FINAL ANSWER KEY

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Alphacode	A

Question1:-The terminal velocity of a small sphere settling in a viscous fluid varies as the

A:-Inverse square of diameter
B:-Inverse of diameter
C:-first power of its diameter
D:-inverse of fluid viscosity
Correct Answer:- Option-D

Question2:-A cement bag contains 0.035 cubic meter of cement by volume. How many bags will one tonne of cement comprises

A:-16
B:-17
C:-18
D:-20
Correct Answer:- Option-D

Question3:-Efflorescence of bricks is due to

A:-Soluble salts present in clay for making bricks
B:-High Porosity of bricks
C:-High Silt Content in the soil used
D:-Excessive burning burning of bricks
Correct Answer:- Option-A

Question4:-Which of the following constituent in earth gives plasticity to mould bricks in suitable shape

A:-Silica
B:-Lime
C:-Alumina
D:-Magnesia
Correct Answer:- Option-C

Question5:-The compound which contributes the highest share of heat of hydration in cement is

A:-Tricalcium Silicate
B:-Tricalcium aluminate
C:-Gypsum
D:-Combined lime
Correct Answer:- Option-B

Question6:-Putty is made up of .

A:-White lead and turpentine
B:-Powdered chalk and raw linseed oil
C:-Red lead and linseed oil
D:-Zinc oxide and boiled linseed oil
Correct Answer:- Option-B

Question7:-In making Concrete ,maximum density is achieved by,

A:-Using sufficient cement to fill all the voids
B:-Controlling the particle size of the ingredient
C:-Controlling the particle size distribution of the ingredient
D:-Reducing the quantity of mixing water
Correct Answer:- Option-C

Question8:-which one of the following is not a vehicle in paints

A:-Nut oil
B:-Poppy oil
C:-Tung oil
D:-Turpentine oil
Correct Answer:- Option-D

Question9:-In high tensile steel carbon should be less than

A:-0.10%

B:-0.15 %
C:-0.70 %
D:-1.5%
Correct Answer:- Option-B

Question10:-The head room for a staircase should not be less than
A:-3.50m
B:-3m
C:-2.10m
D:-2m
Correct Answer:- Option-C

Question11:-The ratio of cement mortar preferred in load bearing walls in brick masonry is
A:-1:2
B:-1: 6
C:-1:8
D:-1:12
Correct Answer:- Option-B

Question12:-A curtain wall carries
A:-wind load
B:-Self weight
C:-roof load
D:-no load
Correct Answer:- Option-B

Question13:-In ordinary residential and public buildings ,the DPC is provided at
A:-Plinth level
B:-Ground level
C:-roof level
D:-lintel level
Correct Answer:- Option-A

Question14:-Laterite is a
A:-argillaceous rock
B:-silicious rock
C:-calcarious rock
D:-magma
Correct Answer:- Option-A

Question15:-Marble is
A:-Igneous rock
B:-metamorphic rock
C:-stratified rock
D:-sedimentary rock
Correct Answer:- Option-B

Question16:-In any case the bearing of lintel should not be less than
A:-100 mm
B:-150 mm
C:-200 mm
D:-300 mm
Correct Answer:- Option-B

Question17:-The resultant of two equal forces(F) acting in opposite directions will be
A:-2 F
B:-√2 F
C:-0.707 F
D:-zero
Correct Answer:- Option-D

Question18:-The set of forces ,whose resultant is zero, are known as
A:-equilibrium forces
B:-collinear forces
C:-coplanar forces
D:-concurrent forces
Correct Answer:- Option-A

Question19:-The centre of gravity of a plane lamina is not at its geometrical centre if it is a

A:-Circle
B:-square
C:-rectangle
D:-right angled triangle
Correct Answer:- Option-D

Question20:-A system of coplanar forces is in equilibrium when
A:-force polygon closes
B:-funicular polygon closes
C:-both force and funicular polygon closes
D:-all the forces are coplanar concurrent
Correct Answer:- Option-C

