

SSC Junior Engineers (JE) Exam - 2016 "held on 02 March 2017" Afternoon Shift

QID : 201 - For construction of structures under water, the type of lime used is _____.

Options:

- 1) hydraulic lime
- 2) fat lime
- 3) quick lime
- 4) pure lime

Correct Answer: hydraulic lime

QID : 202 - The compound of Portland cement which reacts immediately with water and also sets first is _____.

Options:

- 1) Tri-calcium silicate
- 2) Di-calcium silicate
- 3) Tri-calcium aluminate
- 4) Tetra calcium alumino ferrite

Correct Answer: Tri-calcium aluminate

QID : 203 - Rapid hardening cement attains early strength due to _____.

Options:

- 1) larger proportion of lime grounded finer than normal cement
- 2) lesser proportion of lime grounded coarser than normal cement
- 3) lesser proportion of lime grounded finer than normal cement
- 4) larger proportion of lime grounded coarser than normal cement

Correct Answer: larger proportion of lime grounded finer than normal cement

QID : 204 - The percentage of water for normal consistency is _____.

Options:

- 1) 5 % to 15%
- 2) 10% to 25%
- 3) 15% to 25%
- 4) 20% to 30%

Correct Answer: 15% to 25%

QID : 205 - Soundness test of cement determines _____.

Options:

- 1) quality of free lime
- 2) ultimate strength
- 3) durability
- 4) initial setting

Correct Answer: quality of free lime

QID : 206 - Bulking of sand is caused due to _____.

Options:

- 1) surface moisture
- 2) air voids
- 3) viscosity
- 4) clay contents

Correct Answer: surface moisture

QID : 207 - For a 50 kg cement bag, water required is _____.

Options:

- 1) 16.5 liters
- 2) 18.5 liters
- 3) 20.5 liters
- 4) 22.5 liters

Correct Answer: 22.5 liters

QID : 208 - Pick up the correct statement from the following Method of sawing timber _____.

Options:

- 1) tangentially to annual rings, is known as tangential

method

2) in four quarters such that each board cuts annual rings at angles not less than 45° , is known as quarter sawing method

3) cut out of quarter logs, parallel to the medullary rays and perpendicular to annual rings is known as radial sawing

4) All options are correct

Correct Answer: All options are correct

QID : 209 - For the manufacture of plywood, veneers are placed so that grains of adjacent veneers are _____.

Options:

1) at right angles

2) parallel

3) inclined at 45°

4) inclined at 60°

Correct Answer: at right angles

QID : 210 - The portion of the brick without a triangular corner equal to half the width and half the length is called _____.

Options:

1) closer

2) queen closer

3) king closer

4) squint brick

Correct Answer: king closer

QID : 211 - The height of the sink of wash basin above floor level is kept _____.

Options:

1) 60 cm

2) 70 cm

3) 75 cm to 80 cm

4) 80 cm

Correct Answer: 75 cm to 80 cm

QID : 212 - Pick up the correct statement from the following.

Options:

1) In order to check up the average depth of excavation, 'Dead mans' are left at the mid-widths of borrow pits

2) The earthwork calculation in excavation is made from the difference in levels obtained with a level

3) The earthwork done in excavation is to form the road embankment includes the formation of correct profiles and depositing the soil in layers

4) All options are correct

Correct Answer: All options are correct

QID : 213 - If the formation level of a highway has a uniform gradient for a particular length and the ground is also having a longitudinal slope, the earthwork may be calculated by _____.

Options:

1) Mid-section formula

2) Trapezoidal formula

3) Prismoidal formula

4) All options are correct

Correct Answer: All options are correct

QID : 214 - The area of a sloping surface of a protective embankment of mean height d , side slopes $S:1$ and length L is _____.

Options:

1) $d \times d \times s$

2) $\sqrt{[(d^2 \times (ds^2))]}$

3) $L \cdot D \sqrt{(1+s^2)}$

4) $2Ld \sqrt{(1+s^2)}$

Correct Answer: $L \cdot D \sqrt{(1+s^2)}$

QID : 215 - A cement concrete road is 1000 m long, 8 m wide and 15 cm thick over the sub-base of 10 cm thick gravel. The cubic content of concrete (1:2:4) for

the road specified in is _____.

