

# Heartiest *Congratulations* To All Selected Candidates From **EverExam**



**Maneesh Kumar**  
**CPWD - 2018**



**Vaibhav Gupta**  
**CPWD - 2018**



**Mehefuz Hossain**  
**CPWD - 2018**



**Pooja Garg**  
**CWC - 2018**



**Gaurvendra Singh**  
**CWC - 2018**



**Kunal Panchal**  
**MES - 2018**



**Satyam Gupta**  
**BRO - 2018**



**Gaurav Pandey**  
**BRO - 2018**



**Rajbhadur Prajapati**  
**BRO - 2018**



**Suman Shankar**  
**BRO - 2018**

*Many More....*

## 60+ Selection In Civil **SSC JE 2018**



TELEGRAM CHANNEL **EVEREXAM TECH**

DOWNLOAD EVEREXAM APP





# SSC JE MAINS 2019

*Civil Engineering*

At Just

₹2999/-

Free  
8 Test Series  
Worth rps 799/-



**Starting 10 November**



**Validity : 4 Months**



Telegram Channel  
**EVEREXAM TECH**

DOWNLOAD  
EVEREXAM APP



[www.everexam.org](http://www.everexam.org)

**8595517959**

**Q : 1) The fixed end moment of a uniform beam of span  $l$  and fixed at the ends, subjected to a central point load  $P$  is**

**A:**  $\frac{Pl}{2}$

**B:**  $\frac{Pl}{8}$

**C:**  $\frac{P}{8}$

**D:**  $\frac{P}{16}$

**Q : 2) In a real beam, at an end, the boundary condition of zero slope and zero vertical displacement exists. In the corresponding conjugate beam, the boundary conditions at this end will be:**

**A: Shear forces = 0 and bending moment = 0**

**B: Slope = 0 and vertical displacement = 0**

**C: Slope = 0 and bending moment = 0**

**D: Shear force = 0 and vertical displacement = 0 n**

**Q : 3) The moments at the end 'A' and 'B' of a beam 'AB' where end A is fixed and B is hinged, when the end B sinks by an amount  $\Delta$  are given as-**

**$M_{AB}$**

**A:  $\frac{6EI\Delta}{l^2}$**

**B:  $\frac{6EI\Delta}{l^2}$**

**C:  $\frac{3EI\Delta}{l^2}$**

**D:  $\frac{3EI\Delta}{l^2}$**

**$M_{BA}$**

**$\frac{6EI\Delta}{l^2}$**

**0**

**$\frac{3EI\Delta}{l^2}$**

**0**

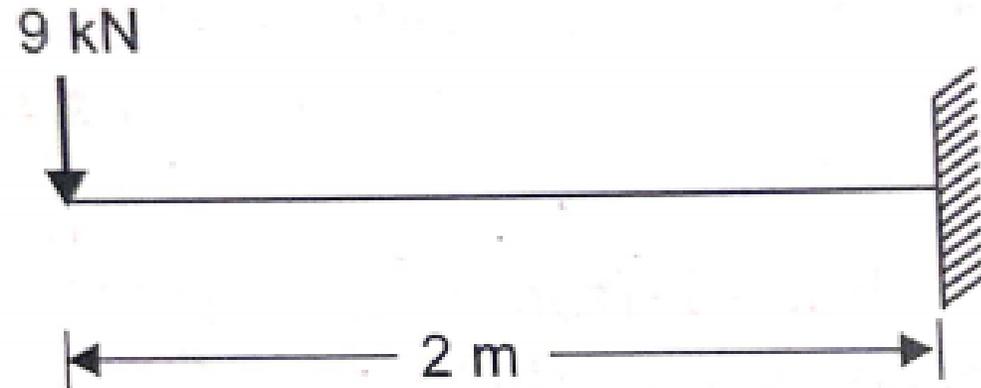
**Q : 4) A cantilever beam is shown in the figure. The moment to be applied at free end for zero vertical deflection at the point is**

