Total Marks	100

CIVIL ENGINEER

(English Medium)

Category
A

QUESTION PAPER NO.

A 230281

SEAL SEAL SEAL SEAL SEAL SEAL

Seat No. of the Candidate

Block No. of the Candidate

Signature of the Candidate

Signature of the Block Supervisor

Important Instructions for Candidates	
(1)	Please do not open the question booklet until you are told to do so.
(2)	During examination, if a candidate is found having any literature guide, guide, piece of paper, handwritten or printed paper, mobile phone, calculator, spy camera, headphone or any other equipments then the candidate will be considered as disqualified.
(3)	During the examination if candidates are found conversing with each other, making noise or not following supervisor's instructions then they will be considered as disqualified.
(4)	After receiving question paper please write your seat number in **OMR SHEET** at the correct given place.
(5)	Please do not write your seat number at any other place than the allotted one in the **OMR SHEET** and if any sign of your identity or recognition is found then you will be considered totally disqualified for the examination.
(6)	Signatures of both the supervisor and the candidate in the certificate of **OMR SHEET** are compulsory without which **OMR SHEET** will not be evaluated, so it is compulsory for the candidate to get signature of the supervisor.
(7)	Candidates can use blue/black ball pen. They cannot use pens or pencils of any other colour and also whitener.
(8)	No marks should be made on any of the options in the question paper.
(9)	There are total 100 questions in this question paper. There is only one answer to each question from the options A, B, C and D. Four options are given for each question. All the questions are compulsory. Example: What is the capital of Gujarat? (A) Ahmedabad (B) Gandhinagar (C) Vadnagar (D) Patan Here, if option (B) Gandhinagar is correct then option (B) in the **OMR SHEET** will have to be darkened with pen. Ⓐ● ⓒⒹ
(10)	One(1) mark is allotted to each correct answer. For each wrong answer 0.30 marks will be deducted. If a candidate does not want to answer any question then he/she will have to select option E. Negative marking will not be applicable for option E.
(11)	Cross marked answers, answers given on more than one option and answers re-marked after use of blade, eraser or whitener will be given **Negative 0.30 marks.**
(12)	Please hand over the **OMR SHEET** to the block supervisor after completion of examination before leaving the classroom. Any candidate failing to do so will be considered as disqualified for the examination.
(13)	Maximum time allotted for the examination is 90 minutes.
(14)	Most appropriate option will be considered as answer of the question.

(1) Correct match of Column I (types of stones) with Column II (types of work for which they are used) is

	Column I		Column II
P.	Marble	1.	damp-proofing, flooring, roofing, etc.
Q.	Slate	2.	Fire resistant masonry
R.	Limestone	3.	ornamental work, flooring, etc.
S.	Compact sandstone	4.	raw material for cement

(A) P-4, Q-1, R-2, S-3 (B) P-1, Q-4, R-2, S-3
(C) P-3, Q-1, R-4, S-2 (D) P-2, Q-1, R-4, S-3

(2) Correct match of Column I (types of bricks) with Column II (properties or use) is

	Column I		Column II
P.	Ground-moulded bricks	1.	Also called stock bricks
Q.	Table-moulded bricks	2.	Irregular dimensions
R.	Machine-moulded bricks	3.	Used for decorative works
S.	Pressed bricks	4.	Also called wire-cut bricks

(A) P-4, Q-1, R-2, S-3 (B) P-1, Q-4, R-2, S-3
(C) P-3, Q-1, R-4, S-2 (D) P-2, Q-1, R-4, S-3

(3) The total percentage of dicalcium silicate and tricalcium silicate in all types of Portland cement is around
(A) 50% (B) 60% (C) 70% (D) 90%

(4) Correct match of Column I (types of cement) with Column II (properties or preparation) is

	Column I		Column II
P.	Portland pozzolana cement	1.	Ordinary Portland cement with less than 5% tricalcium aluminate
Q.	Sulphate-resisting Portland cement	2.	Contains 25 to 60% slag which offers good sulphate resistance
R.	Portland slag cement	3.	Grinding the clinkers with oleic acid
S.	Hydrophobic cement	4.	Requires longer curing time than Ordinary Portland cement

(A) P-4, Q-1, R-2, S-3 (B) P-1, Q-4, R-2, S-3
(C) P-3, Q-1, R-4, S-2 (D) P-2, Q-1, R-4, S-3

(5) In Vicat's apparatus, the cross-sectional area of needle used is_____, and time to penetrate _____ is used to measure initial setting time of cement.
(A) 1 mm^2, 33-35 mm (B) 10 mm^2, 20-25 mm
(C) 1 mm^2, 0.5 mm (D) 5 mm^2, 5 mm