Options:

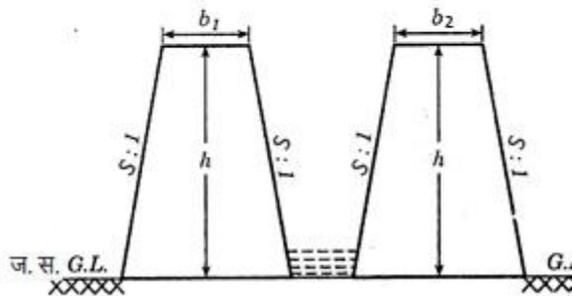
- 1) 300 m³
- 2) 600 m³
- 3) 900 m³
- 4) 1200 m³

Correct Answer: 1200 m³

QID : 216 -

The cross-sectional area of the embankment of a canal bankment, (refer the figure given below) is:-

किसी पूर्ण रूप से तटबंधित नहर के बांध का अनुप्रस्थ परिच्छेद क्षेत्रफल (नीचे दी गई आकृति का संदर्भ लें।)



Options:

- 1) $\frac{1}{2}(b_1+b_2)h$
- 2) $(b_1+b_2)h + S b_2$
- 3) $(b_1+b_2) + 2Sh^2$
- 4) $2[(b_1+b_2)(b+Sh)]$

Correct Answer: $(b_1+b_2) + 2Sh^2$

QID : 217 - The following item of earthwork is not measured separately _____.

Options:

- 1) Setting out of works
- 2) Site clearance
- 3) dead men
- 4) All options are correct

Correct Answer: All options are correct

QID : 218 - Pick up the incorrect statement from the following _____.

Options:

- 1) No deduction is made for the volume occupied by reinforcement
- 2) No deduction is made for the openings up to 0.1 sq.m
- 3) No deduction is made for volumes occupied by pipes, not exceeding 100 sq. cm in cross- section
- 4) None of the these

Correct Answer: None of the these

QID : 219 - While estimating a reinforced cement structure the omitted cover of concrete is assumed _____.

Options:

- 1) at the end of reinforcing bar, not less than 25 mm or twice the diameter of the bar
- 2) in thin slabs, 12 mm minimum or diameter of the bar whichever is more
- 3) for reinforcing longitudinal bar in a beam 25 mm minimum or diameter of the largest bar which is more
- 4) All options are correct

Correct Answer: All options are correct

QID : 220 - For 100 sq. m cement concrete (1:2:4) 4 cm thick floor, the quantity of cement required is _____.

Options:

- 1) 0.90 m³
- 2) 0.94 m³
- 3) 0.98 m³
- 4) 1.00 m³

Correct Answer: 0.94 m³

QID : 221 - If h is the difference in height between end points of a chain of length l the required slope correction is _____.

Options:

- 1) $h^2/(2l)$

2) $h/(2l)$

3) h^2/l

4) $h^2/(4l)$

Correct Answer: $h^2/(2l)$

QID : 222 - Correction per chain length of 100 links along a slope of α radians is _____.

Options:

1) $100 \alpha^2$

2) 100α

3) $100 \alpha^3$

4) $100 \alpha(-1)$

Correct Answer: 100α

QID : 223 - Check lines (or proof lines) in Chain Surveying are essentially required _____.

Options:

1) to plot the chain lines

2) to plot the offsets

3) to indicate the accuracy of the survey work

4) to increase the out-turn

Correct Answer: to indicate the accuracy of the survey work

QID : 224 - For taking offsets with an optical square on the right hand side of the chain line it is held _____.

Options:

1) by right hand upside down

2) by left hand upright

3) by right hand upright

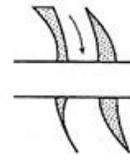
4) by left hand upside down

Correct Answer: by left hand upright

QID : 225 -

The conventional sign shown in the figure below represents a.

आकृति में दर्शाया गया परंपरागत चिह्न _____ को प्रदर्शित करता है।



Options:

1) road bridge

2) railway bridge

3) canal bridge

4) aquaduct

Correct Answer: road bridge

QID : 226 - In an adjusted level when the bubble is central, the axis of the bubble tube becomes parallel to _____.

Options:

1) line of sight

2) line of collimation

3) axis of the telescope

4) None of the these

Correct Answer: line of sight

QID : 227 - An internal focusing type surveying telescope may be focused by the movement of _____.