**A: 9 kN-m clockwise**

**B: 9 kN-m anti-clockwise**

**C: 12 kN-m clockwise**

**D: 12 kN-m anti-clockwise**



**Q : 5) Consider the following statements:**

**I. On a principal plane, only normal stress acts.**

**II. On a principal plane, both normal and shear stresses act.**

**III. On a principal plane, only shear stress acts.**

**IV. Isotropic state of stress is independent of frame of reference.**

**The TRUE statements are**

**A: I and IV**

**B: II**

**C: II and IV**

**D: II and III**

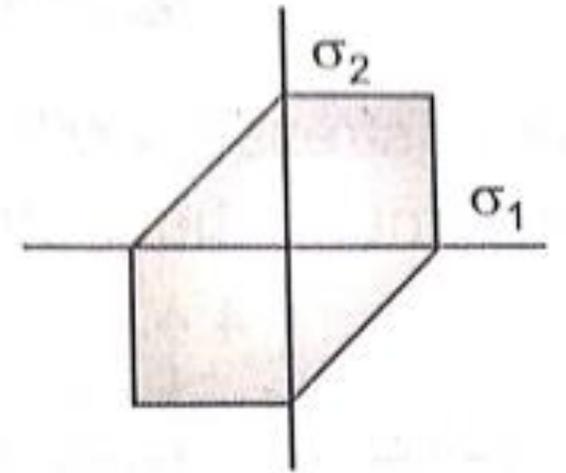
**Q : 6) A failure theory postulated for metals is shown in a two dimensional stress plane. The theory is called**

**A: Maximum distortion energy theory**

**B: Maximum normal stress theory**

**C: Maximum shearing stress theory**

**D: Maximum strain theory**



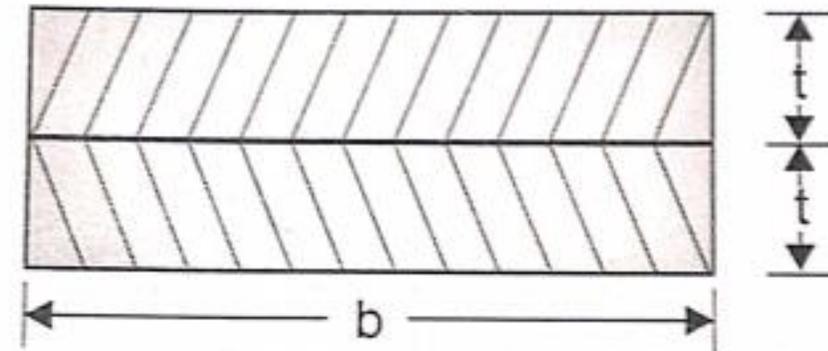
**Q : 7) Cross-section of a column consisting of two steel strips, each of thickness  $t$  and width  $b$  is shown in the figure below. The critical loads of the column with perfect bond and without bond between the strips are  $P$  and  $P_0$  respectively. The ratio  $P/P_0$  is**

**A: 2**

**B: 4**

**C: 6**

**D: 8**



**Q : 8) In a section, shear centre is a point through which, if the resultant load passes, the section will not be subjected to any**

**A: Bending**

**B: Tension**

**C: Compression**

**D: Torsion**

**Q : 9) For a given shear force across a symmetrical 'I' section the intensity of shear stress is maximum at the**

**A: Extreme fibres**

**B: Centroid of the section**

**C: At the junction of the web, but on the web**

**D: At the junction of the flange and the web, but on the flange.**

**Q : 10) A long shaft of diameter  $d$  is subjected to twisting moment  $T$  at its ends. The maximum normal stress acting at its cross-section is equal to**