(6) Normally the tensile strength of glass varies between
(A) 28 kg/cm^2 to 56 kg/cm^2 (B) 280 kg/cm^2 to 560 kg/cm^2
(C) 2800 kg/cm^2 to 5600 kg/cm^2 (D) 28000 kg/cm^2 to 56000 kg/cm^2

(7) Most of the stones possess the specific gravity in the range of
(A) 1.0 to 1.5
(B) 1.5 to 2.0
(C) 2.4 to 2.8
(D) 3.0 to 4.0

(8) Following is not the process involved in the fabrication of articles of plastic
(A) Laminating
(B) Blowing
(C) Calendering
(D) Tempering

(9) Ultimate strength to cement is provided by
(A) Tri-calcium silicate
(B) Di-calcium silicate
(C) Tri-calcium aluminate
(D) Tetra calcium alumino ferrite

(10) The expansion and shrinkage of plywoods are comparatively very low as
(A) they are held in position by adhesives
(B) they are glued under pressure
(C) plies are placed at right angles to each other
(D) they are prepared from veneers

(11) Complimentary shear stresses are the shear stresses acting on a set of planes which are
(A) having zero normal stress
(B) having maximum normal stress
(C) at an angle of 45° to each other
(D) orthogonal to each other

(12) A rod of length L and uniform cross-section area A is rigidly fixed at its top and is hanging. At any section which is at a distance x from the lower end, the stress due to its self-weight is proportional to
(A) x^2
(B) $1/x$
(C) x
(D) $1/x^2$

(13) A plate 100 mm wide, 10 mm thick is having a hole of diameter 10 mm symmetrical about the axis of the plate. The plate is subjected to a force of 9 kN. The maximum stress on a section passing through centre of the hole will be
(A) 10 N/mm^2
(B) >10 N/mm^2
(C) < 9 N/mm^2
(D) 9 N/mm^2

(14) A rectangular section 100 mm × 200 mm is subjected to moment of 20 kNm. The maximum bending stress is
(A) 30 N/mm^2
(B) 576 N/mm^2
(C) 10000 N/mm^2
(D) 300 N/mm^2

(15) A cantilever AB is subjected to a concentrated load at the free end. The slope and deflection at the free end are $WL^2/2$ EI and $WL^3/3$ EI. If the same load is applied at mid-span point, the deflection at the free end will be
(A) 5 $WL^3/384$ EI
(B) 5 $WL^3/48$ EI
(C) $WL^3/6$ EI
(D) $WL^3/16$ EI

(16) When a shaft of diameter d is subjected to a bending moment M and torque T, the equivalent B. M. is given by

(A) $\frac{M+\sqrt{M^2+T^2}}{2}$ (B) $\frac{M-\sqrt{M^2+T^2}}{2}$

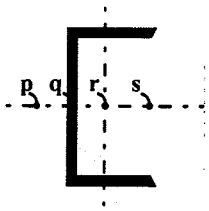
(C) $\frac{16}{\pi d^3}M+\sqrt{M^2+T^2}$ (D) $\frac{32}{\pi d^4}M+\sqrt{M^2+T^2}$

(17) A pull of 20 t is suddenly applied to a rod of cross-sectional area 40 cm^2. The stress produced in the rod is equal to

(A) 0.5 t/cm^2 (B) 1.0 t/cm^2 (C) 2.0 t/cm^2 (D) 4 t/cm^2

(18) The location of shear centre of the channel section shown below is

(A) p (B) q (C) r (D) s



(19) Section modulus of Hollow Circular Section having external Dia. (D) and internal Dia. (d) is

(A) $\pi (D-d)^4 /32$ (B) $\pi (D^4-d^4)/36D$

(C) $\pi (D^4-d^4)/32D$ (D) $\pi (D-d)^4 /36$

(20) A mild steel bar is in two parts having equal length. The area of cross-section of part-1 is double that of part-2. If the bar carries an axial load P, then the ratio of elongation in part-1 to that in part-2 will be

(A) 2 (B) 4 (C) $\frac{1}{2}$ (D) $\frac{1}{4}$

(21) Choose the correct option classifying the following structure.

