors	chart	
	(1) Dai Giait (3) critical nath method chart	(2) mouneu miestone (4) all of these	i unal t	
77	Alum increases	לדן מוו טו נוובטב		
• •	(1) Hardness of water	(2) Carbonates in wate	er	
	(3) Sulphates in water	(4) Acidity of water		
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		

78	Which of the following is considered to be the highest quality construction in the group of			
	black top pavements?			
	(1) Mastic asphalt (2) Sheet asphalt			
	(3) Bituminous carpet (4) Bituminous concrete			
79	A beam of rectangular cross-section is 100mm wide and 200mm deep. If the section is			
	subjected to a shear force of 20 kN, then the maximum shear stress in the section is			
	(1) 1 N/MM <sup>-</sup> (2) 1.125 N/MM <sup>-</sup> (3) 1.33 N/MM <sup>-</sup> (4) 1.5 N/MM <sup>-</sup>			
80	Administrative nead of public works department who is directly responsible to government is			
	(1) S.D.O. (2) Executive engineer (1) S.D.O. (2) Executive engineer			
01	(3) Super in tending engineer (4) Chief engineer			
81	The bulk density of a soil can be defined as			
	(1) Fallo of the weight of the solids to the volume of the solids			
	<ul> <li>(2) Unit weight of coll under saturated condition</li> </ul>			
	(4) Batio of the unit weight of soil to that of water			
82	The camber of shoulders in water bound macadam roads is			
02	(1) equal to the cross slope of pavement			
	(2) less than the cross slope of pavement			
	(3) greater than the cross slope of pavement			
	(4) zero			
83	Maximum percentage reinforcement in case of slabs is limited to			
	(1) 2 (2) 4 (3) 6 (4) 8			
84	A negative declination shows that the magnetic meridian is to the			
	(1) eastern side of the true meridian (2) western side of the true meridian			
	(3) southern side of the true meridian (4) None of the above			
85	Size of a theodolite is specified by			
	(1) the length of telescope (2) the diameter of vertical circle			
	(3) the diameter of lower plate (4) the diameter of upper plate			
86	If the body falls freely under gravity, then the gravitational acceleration is taken as			
07	(1) + 80.9  m/s2 $(2) - 80.9  m/s2$ $(3) + 9.8  m/s2$ $(4) - 9.8  m/s2$			
87	The slope of the line joining the crown and edge of the road surface is known as			
00	(1) Cross fail (2) Cross-slope (3) Camber (4) Any of the above			
00	(1) $0.0075 \text{ mm}$ (2) $0.075 \text{ mm}$ (3) $0.75 \text{ mm}$ (4) $0.95 \text{ mm}$			
89	The life of lime concrete floor is taken as			
	(1) 100 years (2) 80 years (3) 60 years (4) 20 years			
90	The correction for sag is			
	(1) always additive (2) always subtractive			
	(3) always zero (4) sometimes additive and sometimes subtractive			
91	In order to obtain the best workability of concrete, the preferred shape of aggregate is			
	(1) rounded (2) elongated (3) angular (4) All of the above			
92	According to IS:456-2000, the maximum reinforcement in a column is			
	(1) 2% (2) 4% (3) 6% (4) 8%			
93	At vena contracta jet has the minimum area of cross-section and so the velocity of liquid at			
	this section will be (1) Minimum (2) Average (4) Zere			
04	(1) Minimum (2) Maximum (3) Average (4) Zero			
94	(1) when the permanent wilting point is reached			
	(2) when aravity drainage has ceased			
	(3) capillary fringe reached the root zone of plants			
	(4) None of the above			
95	Soundness test of cement determines			
	(1) quality of free lime (2) ultimate strength			
	(3) durability (4) initial setting			
96	The post-tender stage of construction consists of			
	(1) assessment of work			
	(2) finalisation of accounts			
	(3) assessment of expenditure during execution			
	(4) all of the above			

97	One kg ford	e is equal to			
	(1) 7.8N	(2) 8.9N	(3) 9.8N	(4) 12N	
98	For 5000 bricks in 1 : 2 cement mortar the cubic meters of sand required would be			e cubic meters of sand required would be	
	(1) 1.0	(2) 2.0	(3) 4.0	(4) 5.5	
99	Excess of silica in brick earth causes				
	(1) Loss of cohesion			(2) Impermeability	
	(3) Cracking and warping on drying		on drying	(4) Brittleness	
100	The under surface of a stair is called				
	(1) Waiste	(2) Soffit	(3) Ceiling	(4) None of the above	