**A: Zero**

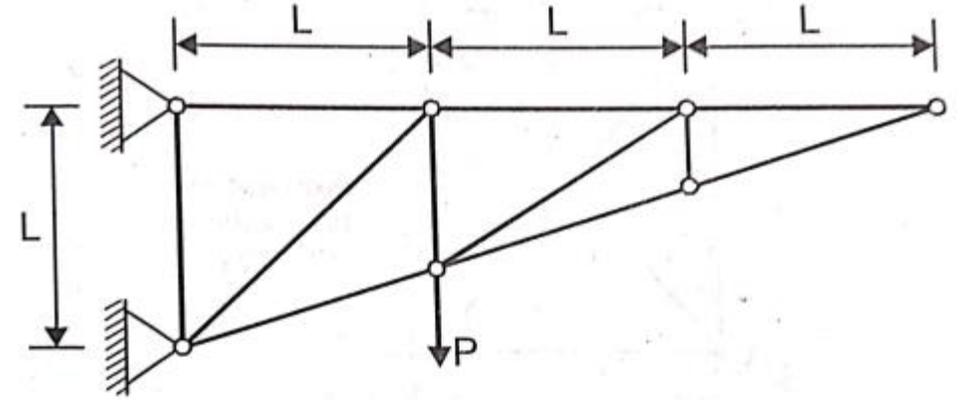
**B:  $\frac{16T}{\pi d^3}$**

**C:  $\frac{32T}{\pi d^3}$**

**D:  $\frac{64 T}{\pi d^3}$**

**Q : 11) Consider the planar truss shown in the figure (not drawn to the scale)**

**Neglecting self-weight of the Members, the number of zero-force member in the truss under the action of the load P, is**



**A: 8**

**B: 6**

**C: 9**

**D: 7**

**Q : 12) As per IS 456-2000 for the design of reinforced concrete beam, the maximum allowable shear stress ( $T_{C_{max}}$ ) depends on the**

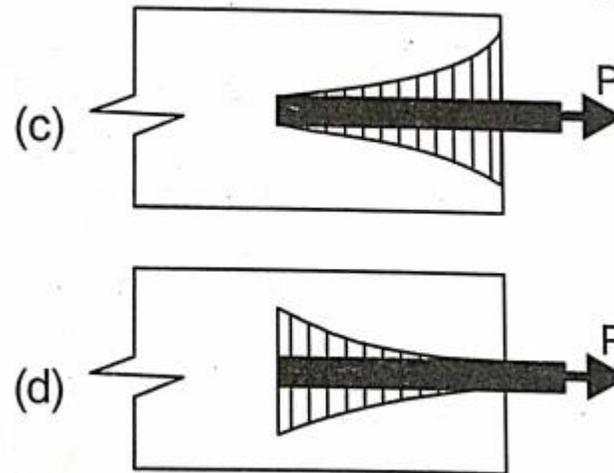
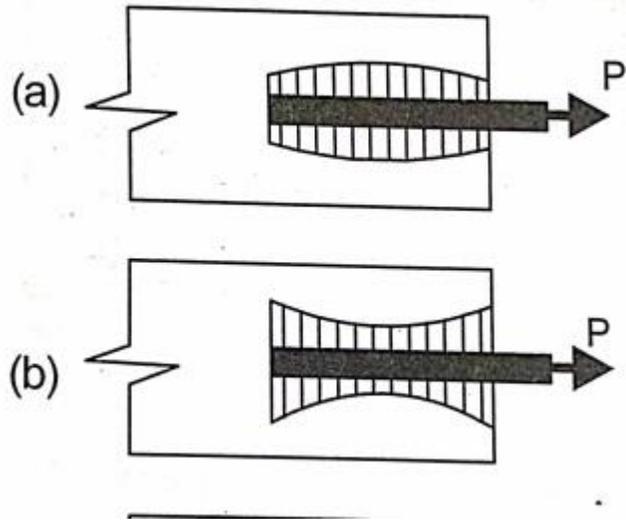
**A: Grade of concrete and grade of steel**

**B: Grade of concrete only**

**C: Grade if steel only**

**D: Grade of concrete and percentage of reinforcement**

**Q : 13) A reinforcing steel bar, partially embedded in concrete, is subjected to a tensile force  $P$ . The figure that appropriately represents the distribution of the magnitude of bond stress (represented as hatched region) along the embedded length of the bar, is**



**Q : 14) A structural member subjected to compression; has both translation and rotation restrained at one end, while only translation is restrained at the other end. As per IS 456:2000, the effective length factor recommended for design is**

**A: 0.50**

**B: 0.65**

**C: 0.70**

**D: 0.80**

**Q : 15) A steel section is subjected to a combination of shear and bending action. The applied shear force is  $V$  and shear capacity of the section is  $V_s$ . For such a section, high shear force (as per IS 800-2007) is defined as**