(A) Indeterminate to 1st degree (B) Indeterminate to 2nd degree

(C) Determinate (D) Unstable

(22) Moment area method is best suitable for finding

(A) Slope & deflection of cantilever beam (B) Slope & deflection of continuous beam

(C) Deflection of simply supported beam (D) Slope of fixed beam

(23) Slope deflection method is suitable for analysis of

(A) Continuous beam (B) Simply supported beam

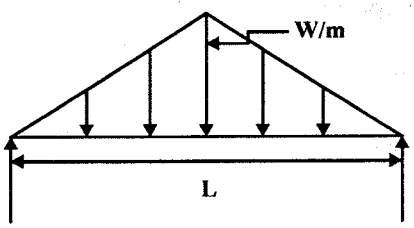
(C) Fixed beam (D) Cantilever beam

(24) Modulus of elasticity (E) is defined in terms of bulk modulus (K) and Poisson's ratio (1/m) as

(A) $3K\ (1+\frac{2}{m})$ (B) $3K\ (1-\frac{1}{m})$

(C) $3K\ (1-\frac{2}{m})$ (D) $3K\ (1-\frac{m}{2})$

(25) For the beam of span L, carrying UVL as shown in figure, the maximum bending moment is

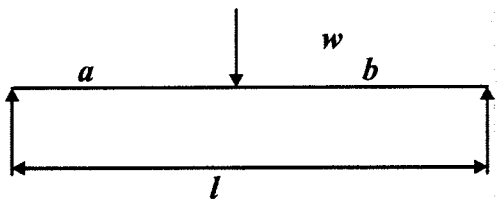


(A) $\frac{WL^2}{8}$ (B) $\frac{WL^2}{12}$ (C) $\frac{WL^2}{10}$ (D) $\frac{WL^2}{4}$

(26) For a cantilever beam of span *L* carrying uniformly distributed load, *W* on its entire span, the maximum bending moment is _____

(A) $\frac{WL^2}{2}$ (B) $\frac{WL}{2}$ (C) $\frac{WL^2}{4}$ (D) $\frac{WL^2}{8}$

(27) What is maximum bending moment for beam shown in figure?



(A) $\frac{wba^2}{l^2}$ (B) $\frac{wab^2}{l}$ (C) $\frac{wab^2}{l^2}$ (D) $\frac{wa^2b^2}{l^2}$

(28) The equation of pure bending in usual notation is

(A) $\frac{M}{R}=\frac{E}{y}=\frac{f}{I}$ (B) $\frac{M}{y}=\frac{E}{I}=\frac{f}{R}$

(C) $\frac{M}{I}=\frac{E}{R}=\frac{f}{y}$ (D) $\frac{M}{R}=\frac{E}{I}=\frac{f}{y}$

(29) For rectangular section of simply supported beam the maximum shear stress (T_{max}) is.....times average shear stress (T_{avg}).

(A) 1.3 (B) 1.0

(C) 1.5 (D) 2.0

(30) Two beams, one having a square cross-section and another having a circular cross-section, are subjected to the same amount of bending moment. If the cross-sectional area as well as the material of both the beams are same then

(A) Maximum bending stress developed in both the beams is the same

(B) The circular beam experiences more bending stress than the square one

(C) The square beam experiences more bending stress than the circular one

(D) Both the beams will experience the same deformation

(31) A rectangular section has dimensions of 10 cm x 20 cm. The ratio of the moment of inertia about x-axis passing through its centroid to the moment of inertia about y-axis passing through its centroid is equal to

(A) 8 (B) 4 (C) 6 (D) 2

(32) Arrange the following sections in increasing torsional stiffness :

1. Open ring section
2. Close ring section
3. L-section
4. Circular disk section

(A) 1, 2, 3, 4 (B) 3, 1, 2, 4

(C) 3, 2, 1, 4 (D) 4, 3, 1, 2

(33) State true or false:

1. Any two orthogonal surfaces are sufficient to completely specify the principal stresses for a biaxial state of stress.
2. Only one surface is required to specify the maximum shear stress completely.