Options:

1) objective glass of the telescope

2) convex-lens in the telescope

3) concave lens in the telescope

4) plano-convex lens in the telescope

Correct Answer: concave lens in the telescope

QID : 228 - A dumpy level is set up with its eye-piece vertically over a peg A. The height from the top of peg A to the center of the eye-piece is 1.540 m and the reading on peg B is 0.705 m. The level is then setup over B. The height of the eye-piece above peg B is

1.490 m and a reading on A is 2.195 m. The difference in level between A and B is _____.

Options:

- 1) 2.900 m
- 2) 3.030 m
- 3) 0.770 m
- 4) 0.785 m

Correct Answer: 0.770 m

QID : 229 - The constant vertical distance between two adjacent contours is called _____.

Options:

- 1) horizontal interval
- 2) horizontal equivalent
- 3) vertical equivalent
- 4) contour interval

Correct Answer: contour interval

QID : 230 - The direction of steepest slope on a contour is _____.

Options:

- 1) along the contour
- 2) at an angle of 45° to the contour
- 3) at right angles to the contour
- 4) None of the these

Correct Answer: at right angles to the contour

QID : 231 - Geologic cycle for the formation of soil, is _____.

Options:

- 1) Upheaval → transportation → deposition → weathering
- 2) Weathering → upheaval → transportation → deposition
- 3) Transportation → upheaval → weathering → deposition
- 4) weathering → transportation → deposition → upheaval

Correct Answer: weathering → transportation → deposition → upheaval

QID : 232 - 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 temperatures ranging from _____.

Options:

- 1) 80° to 90° C
- 2) 90° to 95° C
- 3) 95° to 100° C
- 4) 105° to 110° C

Correct Answer: 105° to 110° C

QID : 233 - Fundamental relationship between dry density (γ_d), bulk density (γ) and water content (ω) is _____.

Options:

- 1) $\gamma = \gamma_d / (1 + \omega)$
- 2) $\gamma_d = \gamma / (1 + \omega)$
- 3) $\omega = \gamma / (1 + \gamma_d)$
- 4) $\omega = \gamma / (1 - \gamma_d)$

Correct Answer: $\gamma_d = \gamma / (1 + \omega)$

QID : 234 - Pick up the correct statement from the following _____.

Options:

- 1) The void ratio in soils is defined as the ratio of the volume of voids to the volume of solids
- 2) The porosity of a soil is defined as the ratio of the volume of voids to the gross volume of the soil
- 3) The bulk density of a soil is defined as the unit weight of the soil
- 4) All options are correct

Correct Answer: All options are correct

QID : 235 - Alcohol is used in manometer, because _____.

Options:

- 1) its vapor pressure is low
- 2) it provides suitable meniscus for the inclined tube

3) its density is less

4) it provides longer length for a given pressure difference

Correct Answer: its vapor pressure is low

QID : 236 - The property of fluid by virtue of which it offers resistance to shear is called _____.

Options:

1) surface tension

2) adhesion

3) cohesion

4) viscosity

Correct Answer: viscosity

QID : 237 - The unit of kinematic viscosity is _____.

Options:

1) m²/sec

2) kg-sec/m²

3) newton-sec/m²

4) newton-sec²/m

Correct Answer: m²/sec

QID : 238 - The total pressure on the surface of a vertical sluice gate 2m x 1m with its top 2 m surface being 0.5 m below the water level will be _____.

Options:

1) 500 kg

2) 1000 kg

3) 1500 kg

4) 2000 kg

Correct Answer: 2000 kg

QID : 239 - Metacentric height is given as the distance between _____.

Options:

1) the centre of gravity of the body and the metacentre

2) the centre of gravity of the body and the centre of

buoyancy

3) the centre of gravity of the body and the centre of pressure

4) centre of buoyancy and metacentre

Correct Answer: the centre of gravity of the body and the metacentre

QID : 240 - The difference of pressure between the inside and outside of a liquid drop is _____.

Options:

1) $p = T \times r$

2) $p = T/r$

3) $p = T/2r$

4) $p = 2T/r$

Correct Answer: $p = 2T/r$

QID : 241 - The property by which a liquid opposes relative motion between its different layers is called _____.

Options:

1) surface tension

2) co-efficient of viscosity

3) viscosity

4) osmosis

Correct Answer: surface tension

QID : 242 - The atmospheric pressure with rise in altitude decreases _____.