**A:  $V > 0.6 V_s$**

**B:  $V > 0.7 V_s$**

**C:  $V > 0.8 V_s$**

**D:  $V > 0.9 V_s$**

**Q : 16) As per IS: 800-1984, the maximum allowable slenderness ratio of compression members carrying forces resulting from dead load and superimposed load is**

**A: 180**

**B: 250**

**C: 300**

**D: 400**

**Q : 17) A steel beam supporting loads from the floors slab as well as from wall is termed as**

- A: Stringer beam**
- B: Lintel beam**
- C: Spandrel beam**
- D: Header beam**

**Q : 18) Which of the following elements of a pitched roof industrial steel building primarily resists lateral load parallel to the ridge?**

**A: Bracings**

**B: Purlins**

**C: Truss**

**D: Columns**

**Q : 19) As per IS 800:2007, the cross-section in which the extreme fibre can reach the yield stress, but cannot develop the plastic moment of resistance due to failure by local buckling is classified as**

**A: Plastic section**

**B: Compact section**

**C: Semi-compact section**

**D: Slender section**

**Q : 20) In the theory of plastic bending of beams, the ratio of plastic moment to yield moment is called**

**A: Shape factor**

**B: Plastic section of resilience**

**C: Modulus of resilience**

**D: Rigidity modulus**

**Q : 21) The shape of the cross-section, which has the largest shape factor, is**

**A: Rectangular**

**B: I-section**

**C: Diamond**

**D: Solid circular**

**Q : 22) Which one of the following statements is NOT correct?**

**A: When the water content of soil lies between its liquid limit and plastic limit, the soil is said to be in plastic state.**

**B: Boussinesq's theory is used for the analysis of stratified soil.**

**C: The inclination of stable slope in cohesive soil can be greater than its angle of internal friction.**

**D: For saturated dense fine sand after applying overburden correction, if the standard penetration test value exceeds 15, dilatancy correction is to be applied.**

**Q : 23) A borrow pit soil has a dry density of  $17 \text{ kN/m}^3$ . How many cubic meters of this soil will be required to construct an embankment of  $100 \text{ m}^3$  volume with a dry density of  $16 \text{ kN/m}^3$ .**

**A:  $94 \text{ m}^3$**

**B:  $106 \text{ m}^3$**

**C:  $100 \text{ m}^3$**

**D:  $90 \text{ m}^3$**

**Q : 24) The consistency of a saturated cohesive soil is affected by**

**A: Water content**

**B: Particle size distribution**

**C: Density index**

**D: Coefficient of permeability**

**Q : 25) The notation “SC” as per Indian standard soil classification system refers to**

**A: Clayey silt**

**B: Sandy clay**

**C: Clayey sand**

**D: Silty clay**

**Q : 26) The following two statements are made with respect to different sand samples having the same relative density. Identify if they are TRUE or FALSE.**

- I. Poorly graded sands will have lower friction angle than the well graded sands.**
- II. The particle size has no influence on the friction angle of sand.**

**A: II is TRUE but I is FALSE**

**B: Both are FALSE statements**

**C: Both are TRUE statements**

**D: I is TRUE but II is FALSE**

**Q : 27) A soil having particles of nearly the same size is known as**

**A: Well graded**

**B: Uniformly graded**

**C: Poorly graded**

**D: Gap graded**

**Q : 28) The range of void ratio between which quick sand condition occurs in cohesionless granular soil deposits is**

**A: 0.4 – 0.5**

**B: 0.6 – 0.7**

**C: 0.8 – 0.9**

**D: 1.0 – 1.1**

**Q : 29) To provide safety against piping failure, with a factor of safety of 5, what should be the maximum permissible exit gradient for soil with specific gravity of 2.5 and porosity of 0.35?**