Question21:-The diagram showing the point of application and line of action of forces in their plane is called
A:-Vector diagram
B:-space diagram
C:-force diagram
D:-funicular diagram
Correct Answer:- Option-B

Question22:-The specification of earth work in foundation trenches,drains etc. Lift ordinarly specified is
A:-0m
B:-1.50 m
C:-5 m
D:-3m
Correct Answer:- Option-B

Question23:-In analysis of rates contractors profit is taken at the rate of
A:-1%
B:-5%
C:-10%
D:-20%
Correct Answer:- Option-C

Question24:-One cubic metre of cement concrete (1:2:4) is to be mixed by volume .Number of cement bags required approximately will be
A:-6
B:-8
C:-3
D:-4
Correct Answer:- Option-A

Question25:-The thickness of plastering to masonry wall is usually
A:-6 mm
B:-30mm
C:-22mm
D:-12mm
Correct Answer:- Option-D

Question26:-In a detailed estimate the provision for contingencies is,usually
A:-1%
B:-3% to 5%
C:-10%
D:-12% to 50%
Correct Answer:- Option-B

Question27:-Original cost of property minus depreciation is
A:-book value
B:-salvage value
C:-capital value
D:-obsolence value
Correct Answer:- Option-A

Question28:-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:-caution money
C:-security deposit

D:-earnest money
Correct Answer:- Option-D
Question29:-For a comfortable ascent of stairway the number of steps in a flight should be restricted to a maximum of
A:-10
B:-12
C:-16
D:-20
Correct Answer:- Option-B
Question30:-Construction of temporary structure to support an unsafe structure is known as
A:-Shoring
B:-underpinning
C:-scaffolding
D:-Propping
Correct Answer:- Option-A
Question31:-Which of the following is not an excavating equipment
A:-Power shovel
B:-Scrapper
C:-Drag line
D:-Hoe
Correct Answer:- Option-B
Question32:-An Ideal flow of any fluid must fulfil the
A:-Neweton’s Law of Viscosity
B:-Neweton’s Law of Motion
C:-Boundary layer Theory
D:-Continuity Equation
Correct Answer:- Option-D
Question33:-A cubical tank is filled with water. If side of tank is 1m ,pressure on the base of the tank will be
A:-10 000 kg
B:-5 000 kg
C:-1000 kg
D:-4 000 kg
Correct Answer:- Option-C
Question34:-The buoyancy depends upon the
A:-The pressure with which the liquid is displaced
B:-weight of the liquid displaced
C:-viscosity of the liquid
D:-compressibility of the liquid
Correct Answer:- Option-B
Question35:-block of wood 2m long, 2m wide and 1m deep is floating horizontally in water. If density of wood is 800 kg/m3 ,then the volume of water displaced will be
A:-3.2 cum
B:-2.6 cum
C:-2 cum
D:-6 cum
Correct Answer:- Option-A
Question36:-The flow in a pipe or channel is said to be uniform when
A:-The liquid particles at all sections have the same velocities
B:-The liquid particles at different sections have different velocities
C:-the quantity of liquid flowing per second is constant
D:-each liquid particles has a definite path
Correct Answer:- Option-A
Question37:-Flow in a pipe is laminar if the Reynold’s number is
A:-equal to 10 000
B:-Between 4000 and 6000
C:-between 2000 and 4000
D:-less than 2000
Correct Answer:- Option-D
Question38:-Two pipe systems in series are said to be equivalent when
A:-the average diameter in both systems is same

B:-the average friction factor in both the system is same
C:-the total length of the pipes is the same in both the systems
D:-the discharge under the same head is same in both the systems
Correct Answer:- Option-D

Question39:-In open channel water flows under
A:-force of gravity
B:-atmospheric pressure
C:-hydrostatic pressure
D:-mechanical pressure
Correct Answer:- Option-A

Question40:-weir may be used to measure
A:-velocity of flow
B:-pressure
C:-discharge in a river or channel
D:-kinetic energy
Correct Answer:- Option-C

Question41:-The direction of flow of liquid in a propeller pump impeller is in
A:-outward radial direction
B:-axial direction
C:-inward radial direction
D:-the direction tangential to the impeller
Correct Answer:- Option-B