Options:

1) linearly

2) first slowly then steeply

3) first steeply and then gradually

4) unpredictable

Correct Answer: first slowly then steeply

QID : 243 - Barometer is used to measure _____.

Options:

1) pressure in pipes, channels etc..

2) atmospheric pressure

- 3) very low pressure
- 4) difference of pressure between two points

Correct Answer: atmospheric pressure

QID : 244 - Flow meters based on obstruction principle like orifice plates can be used with Reynold's number upto approximately _____.

Options:

- 1) 500
- 2) 1000
- 3) 2000
- 4) 4000

Correct Answer: 2000

QID : 245 - The state of the soil when plants fail to extract sufficient water for their requirements is _____.

Options:

- 1) maximum saturated point
- 2) permanent wilting point
- 3) ultimate utilization point
- 4) None of these

Correct Answer: None of these

QID : 246 - The field capacity of a soil is 25%, its permanent wilting point is 15% and specific dry unit weight is 1.5. If the depth of root zone of a crop is 80 cm, the storage capacity of the soil is _____.

Options:

- 1) 8 cm
- 2) 10 cm
- 3) 12 cm
- 4) 14 cm

Correct Answer: 12 cm

QID : 247 - According to the recommendations of Nagpur Conference the width formation of an ideal National Highway in hard rock cutting is _____.

Options:

- 1) 8.9 m

2) 7.9 m

3) 6.9 m

4) 6.5 m

Correct Answer: 7.9 m

QID : 248 - If L is the length of a rail and R is the radius of a curve, the versine h for the curve is _____.

Options:

- 1) $a = L/4R$
- 2) $a = L^2/4R$
- 3) $h = L^2/8R$
- 4) $h = L^2/16R$

Correct Answer: $h = L^2/8R$

QID : 249 - Pick up the incorrect statement from the following.

Options:

- 1) Manholes are provided in sewer pipes at suitable intervals
- 2) Catch basins are generally provided in sewers for carrying drainage discharge
- 3) Inlets are generally provided in all sewers
- 4) None of these

Correct Answer: Inlets are generally provided in all sewers

QID : 250 - If q is the average sewage flow from a city of population P, the maximum sewage flow _____.

Options:

- 1) $Q = [(4 + \sqrt{P}) / (18 + \sqrt{P})]q$
- 2) $Q = [(18 + P) / (4 + \sqrt{P})]q$
- 3) $Q = [(18 + \sqrt{P}) / (4 + \sqrt{P})]q$
- 4) $Q = [(5 + \sqrt{P}) / (15 + \sqrt{P})]q$

Correct Answer: $Q = [(18 + \sqrt{P}) / (4 + \sqrt{P})]q$

QID : 251 - A body is said to be in equilibrium if _____.

Options:

- 1) it moves horizontally

- 2) it moves vertically
- 3) it rotates about its C.G.
- 4) None of these

Correct Answer: None of these

QID : 252 -

The forces acting normally on the cross section of a bar shown in the figure given below introduces _____.

दर्शाई गई आकृति के अनुसार छड़ के अनुप्रस्थ खंड के लम्बवत कार्य कर रहे बल _____ का आरंभ करेंगे।



Options:

- 1) compressive stress
- 2) tensile stress
- 3) shear stress
- 4) None of these

Correct Answer: compressive stress

QID : 253 - At yield point of a test piece, the material _____.

Options:

- 1) obeys Hooke's law
- 2) behaves in an elastic manner
- 3) regains its original shape on removal of the load
- 4) undergoes plastic deformation

Correct Answer: undergoes plastic deformation

QID : 254 - If a concrete column 200 x 200 mm in cross-section is reinforced with four steel bars of 1200 mm² total cross-sectional area. What is the safe load

for the column if permissible stress in concrete is 5 N/mm² and $E_s = 15 E_c$?

Options:

- 1) 264 MN
- 2) 274 MN
- 3) 284 MN
- 4) 294 MN

Correct Answer: 284 MN

QID : 255 - A steel rod of sectional area 25 sq. mm connects two parallel walls 5 m apart. The nuts at the ends were tightened when the rod was heated at 100° C. If $\alpha_{\text{steel}} = 0.000012/\text{C}^\circ$, $E_{\text{steel}} = 0.2 \text{ MN/mm}^2$, the tensile force developed at a temperature of 50° C is _____.