**A: 0.155**

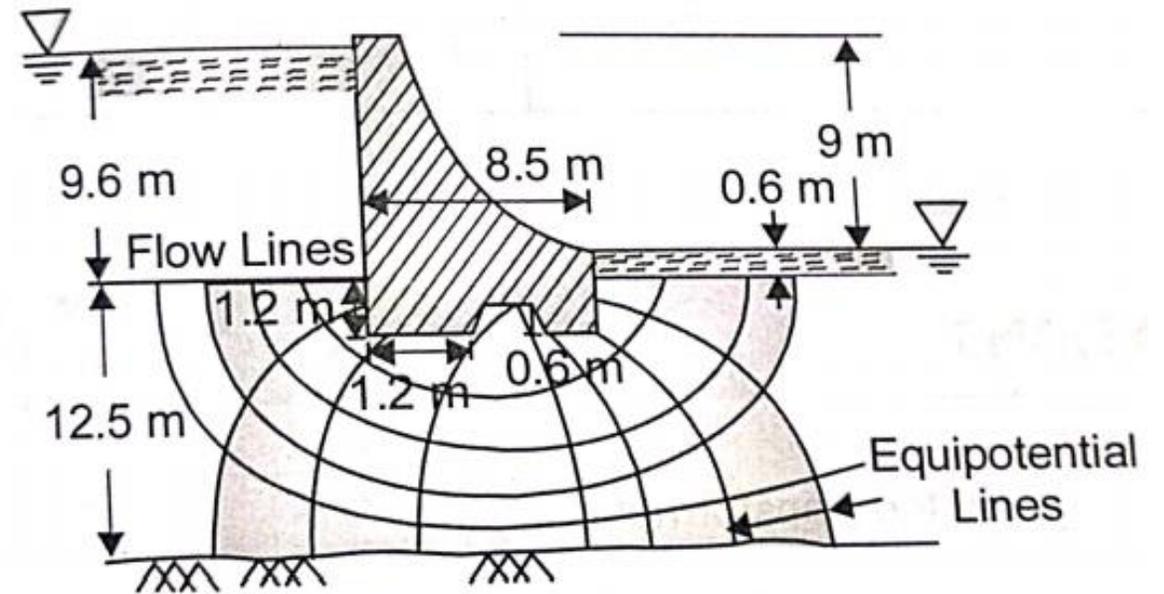
**B: 0.167**

**C: 0.195**

**D: 0.213**

**Q : 30) The proposed dam shown in the figure is 90 m long and the coefficient of permeability of the soil is 0.0013 mm/second. The quantity of water ( $m^3$ ) that will be lost per day by seepage is (rounded to the nearest number):**

- A: 55**
- B: 57**
- C: 59**
- D: 61**



**Q : 31) A clay soil sample is tested in a triaxial apparatus in consolidated-drained conditions at a cell pressure of  $100 \text{ kN/m}^2$ . What will be the pore water pressure at a deviator stress of  $40 \text{ kN/m}^2$ ?**

**A: 0**

**B:  $20 \text{ kN/m}^2$**

**C:  $40 \text{ kN/m}^2$**

**D:  $60 \text{ kN/m}^2$**

**Q : 32) Test is consolidated drained test so pure water pressure is always zero.**

| List-I           | List-II   |
|------------------|---|
| (A) Base failure | 1. Soils above and below the toe have same strength |
| (B) Face failure | 2. Soil above the toe is comparatively weaker       |
| (C) Toe failure  | 3. Soil above the toe is comparatively stronger     |

**Codes:**

**A: 1, 2, 3**

**B: 2, 3, 1**

**C: 2, 1, 3**

**D: 3, 2, 1**

**Q : 33) Surcharge loading required to be placed on the horizontal backfill of a smooth retaining vertical wall so as to completely eliminate tensile crack is**

**A:  $2c$**

**B:  $2cK_a$**

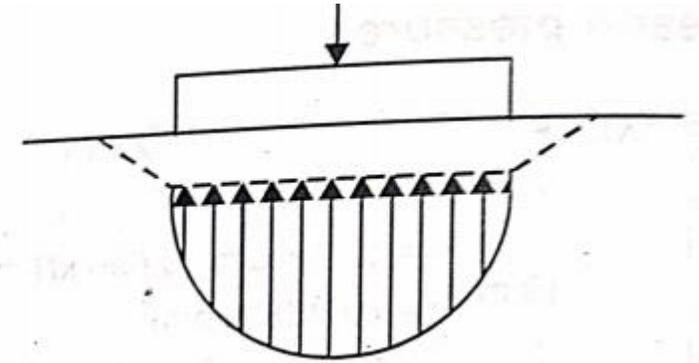
**C:  $2c\sqrt{K_a}$**

**D:  $2c/\sqrt{K_a}$**

**Q : 34) The contact pressure and settlement distribution for a footing are shown in the figure.**

**The figure corresponds to a**

- A: Rigid footing on granular soil**
- B: Flexible footing on granular soil clay**
- C: Flexible footing on saturated clay**
- D: Rigid footing on cohesive soil.**