Question42:-The ratio of volume of voids to the total volume of the given soil mass, is known as
A:-porosity
B:-void ratio
C:-specific gravity
D:-water content
Correct Answer:- Option-A

Question43:-Dry density of soil is
A:-always greater than the saturated density
B:-ratio of the weight of soil solids to the volume of solids
C:-ratio of the weight of soil solids to the total volume
D:-determined by stregth test
Correct Answer:- Option-C

Question44:-The effective size of a soil is
A:-D10
B:-D30
C:-D20
D:-D40
Correct Answer:- Option-A

Question45:-A soil having uniformity coefficient more than 10 is called
A:-uniform
B:-fine
C:-coarse
D:-well graded soil
Correct Answer:- Option-D

Question46:-The property of a soil which permits flow of water through its interconnected voids is called
A:-seepability
B:-porosity
C:-permeability
D:-void ratio
Correct Answer:- Option-C

Question47:-The functional equation for specific gravity G ,water content w,void ratio e and degree of saturation Sr is
A:-w= Sr G/e
B:-e= Sr w/G
C:-Sr= wG/e
D:-G=Sr w/e
Correct Answer:- Option-C

Question48:-The law states that in laminar flow in a saturated soil, the velocity is directly proportional to the hydraulic gradient is called

A:-Reynold’s law

B:-Bligh’s law

C:-Darcy’s law

D:-Lacy’s law

Correct Answer:- Option-C

Question49:-The gradual reduction in volume of a soil mass resulting from an increase in and continued application of compressive stress and is due to expulsion of water from the pores is called

A:-Compaction

B:-consolidation

C:-settlement

D:-depression

Correct Answer:- Option-B

Question50:-The minimum size of plate in plate load test is

A:-100 mm

B:-450mm

C:-200 mm

D:-300 mm

Correct Answer:- Option-D

Question51:-Bearing capacity should be calculated from the criteria of

A:-shear only

B:-settlement only

C:-both settlement and shear

D:-cohesion only

Correct Answer:- Option-C

Question52:-Floating foundation is a type of

A:-well foundation

B:-pile foundation

C:-pier foundation

D:-Raft foundation

Correct Answer:- Option-D

Question53:-A shallow foundation is a foundation that

A:-has low bearing capacity

B:-has a depth of embedment less than its width

C:-is resting on the ground surface

D:-causes less settlement

Correct Answer:- Option-B

Question54:-Diameter of a circular footing is 3m and side of a square footing is 3m.Both the footings are in the same soil(c-Ø) at same depth. The ultimate bearing capacity of circular footing is

A:-less than square footing

B:-more than square footing

C:-same as square footing

D:-not comparable

Correct Answer:- Option-A

Question55:-The energy stored in a material within elastic limit when it is under strain is called

A:-impact

B:-shock resistance

C:-resilience

D:-elasticity

Correct Answer:- Option-C

Question56:-The property of a material enabling it to resist deformation under stress is called

A:-toughness

B:-stiffness

C:-strength

D:-brittleness

Correct Answer:- Option-B

Question57:-The rate of change of bending moment is equal to

A:-shear force

B:-deflection

C:-slope
D:-axial thrust
Correct Answer:- Option-A

Question58:-The point in a beam where the shear force changes sign is called the point of
A:-maximum BM
B:-zero shear
C:-zero curvature
D:-maximum curvature
Correct Answer:- Option-A

Question59:-For a simply supported beam ,carrying a uniformly distributed load ,the shape of the bending moment diagram will be,
A:-triangular
B:-parabolic
C:-circular
D:-cubical
Correct Answer:- Option-B

Question60:-A cantilever beam of length L,cross-section A is subjected to a total uniformly distributed Load of W and a concentrated load W1 at a distance L1 from free end will have maximum moment of
A:-(WL/2)+ W1 L1
B:-(WL2/2)+ W1 L1
C:-[W(L-L1)/2]+ W1 L1
D:-(WL/2)+ W1 (L-L1)
Correct Answer:- Option-D