Options:

- 1) 80 N/mm²
- 2) 100 N/mm²
- 3) 120 N/mm²
- 4) 150 N/mm²

Correct Answer: 120 N/mm²

QID : 256 - The ratio of tangential and normal components of a stress on an inclined plane through θ° to the direction of the force is _____.

Options:

- 1) $\sin^2 \theta$
- 2) $\cos^2 \theta$
- 3) $\tan^2 \theta$
- 4) $\cos^2 \theta$

Correct Answer: $\tan^2 \theta$

QID : 257 - Pick up the correct statement from the following.

Options:

- 1) For a uniformly distributed load, the shear force varies linearly

2) For a uniformly distributed load, bulk modular curve is a parabola

3) For a load varying linearly, the shear force curve is a parabola

4) All options are correct

Correct Answer: All options are correct

QID : 258 - At any point of a beam, the section modulus may be obtained by dividing the moment of inertia of the section by _____.

Options:

1) depth of the section

2) depth of the neutral axis

3) maximum tensile stress at the section

4) maximum compressive stress at the section

Correct Answer: depth of the neutral axis

QID : 259 - The moment of inertia of a circular section about any diameter D, is _____.

Options:

1) $(\pi D^2)/64$

2) $(\pi D^4)/32$

3) $(\pi D^3)/64$

4) $(\pi D^4)/64$

Correct Answer: $(\pi D^4)/64$

QID : 260 - In case of principal axes of a section _____.

Options:

1) sum of moment of inertia is zero

2) difference of moment of inertia is zero

3) product of moment of inertia is zero

4) None of these

Correct Answer: product of moment of inertia is zero

QID : 261 - The locus of the moment of inertia about inclined axis to the principal axis is _____.

Options:

1) straight line

2) parabola

3) circle

4) ellipse

Correct Answer: ellipse

QID : 262 - The ratio of moments of inertia of a triangular section about its base and about a centroidal axis parallel to its base is _____.

Options:

1) 1

2) 1.5

3) 2

4) 3

Correct Answer: 3

QID : 263 - If aggregates completely pass through a sieve of size 75 mm and are retained on a sieve of size 60 mm, the particular aggregate will be flaky if its minimum dimension is less than _____.

Options:

1) 20.5 mm

2) 30.5 mm

3) 40.5 mm

4) 50.5 mm

Correct Answer: 40.5 mm

QID : 264 - For the construction of thin R.C.C. structures the type of cement to be avoided is _____.

Options:

1) ordinary Portland cement

2) rapid hardening cement

3) low heat cement

4) blast furnace slag cement

Correct Answer: blast furnace slag cement

QID : 265 - Percentage of pozzolanic material containing clay upto 80% used for the manufacture of pozzolana cement is _____.

Options:

1) 30%

2) 40%

3) 50%

4) 60%

Correct Answer: 30%

QID : 266 - Pick up the incorrect statement applicable to the field test of good cement.

Options:

1) When one thrusts one's hand into a bag of cement, one should feel warm

2) The color of the cement is bluish

3) A handful of cement thrown into a bucket of water should sink immediately

4) All options are correct

Correct Answer: All options are correct

QID : 267 - Pick up the correct statement from the following.

Options:

1) The maximum size of a coarse aggregate is 75 mm and minimum is 4.75 mm

2) The maximum size of the fine aggregate is 4.75 mm and minimum 0.75 mm

3) The material having particles of size varying from 0.06 mm to 0.002 mm is known as silt

4) All options are correct

Correct Answer: All options are correct

QID : 268 - Sand generally contains salt if it is obtained from _____.

Options:

1) nala beds

2) river beds

3) sea beds

4) All options are correct

Correct Answer: sea beds

QID : 269 - Pick up the correct statement from the following.

Options:

1) Bulking of sand is caused due to formation of a thin film of surface moisture

2) Fine sand bulks more than coarse sand

3) With 10% moisture content by weight the bulking of sand is increased by 50%

4) All options are correct

Correct Answer: All options are correct

QID : 270 - If fineness modulus of sand is 2.5 it is graded as _____.

Options:

1) very fine sand

2) fine sand

3) medium sand

4) coarse sand

Correct Answer: fine sand

QID : 271 - An ordinary Portland cement when tested for its fineness, should not leave any residue on I.S. Sieve No.9, more than _____.