(A) 1 is true but 2 is false (B) 1 is false, but 2 is true

(C) Both 1 and 2 are true (D) both 1 and 2 are false

(34) Statistically indeterminate beam can be solved by :

1. Displacement method
2. Energy Method
3. Matrix Method
4. Four moment equation Method

(A) 1 and 2 (B) 2 and 3

(C) 1, 2 and 3 (D) 1, 2, 3 and 4

(35) Structures having more reactions than that required for necessary and sufficient conditions are

1. Hyperstatic
2. Determinate
3. Indeterminate
4. Hypostatic

(A) Only 1 (B) 1 and 3 (C) Only 2 (D) 2 and 4

(36) Maximum deflection at mid-span of a simply supported beam with UDL is

(A) $WL^3 / 48EI$ (B) $5WL^3 / 48EI$

(C) $5WL^4 / 384EI$ (D) $5WL^4 / 48EI$

(37) Matrix stiffness method

1. Forms the basis for computerization
2. Yields the displacements and forces in one go
3. Can be used to analyse both determinate and indeterminate structure

(A) 1 and 2 (B) 1 and 3

(C) 2 and 3 (D) 1, 2 and 3

(38) Ratio of plastic moment to yield moment is known as

(A) Moment co-efficient (B) Shape factor

(C) Plastic modulus (D) Poisson ratio

(39) What is the value of Maximum effective slenderness ratio (KL/r) for a compression flange of beam against lateral torsional buckling?

(A) 180 (B) 250 (C) 300 (D) 350

(40) What is the value of Maximum effective slenderness ratio (KL/r) for a member carrying compression loads resulting from dead loads and imposed loads only?

(A) 180 (B) 250 (C) 300 (D) 350

(41) What is the Buckling class for hollow cold formed Sections as per IS: 800-2007?

(A) Buckling Class a

(B) Buckling Class b

(C) Buckling Class c

(D) Buckling Class d

(42) What will be effective length of prismatic compression member having unsupported length 'L' if one end is restrained for translation and rotation and other end is free for translation and rotation?

(A) 0.65L (B) 1.0L (C) 0.8L (D) 2.0L

(43) For hot rolled steel section design of beams, as per Indian Standard code a laterally supported beam means.

(A) Web is restrained

(B) Compression flange is restrained

(C) Tension flange is restrained

(D) Web thickness is more than 10mm

(44) In case of rolled steel beam, shear force is mainly resisted by _____.

(A) Web (B) Flange

(C) Web and flange (D) Weld

(45) In case of staggered pitch, pitch may be _____ of values specified for not staggered pitch.

(A) Increased by 20%

(B) increased by 50%

(C) Decreased by 20%

(D) decreased by 50%

(46) For a tension member, the design shear capacity of bolts carrying shear through packing plate in excess of 6 mm shall be decreased by a factor of (Note: t_{pk} is the thickness of the thicker packing plate)
(A) 1-0.125 t_{pk}
(B) 1-0.0125 t_{pk}
(C) 1-0.250 t_{pk}
(D) 1-0.0250 t_{pk}

(47) If the effective length of a prismatic compression member is 0.8 L, then the support conditions should be (Note: L is the unsupported length)
(A) At one end both rotation and translation is restrained, whereas at the other end translation is restrained, but the rotation is free
(B) At both ends both translation and rotation are restrained
(C) At both ends translations are restrained but rotations are free
(D) At one end translation is restrained while at the other end rotation is restrained

(48) As per IS: 800 in the case of a plate girder with vertical and horizontal stiffeners, the greater and lesser unsupported clear dimension of a web panel in term of web thickness t_w should not exceed respectively
(A) 180 t_w and 85 t_w
(B) 270 t_w and 180 t_w
(C) 270 t_w and 200 t_w
(D) 400 t_w and 250 t_w

(49) The collapse load for a propped cantilever of span I subjected to uniformly distributed load is
(A) 0.414 M_p/I (B) 0.586 M_p/I
(C) 7.67 M_p/I (D) 11.656 M_p/I

(50) A butt weld is specified by
(A) effective throat thickness (B) plate thickness
(C) size of weld (D) penetration thickness

(51) Bolts are most suitable to carry
(A) shear (B) bending
(C) axial tension (D) shear and bending

(52) Minimum percentage of steel reinforcement for HYSD bars in walls, slabs and roofs of water retaining concrete structure as specified by Indian Standards is
(A) 0.2% (B) 0.24% (C) 0.40% (D) 0.12%

(53) Maximum width of crack in RC water retaining structures is restricted to _____.
(A) 0.05 mm (B) 0.30 mm
(C) 0.01 mm (D) 0.20 mm

(54) Storey drift in any storey shall not exceed _____ times the storey height under the effect of design base shear applied as per IS 1893-2016.
(A) 0.004 (B) 0.002
(C) 0.008 (D) 0.001

(55) For simply supported prestressed concrete beam having uniformly distributed load on its entire span the pre stressing tendon has the maximum eccentricity at
(A) The supports
(B) The centre having maximum moment
(C) The quarter points
(D) The section having maximum shear