Question61:-Out of the following mild steel section ,the most economical section is
A:-I section
B:-circular section
C:-rectangular section
D:-channel section
Correct Answer:- Option-A

Question62:-The shear stress on the principal plane is
A:-maximum
B:-minimum
C:-zero
D:-intermediate
Correct Answer:- Option-C

Question63:-If the number of members provided is more than the requirement,then the frame will be classified as
A:-perfect frame
B:-redundant frame
C:-deficient frame Portal frame
D:-Portal frame
Correct Answer:- Option-B

Question64:-The most suitable reason to adopt hollow circular section in place of solid circular shaft Is
A:-weight per unit length is less
B:-more strength for same weight per unit length
C:-easy to manufacture
D:-easy to transport
Correct Answer:- Option-B

Question65:-The back sight reading on a BM(200m) was 2.650m.If the inverted staff reading to the bottom of a cantilever porch slab is 0.350m,the RL of the bottom of the slab is
A:-202.300
B:-203.000
C:-2.3000
D:-3.000
Correct Answer:- Option-B

Question66:-A survey in which horizontzl and vertical locations are fixed by linear and angular measurements is known as
A:-geodetic survey
B:-cadastral survey
C:-city survey
D:-Topographical survey
Correct Answer:- Option-D

Question67:-The survey in which the curvature of earth is ignored is called
A:-Plane survey
B:-geodetic survey
C:-geological survey
D:-aerial survey
Correct Answer:- Option-A
Question68:-As per Indian Standard ,the length of one link in 30m chain should be
A:-0.20m
B:-0.30m
C:-0.40m
D:-0.15m
Correct Answer:- Option-A
Question69:-The error in measured length due to sag of chain or tape is known as
A:-positive error
B:-negative error
C:-compensating error
D:-instrumental error
Correct Answer:- Option-A
Question70:-The base line is measured with
A:-metallic tape
B:-steel tape
C:-Invar tape
D:-Chain
Correct Answer:- Option-D
Question71:-If the fore bearing of a line AB is observed to be 12°24’ ,the back bearing of line AB should be
A:-77°36’
B:-97°36’
C:-167°36’
D:-192°24’
Correct Answer:- Option-D
Question72:-At magnetic poles,the dip of magnetic needle is
A:-0 degree
B:-45 degree
C:-90 degree
D:-120 degree
Correct Answer:- Option-C
Question73:-In levelling the error due to refraction is
A:-additive
B:-subtractive
C:-compensating
D:-progressive
Correct Answer:- Option-C
Question74:-Closed contours with higher values inside represents
A:-depression
B:-Hill
C:-Plane surface
D:-pond
Correct Answer:- Option-B
Question75:-When the bubble of the level tube of a level is central
A:-line of sight is horizontal
B:-line of collimation is horizontal
C:-axis of the telescope is horizontal
D:-Geometrical axis of the telescope is horizontal
Correct Answer:- Option-A
Question76:-The process of turning the telescope about the vertical axis in a horizontal plane is known as
A:-Reversing
B:-transiting
C:-plunging
D:-swinging

Correct Answer:- Option-D

Question77:-The hinged end of a propped cantilever of span L settles by an amount δ, then the rotation of the hinged end will be

A:-δ/L

B:-2δ/L

C:-3δ/2L

D:-4 δ/3L

Correct Answer:- Option-C

Question78:-Two beams carrying identical loads, simply supported, are having same depth but beam A has double the width as compared that of beam B. The ratio of the strength of beam A to that of beam B is

A:-1/2

B:-1/4

C:-2

D:-4

Correct Answer:- Option-C

Question79:-Defection can be controlled by using the appropriate

A:-aspect ratio

B:-modular ratio

C:-span/depth ratio

D:-water cement ratio

Correct Answer:- Option-C

Question80:-In a load-balanced prestressed concrete beam under self load ,the cross-section is subjected to

A:-axial stress

B:-bending stress

C:-axial and bending stress

D:-axial and shear stress

Correct Answer:- Option-D

Question81:-In a cantilever retaining wall of height ‘h’ the horizontal pressure of earth will act at a distance of