**Q : 35) The reading of differential manometer of a venturimeter, placed at  $45^\circ$  to the horizontal is 11 cm. If the venturimeter is turned to horizontal position, the manometer reading will be**

**A: Zero**

**B:  $\frac{11}{\sqrt{2}}$  cm**

**C: 11 cm**

**D:  $11\sqrt{2}$**

**Q : 36) The relation that must hold good for the flow to be irrotational is**

**A:**  $\frac{\partial u}{\partial u} - \frac{\partial v}{\partial v} = 0$

**B:**  $\frac{\partial u}{\partial y} - \frac{\partial v}{\partial x}$

**C:**  $\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 v}{\partial y^2}$

**D:**  $\frac{\partial u}{\partial y} = - \frac{\partial v}{\partial x}$

**Q : 37) “Eddy viscosity” means that it is**

**A: A physical property of the fluid**

**B: Same as the kinematic viscosity**

**C: Always associated with laminar flow**

**D: An apparent viscosity due to turbulent nature of flow**

**Q : 38) For subcritical flow in an open channel, the control section for gradually varied flow profile is**

**A: At the downstream end**

**B: At the upstream end**

**C: At both upstream and downstream ends**

**D: At any intermediate section**

**Q : 39) An impulse turbine**

**A: Always operates submerged**

**B: Makes use of a draft tube**

**C: Operates by initial completed conversion of pressure energy to kinetic energy**

**D: Converts pressure head into velocity head throughout the vanes**

**Q : 40) Water turbines may be put in the decreasing order of specific speed as**

**A: Propeller turbine, Reaction turbine, Impulse turbine**

**B: Pelton turbine, Francis turbines, Kaplan turbine**

**C: Reaction turbine, Impulse turbine, Propeller turbine**

**D: None of the above**

**Q : 41) Isopleths are lines on a map through points having equal depth of**

**A: Rainfall**

**B: Infiltration**

**C: Evapotranspiration**

**D: Total runoff**

**Q: 42) An isochrones is a line on the basis map**

- A) Joining rain gauge stations having equal rainfall duration**
- B) Joining points having equal rainfall depth in a given time interval**
- C) Joining points having equal time travel of surface runoff to the catchment outlet**
- D) Joining points which are at equal distance from the catchment outlet**

**Q: 43) In a syphon aqueduct, the most severe condition of uplift on the floor occurs when**

- A) The canal and drainage run full**
- B) The canal runs full; the drainage channel is dry, and the water table is at the stream bed**
- C) The canal is dry, the drainage floor is at HFL, and the water table is at the HFL of the drainage flow**
- D) The canal runs full; and the drainage is dry**

**Q: 44) Biochemical oxygen demand (BOD) of wastewater is a measure of**

- A) Total concentration of biochemical**
- B) Total concentration of organic matter**
- C) Concentration of biodegradable organic matter**
- D) Concentration of chemically oxidizable matter**

**Q: 45) High COD to BOD ration of an organic pollutant represents**

- A) High biodegradability of the pollutant**
- B) Low biodegradability of the pollutant**
- C) Presence of free oxygen for aerobic decomposition**
- D) Presence of toxic material in the pollutant**

**Q: 46) A rapid test to indicate the intensity of pollution in river water is**

- A) Biochemical Oxygen Demand**
- B) Dissolved Oxygen**
- C) MPN**
- D) Total Dissolved Solids**

**Q: 47) A trickling filter is designed to remove**

- A) Settleable Solids**
- B) Colloidal Solids**
- C) Dissolved Organic Matter**
- D) None of the above**

**Q: 48) The unit in which both sedimentation and digestion processes of sludge take place simultaneously is**

- A) Skimming Tank**
- B) Imhoff Tank**
- C) Detritus Tank**
- D) Digestion Tank**