(56) As per IS:456 a concrete column may be considered as short when its slenderness ratio is less than
(A) 18 (B) 15 (C) 12 (D) 20

(57) The maximum percentage of tension reinforcement in beam shall not exceed _____ of cross sectional area as per IS: 456-2000.
(A) 0.15% (B) 2.00% (C) 4.00% (D) 0.12%

(58) The minimum percentage of steel reinforcement to be provided in design of reinforced concrete slab in terms of cross sectional area is (#)
(A) 0.20% (B) 0.15% (C) 0.12% (D) 0.25%

(59) Design of column strip and middle strip is carried out separately for (#)
(A) Waffle slab (B) Ribbed slab
(C) Flat slab (D) Cantilever slab

(60) The tensile strength of concrete to be used in the design of reinforced concrete member is
(A) 0.2 f_{ck} (B) 0.1 f_{ck}
(C) 0.7 $\sqrt{f_{ck}}$ (D) zero

(61) The modulus of elasticity $E = 5000\sqrt{f_{ck}}$ where f_{ck} is the characteristic compressive strength of concrete specified in IS:456-2000 is based on
(A) Tangent modulus (B) initial tangent modulus
(C) Secant modulus (D) chord modulus

(62) The lap length of a direct tension reinforcement bar in a R.C.C. beam should be more than
(A) 16 times the diameter of the bar
(B) 48 times the diameter of the bar
(C) Thrice the development length or 24 times the diameter of the bar
(D) Twice the development length or 30 times the diameter of the bar

(63) The minimum percentage of longitudinal reinforcement in R.C.C. column is
(A) 6 (B) 0.8
(C) 1.2 (D) 4

(64) If 'p' is the net upward pressure on a square footing of side 'b' for a square column of side 'a', the maximum bending moment is given by
(A) $pb^2 / 8$ (B) $pb(b - a)^2 / 8$
(C) $p.b.a^2 / 8$ (D) $p(b - a)^2 / 8$

(65) Two way shear in a R.C.C. footing is checked at a distance equal to _____ of the footing from the face of the column.
(A) one-fourth of the effective depth (B) one-half of the effective depth
(C) three-fourth of the effective depth (D) the effective depth

(66) As per IS 456:2000, minimum grade of concrete for plain concrete exposed to sea coast is
(A) M20 (B) M30 (C) M40 (D) M25

(67) Flexural strength (f_{cr} in N/mm^2) of concrete is computed by
(A) $5000\sqrt{f_{ck}}$ (B) $7000\sqrt{f_{ck}}$
(C) $0.7\sqrt{f_{ck}}$ (D) $0.5\sqrt{f_{ck}}$

(68) The fundamental natural period for vibration of steel frame building is
(A) $0.075h^{0.75}$ (B) $0.085h^{0.75}$
(C) $0.075h^{0.85}$ (D) $0.085h^{0.85}$

(69) Percentage of imposed load to be considered _____ in seismic weight consideration for Imposed uniformly distributed floor load above 3 kN/m^2
(A) 25 (B) 30
(C) 50 (D) 75

(70) As per IS 456:2000, the permissible limit for sulphates in water is
(A) 200 mg/l (B) 3000 mg/l
(C) 400 mg/l (D) 2000 mg/l

(71) Spacing of longitudinal bars measured along the periphery of the column shall not exceed
(A) 200 mm (B) 250 mm
(C) 300 mm (D) 350 mm

(72) The term 'characteristic load' means that value of load which has a ____ percent probability of not being exceeded during the life of the structure.
(A) 90 (B) 95
(C) 92 (D) 88

(73) For Columns, Maximum Pt % considering practical condition is ___ %.
(A) 4 (B) 5 (C) 6 (D) 6.5

(74) In case of columns area of longitudinal reinforcement shall be not less than
(A) 0.60% (B) 0.70%
(C) 0.80% (D) 1.00%

(75) The admixture of sand or silt to clay causes
(A) Decrease in liquid limit and increase in plasticity index
(B) Decrease in liquid limit and no change in plasticity index
(C) Decrease in both liquid limit and plasticity index
(D) Increase in both liquid limit and plasticity index

(76) According to IS classification system, the soils can be classified into
(A) 18 Groups (B) 15 Groups
(C) 3 Groups (D) 7 Groups

(77) The hydraulic head that would produce a quick condition in a sand stratum of thickness of 2 m, if G = 2.7 and e = 0.7, is
(A) 0.5 (B) 2
(C) 1 (D) 2.5