Options:

1) 5%

2) 10%

3) 15%

4) 20%

Correct Answer: 10%

QID : 272 - Pick up the correct statement from the following.

Options:

1) Insufficient quantity of water makes the concrete mix harsh

2) Insufficient quantity of water makes the concrete unworkable

3) Excess quantity of water makes the concrete segregated

4) All options are correct

Correct Answer: All options are correct

QID : 273 - Pick up the incorrect statement from the following.

Options:

1) A rich mix of concrete possesses higher strength

than that a lean mix of desired workability with excessive quantity of water

- 2) The strength of concrete decreases as the water cement ratio increases
- 3) If the water cement ratio is less than 0.45, the concrete is not workable and causes honey-combed structure
- 4) Good compaction by mechanical vibrations, increases the strength of concrete

Correct Answer: A rich mix of concrete possesses higher strength than that a lean mix of desired workability with excessive quantity of water

QID : 274 - Pick up the correct statement from the following.

Options:

- 1) The concrete gains strength due to hydration of cement
- 2) The concrete cured at a temperature below 23° C, gains strength up to 28 days
- 3) The concrete does not set at freezing point
- 4) All options are correct

Correct Answer: All options are correct

QID : 275 - Hardening of cement occurs at _____.

Options:

- 1) rapid rate during the first few days and afterwards it continues to increase at a decreased rate
- 2) slow rate during the first few days and afterwards it continues to increase at a rapid rate
- 3) uniform rate throughout its age
- 4) None of these

Correct Answer: None of these

QID : 276 - Pick up the correct statement from the following.

Options:

- 1) Higher workability indicates unexpected increase in the moisture content

- 2) Higher workability indicates deficiency of sand
- 3) If the concrete mix is dry, the slump is zero
- 4) All options are correct

Correct Answer: All options are correct

QID : 277 - The top diameter, bottom diameter and the height of a slump mould are _____.

Options:

- 1) 10 cm, 20 cm, 30 cm
- 2) 10 cm, 30 cm, 20 cm
- 3) 20 cm, 10 cm, 30 cm
- 4) 20 cm, 30 cm, 10 cm

Correct Answer: 10 cm, 20 cm, 30 cm

QID : 278 - Pick up the correct statement from the following.

Options:

- 1) Segregation is necessary for a workable concrete
- 2) Consistency does not affect the workability of concrete
- 3) If the slump increases, workability decreases
- 4) None of these

Correct Answer: None of these

QID : 279 - The grade of concrete M 150 means that compressive strength of a 15 cm cube after 28 days, is _____.

Options:

- 1) 100 kg/cm²
- 2) 150 kg/cm²
- 3) 200 kg/cm²
- 4) 250 kg/cm²

Correct Answer: 150 kg/cm²

QID : 280 - The preliminary test is repeated if the difference compressive strength of three test specimens, exceeds _____.

Options:

- 1) 5 kg/cm²
- 2) 8 kg/cm²
- 3) 10 kg/cm²
- 4) 15 kg/cm²

Correct Answer: 15 kg/cm²

QID : 281 - According to load factor method, the permissible load W on a short column reinforced with longitudinal bars and lateral stirrups is _____.

Options:

- 1) Stress in concrete x area of concrete
- 2) Stress in steel x area of steel
- 3) Stress in concrete x area of concrete + stress in steel x area of steel
- 4) None of these

Correct Answer: Stress in concrete x area of concrete + stress in steel x area of steel

QID : 282 - The length of the lap in a compression member is kept greater than [bar diameter x (Permissible stress in bar)/(Five times the bond stress)] or is _____.

Options:

- 1) 12 bar diameters
- 2) 18 bar diameters
- 3) 24 bar diameters
- 4) 30 bar diameters

Correct Answer: 24 bar diameters

QID : 283 - A short column 20 cm x 20 cm in section is reinforced with 4 bars whose area of cross section is 20 sq.cm. If permissible compressive stresses in concrete and steel are 40 kg/cm² and 300 kg/cm², the safe load on the column should not exceed _____.

Options:

- 1) 412 kg
- 2) 4120 kg
- 3) 412000 kg
- 4) None of these

Correct Answer: None of these

QID : 284 - A column is regarded as long column if the ratio of its effective length and lateral dimension

exceeds _____.