**Q : 49) According to BIS method of measurement, the order of the sequence is**

- (a) Length, breadth, height**
- (b) Breadth, length, height**
- (c) Height, length, breadth**
- (d) Length, height, breadth**

**Q : 50) Assertion (A) : Earnest money deposit is usually 1% to 2% of the total estimated cost of the work.**

**Reasoning (R) Earnest money deposit prevents unnecessary competition.**

- (a) Both (A) and (R) are true**
- (b) Both (A) and (R) are false**
- (c) (A) is true and (R) is false**
- (d) (A) is false and (R) is true**

**Q : 51) The technique of finding the fair price of an existing building or property is known as**

- (a) Pricing**
- (b) Estimating**
- (c) Costing**
- (d) Valuation**

**Q : 52) Match list-I with list-II and select the correct answer using code given below the two list in each question.**

| List-I   | List-II  |
|--|--|
| A. Valuation<br>B. Mortgage<br>C. Taxation<br>D. Specification | 1. Determining price of property<br>2. Charges levied on property<br>3. Security taken for giving load<br>4. Mode of describing nature and class of work |

**Codes:**

**A, B, C, D**

**(a) 1, 2, 3, 4**

**(b) 1, 3, 2, 4**

**(c) 4, 3, 2, 1**

**(d) 3, 4, 2, 1**

**Q : 53) While submitting a tender, the contractor is required to deposit some amount with the department, as guarantee of the tender, known as-**

- (a) Bank Guarantee**
- (b) S.D.**
- (c) EMD**
- (d) F.D**

**Q : 54) For calculating floor area, area of balcony is considered up to:**

- (a) 75%**
- (b) 100%**
- (c) 50%**
- (d) 25%**

**Q : 55) Unit of measurement of damp proof course (D.P.C.) is\_**

- (a) sq. m.**
- (b) Meters**
- (c) cub. m.**
- (d) cm**

**Q : 56) The measurement of brick work is not counted in cu.m if it is:**

- (a) Brick work in arches**
- (b) Reinforced brick work**
- (c) One or more than one brick wall**
- (d) Half brick wall**

**Q : 57) In building estimate, cornice are measured in**

- (a) Number (nos.)**
- (b) Square meter**
- (c) Running meter**
- (d) Cubic meter**

**Q : 58) The height of extra quantity of earth filled is known as**

- (a) settlement allowances**
- (b) additional settlement**
- (c) extra height allowances**
- (d) embankment allowances**

**Q : 59) Type of crane used in a congested area is**

- (a) Gantry cranes**
- (b) Climbing crane**
- (c) Tower crane**
- (d) Mast crane**

**Q : 60) Which of the following is best suited for the Compaction of concrete in rigid pavements?**

- (a) Formwork vibrator**
- (b) Screed board vibrator**
- (c) Needle vibrator**
- (d) Table vibrator**

**Q : 61) Which of the following it NOT a critical parameter to control cracking and rutting in a flexible pavement?**

- (a) Tensile strain near the surface close to the edge of the wheel**
- (b) Vertical sub-base strain**
- (c) Vertical subgrade strain**
- (d) Tensile strain at the bottom of bituminous layer**

**Q : 62) Deval attrition test is used to determine which of the following?**

- (a) aggregate abrasion value**
- (b) aggregate impact value**
- (c) aggregate roughness value**
- (d) aggregate crushing value**

**Q : 63) Artificial harbours are constructed by providing structures which extend from the land to the sea so as to create a calm area for the berthing of vessels. Such structures are known as**

- (a) Groin**
- (b) breakwater**
- (c) Jetty**
- (d) wharf**

**Q : 64) Which one out of four options below is NOT the purpose of vertical shaft in tunnel ?**

- (a) To make use of it as a quarry to obtains tones for masonry works.**
- (b) To pump out the water in case it is found during the construction of tunnel**
- (c) To speed up excavation from many working faces.**
- (d) To provide natural ventilation during and after the construction of tunnel.**



**Has Launched New Course**

# SSC JE PRE 2020



**At Just ₹2199 With Free 3000+ Question Practice Batch**



**TELEGRAM CHANNEL  
EVEREXAM TECH**

**DOWNLOAD  
EVEREXAM APP**



**www.everexam.org**

**8595517959**