A:-h/2 from top

B:-h/4 from base

C:-h/3 from top

D:-h/3 from base

Correct Answer:- Option-D

Question82:-The minimum size of reinforcement bars in RCC column is

A:-6mm

B:-8 mm

C:-10mm

D:-12mm

Correct Answer:- Option-D

Question83:-In a cantilever beam tensile reinforcement is provided

A:-on the top of the beam

B:-on the bottom of the beam

C:-in the middle of the beam

D:-on the top and bottom of the beam

Correct Answer:- Option-A

Question84:-In a doubly reinforced rectangular beam, the allowable stress in compression steel is

A:-equal to the permissible stress in tension in steel

B:-more than the permissible stress in tension in steel

C:-less than the permissible stress in tension in steel

D:-not related to the permissible concrete compression stress

Correct Answer:- Option-C

Question85:-The section in which concrete is not fully stressed to its permissible value when stress in steel reaches its maximum value, is called

A:-under reinforced section

B:-over reinforced section

C:-doubly reinforced beam

D:-cantilever beam

Correct Answer:- Option-A

Question86:-A hydrograph is a plot of

A:-Precipitation against time

B:-Stream flow against time
C:-surface run off against time
D:-Recorded run off against time
Correct Answer:- Option-B

Question87:-The instrument used for measuring wind speed is
A:-Anemometer
B:-Rotameter
C:-Odometer
D:-Atmometer
Correct Answer:- Option-A

Question88:-The method of moment distribution in structural analysis can be treated as
A:-Force method
B:-Displacement method
C:-Flexibility method
D:-An exact method
Correct Answer:- Option-B

Question89:-Which one of the following tests is performed in the laboratory to determine the extent weathering of aggregates for road work
A:-soundness test
B:-crushing test
C:-Impact test
D:-Abrasion test
Correct Answer:- Option-A

Question90:-Which one of the following method is used in the design of rigid pavements
A:-CBR method
B:-Group Index method
C:-westergaards method
D:-Mcleod s method
Correct Answer:- Option-C

Question91:-The Plasticity index of the granular sub base material should be
A:-les than 6
B:-grater than 6
C:-greater than 9
D:-between 15 and 20
Correct Answer:- Option-A

Question92:-For removal of temporary hardness in water
A:-Water os filtered
B:-Water is boiled
C:-Lime is added
D:-Chlorination is done
Correct Answer:- Option-B

Question93:-Zeolite is
A:-A naturally occurring salt
B:-Hydrated silica
C:-Hydrated alumina-silicate
D:-Dehydrated calcium silicate
Correct Answer:- Option-C

Question94:-Coagulants are used when turbidity of water is more than
A:-50ppm
B:-60 ppm
C:-70 ppm
D:-80 ppm
Correct Answer:- Option-A

Question95:-The Contact pressure distribution under a rigid footing on a cohesionless soil Would be
A:-Uniform throughout
B:-Zero at centre and maximum at edges
C:-Zero at edges and maximum at centre
D:-Maximum at edges and minimum at centre
Correct Answer:- Option-C

Question96:-The minimum grade of concrete used for RCC work shall be

A:-M10

B:-M15

C:-M20

D:-M30

Correct Answer:- Option-C

Question97:-The stripping time for form work props of beam having span more than 6m is

A:-2 days

B:-7 days

C:-14 days

D:-21 days

Correct Answer:- Option-D

Question98:-In water bound macadam roads,binding material to hold stones is

A:-sand

B:-red earth

C:-cement

D:-quarry dust

Correct Answer:- Option-B

Question99:-Plinth area of a building is

A:-Built up covered area measured at sill level

B:-Built up covered area measured at lintel level

C:-Built up covered area measured at plinth level

D:-carpet area

Correct Answer:- Option-C

Question100:-The maximum horizontal distance between reinforcement in RCC slab in tension as per IS 456 is

A:-Three times the effective depth or 300 mm whichever is less

B:-Three times the effective depth

C:-300mm

D:-150 mm

Correct Answer:- Option-A