Options:

- 1) 10
- 2) 15
- 3) 20
- 4) None of these

Correct Answer: None of these

QID : 285 - If the size of a column is reduced above the floor, the main bars of the columns _____.

Options:

- 1) continues up
- 2) bend inwards at the floor level
- 3) stops just below the floor level and separates lap bars provided
- 4) All options are correct

Correct Answer: All options are correct

QID : 286 - The pitch of the main bars in a simply supported slab should not exceed its effective depth by _____.

Options:

- 1) three times
- 2) four times
- 3) five times
- 4) six times

Correct Answer: six times

QID : 287 - Distribution reinforcement in a simply supported slab is provided to distribute _____.

Options:

- 1) load
- 2) temperature stress
- 3) shrinkage stress
- 4) All options are correct

Correct Answer: All options are correct

QID : 288 - In a simply supported slab the minimum spacing of distribution reinforcement should be four

times the effective thickness of the slab or _____.

Options:

- 1) 20 cm
- 2) 30 cm
- 3) 40 cm
- 4) None of these

Correct Answer: None of these

QID : 289 - The modular ratio 'm' of a concrete whose permissible compressive stress is 'C' may be obtained from the equation _____.

Options:

- 1) $m = 700/3C$
- 2) $m = 1400/3C$
- 3) $m = 2800/3C$
- 4) $m = 3500/3C$

Correct Answer: $m = 2800/3C$

QID : 290 - For M 150 grade concrete (1 : 2 : 4) the moment of resistance factor is _____.

Options:

- 1) 0.87
- 2) 8.5
- 3) 7.5
- 4) 5.8

Correct Answer: 8.5

QID : 291 - If the thickness of a structural member is small as compared to its length and width, it is classified as _____.

Options:

- 1) one dimensional
- 2) two dimensional
- 3) three dimensional
- 4) None of these

Correct Answer: two dimensional

QID : 292 - Design of a riveted joint assumes that _____.

Options:

- 1) the bending stress in rivets is accounted for
- 2) the riveted hole is to be filled by the rivet
- 3) the stress in the plate is not uniform
- 4) the friction between plates is considered

Correct Answer: the riveted hole is to be filled by the rivet

QID : 293 - Rolled steel T-sections are used _____.

Options:

- 1) as columns
- 2) with flat strips to connect plates in steel rectangular tanks
- 3) as built up sections to resist axial tension
- 4) None of these

Correct Answer: with flat strips to connect plates in steel rectangular tanks

QID : 294 - With a percentage increase of carbon in steel, decreases its _____.

Options:

- 1) strength
- 2) hardness
- 3) brittleness
- 4) ductility

Correct Answer: ductility

QID : 295 - If P is the wind pressure in kg/cm², v is the velocity in km/hour and K is constant of proportionality then _____.

Options:

- 1) $P=K/v^2$
- 2) $v=K/P^2$
- 3) $P=Kv^2$
- 4) $P=Kv$

Correct Answer: $P=Kv^2$

QID : 296 - Factor of safety is the ratio of _____.

Options:

- 1) yield stress to working stress
- 2) tensile stress to working stress
- 3) compressive stress to working stress
- 4) bearing stress to working stress

Correct Answer: yield stress to working stress

QID : 297 - The ratio of shearing stress to shearing strain within elastic limit, is known as _____.

Options:

- 1) modulus of elasticity
- 2) shear modulus of elasticity
- 3) bulk modulus of elasticity
- 4) tangent modulus of elasticity

Correct Answer: shear modulus of elasticity

QID : 298 - The rivets which are heated and then driven in the field are known _____.

Options:

- 1) power driven shop rivets
- 2) power driven field rivets
- 3) hand driven rivets
- 4) cold driven rivets\

Correct Answer: power driven field rivets

QID : 299 - The gross diameter of a rivet is the diameter of _____.

Options:

- 1) cold rivet before driving
- 2) rivet after driving
- 3) rivet hole
- 4) None of these

Correct Answer: rivet after driving

QID : 300 - Working shear stress on the gross area of a rivet as recommended by Indian Standards is

_____.

Options:

- 1) 785 kg/cm²
- 2) 1025 kg/cm²
- 3) 2360 kg/cm²
- 4) None of the these

Correct Answer: 1025 kg/cm²

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