(78) Piping occurs when
(A) Effective stress is zero
(B) Flow is downwards
(C) Flow is upwards
(D) Flow is horizontal

(79) The quantity of seepage depends on which of the following statements?
1. The coefficient of permeability
2. The differential head across the flow path
3. The length of flow path
(A) 1 and 2 (B) 1, 2 and 3
(C) 1 and 3 (D) 2 and 3

(80) Two identically clay samples of the same size designated as A and B are subjected to consolidation under identical conditions. Drainage takes place through one face in sample A and through both the faces in sample B. 50% consolidation of sample A occurs in 10 minutes. The time required for 50 % consolidation to occur in sample B in minutes will be
(A) 40 (B) 10
(C) 5 (D) 2.5

(81) In an undrained triaxial compression test, the sample failed at a deviator stress of 200 kN/m^2 when the cell pressure was 100 kN/m^2 . The cohesion intercept in this case would be
(A) 200 kN/m^2 (B) 100 kN/m^2
(C) 300 kN/m^2 (D) 50 kN/m^2

(82) Group efficiency of a friction pile in a clay is
(A) Exactly 100% (B) Greater than 100%
(C) Less than 100% (D) Almost 100%

(83) Rankine's theory of earth pressure assumes that back of the wall is
(A) plane and smooth (B) plane and rough
(C) vertical and smooth (D) vertical and rough

(84) The safe bearing capacity of the soil is equal to
(A) Normal strength × Factor of safety
(B) Ultimate bearing power/Factor of safety
(C) Ultimate tensile strength/ Factor of safety
(D) Ultimate compressive strength/Factor of safety

(85) The consistency and flow resistance of bitumen can be determined from which of the following?
(A) Ductility test
(B) Penetration test
(C) Softening point
(D) Viscosity test

(86) When the water content in a soil at which just shear strength develops is called
(A) liquid limit
(B) plastic limit
(C) elastic limit
(D) shrinkage limit

(87) The smallest sieve size according to Indian standards is
(A) 0.0045 mm
(B) 0.045 mm
(C) 0.45 mm
(D) 0.154 mm

(88) When the plastic limit is equal to or greater than the liquid limit, then plasticity index is
(A) negative
(B) zero
(C) one
(D) more than one

(89) The contact pressure of flexible footing on non-cohesive soils is
(A) more in the centre than at the edges
(B) less in the centre than at the edges
(C) uniform throughout
(D) none of these

(90) The coefficient of active earth pressure for a loose sand having an angle internal friction of 30°, is
(A) 0.5
(B) 0.333
(C) 1
(D) 3

(91) The bearing capacity factors N_c, N_q and N_r are functions of
(A) Width and depth of footing
(B) Cohesion of soil
(C) Density of soil
(D) Angle of internal friction of soil

(92) The time factor corresponding to 25% degree of consolidation is given by
(A) $\pi/8$
(B) $\pi/16$
(C) $\pi/32$
(D) $\pi/64$

(93) Which of the following is practically impermeable?
(A) Gravel
(B) Sand mixture
(C) Coarse sand
(D) Clay

(94) A soil having particles of nearly the same size is known as
(A) well graded
(B) poorly graded
(C) uniformly graded
(D) gap graded

(95) Self-healing concrete is a product

(A) that will be self compacting after casting

(B) that will biologically produce limestone to heal cracks that appear on the surface of concrete structures

(C) that will conserve the moisture to prevent shrinkage cracks

(D) that will provide ductility to concrete when subjected to tension

(96) The process of generation and management of digital representations of physical and functional haracteristics of building which can be extracted, exchanged or networked to support decision-making regarding a building is called

(A) FEM (B) GIS

(C) BIM (D) BOT

(97) Extradosed bridges combine the characteristics of

(A) Suspension bridge with cantilever

(B) Cable-stayed bridges with conventional box girder bridges

(C) Suspension bridge with cable stayed bridge

(D) Girder bridge with tall towers connecting cables.

(98) Which of the following is not a property of high performance concrete?

(A) High early strength

(B) High abrasion resistant

(C) High modulus of elasticity

(D) High permeability

(99) The Indian navigation system similar to GPS of USA is called as

(A) BHUVAN (B) NAVIC

(C) GLONASS (D) Galileo

(100) A longest extradosed bridge in India is

(A) Narmada Bridge (B) Barapullah Bridge

(C) Indraprastha Bridge (D) Vivekanand Bridge

◆◆◆