45) Dado is provided in - Bathroom
46) Water treatment plant.
47) F.S.I = 2, Plot Area = 2000, Builtup area = 8
= 4000 sq.m.
48) Which agg. used for concrete:
well graded agg.

Airport Authority of india

1. D.P.C Measured in - Sq. M.
2. 9 cm x 9 cm size of brick on face of wall - Header
3. permissible limit of total solid -
4. Max size of Clay - 0.002 mm - 2μ.
5. L.C of Staff = 5mm = 0.005 m.
6. Locating details of plane table st. in accessive area - intersection method.
7. grade of bitumen used for airport runway - 30/40
8. In Mixed traffic plain & rolling terrain super-elevation is provided - equal to camber.
9. Value of camber in C.C & bitumen nad in heavy rainfall - 1/50 (2%)
10. single lane road width - 3.75m.
11. mssD or Non passing sight dist. Length of summit curve = $\dfrac{NS^2}{4.4}$ in SPT
? 12. To obtain undisturbed sample, the Area ratio < 10%
13. $W_N = W_L$ what is consistency index $(I_c) = 0$
? 14. Unit of coefficent of consolidation = cm^2/sec.
? 15. Newmark's influence chart is used for - area of any shape.
16. given, $e = 0.7$ & $G = 2.7$ & find critical hydraulic gradient $i_c = \dfrac{(G-1)}{(1+e)} = \dfrac{1.7}{1.7} = 1$
17. Find the ratio of volumatric strain to linear strain of cube = $\dfrac{\frac{3\delta a}{a}}{\frac{\delta a}{a}} = 3$
18. simply supported beam carrying UVL where is the max. deflection = $0.67l$ & $0.33l$
19. cantilever beam carrying point load at free end 'w' what is max. s.f = W.
20. In T beam s.f resisted by - web
21. Max. size of R/F bar in slab = $\dfrac{D \, + \, Thk. \, of \, member}{8}$

MMRDA.

Survey

1. Sp. gravity method in lab - Pychometer
2. As per IS-456 How many standard grade of concrete - ordinary - 3, standard - 7, Highstrength-5
3. Method of workability measurement for lean concrete - compaction factor test
4. Unit of B.M - N-mm
5. Which of the following not elastic constant.
   →
6. Shear stress occurred at - Circumfrance
7. C.G. of semicircle - $\frac{4R}{3\pi}$
8. M.I of @ x-x axis - $0.11 r^4$
9. Def^n of prestressing posttension
10. Bearing - 60 $\Rightarrow$ Back bearing - 240°
11. Which member is used for joining two truss - purlin.
12. Def^n of transition curve - introduce b/n a striaut f a circular curve.
13. M.B.F of simply supported beam carrying udd → $\frac{wl}{2}$
14. Which of the following term related to

* FIFA :- Federation internationale de football
            Association
    President :- Acting - ISSA Hayatou.
              → Gianni Infantino

* Chairman of CBSE (Central Board of secandary educati
    → 1987-Batch IAS → Rajesh kumar Chaturvedi.

* 17 IIFA Award.
    ① Best Film - Bajarangi bhaijan
    ② Best Actress - D. padukone - for piku
    ③   Actor   - Ranvir sing - Bajrao
    ④ Director - sanjay leela bhansali - Bajrao
    ⑤ supporting Actress - p. Chopra - - ↳
    ⑥   Actor - Anil kapur.

* Deputy governor of RBI - NS vishwanathan

* width of the top portion of a flat footed rail is
    66.77mm
* min packing space provided beth two sleepers -30-35cm
** length of rail for B.G = 12.8M. or 42ft.
**. length of rail for M.G = 11.89m or 39ft.

cover leaf - increasing speed

(21) Diamond Crossing - provided for transfer of traffic from one road to another crossing but with <u>reduce speed</u>.

(22) find out quantity of beam size 250 mm x 300 mm & length 3m = 0.18 m³

(23) piezometer is used for measuring <u>pressure</u>.

(24) which of the following is <u>not</u> timber product. - Epoxy resin.

(25) EFT = EST + Activity time

(26) slump for Beam - 50 to 100 mn.

(27) To reduce water hammer pressure → pressure relief valves.

(28) Bar chart → Horizontal

(29) Limit of B.O.D in Drinking water - Nill.

(30) point of contraflexure where → B.M changes its sign.

★ (31) udl on Beam shape of B.M.D - Square parabola.

(32) Accurate water content method - oven drying.

(33) Tachometric constant Aditive & Multiplying.

(34) s.f is max where B.M is minimum.

(35) C.P.M.

(36) float - Independant float.

(37) cement ingradients are burnt at 1400°C

(38) for larger water storage which survey used - hydrographic survey.

(39) To avoid damage from white ants which chemical used in R.C.C Retaining wall.

(40) self cleaning velocity

(41) According to Stokes law velocity is depends on - partical size ($V = 902 \, d^2$)

(42) sp. gravity of mercury - 13.6

(43) which curve in used when your road in meets in vertical - parabolic

(44) Unit wt. of steel per m length ϕ^2

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* **Simple interest**

$S \cdot I = \dfrac{P \times R \times T}{100}$

P = Principal, R = Rate
n years = T.

* **Compound interest**

Let principal = P, Rate = R % per annum
Time = n year.

① When interest is compaind Annually:

$$\text{Amount} = P\left[1 + \frac{R}{100}\right]^n$$

② When interest is compounded Half - yearly:-

$$\text{Amount} = P\left[1 + \frac{(R/2)}{100}\right]^{2n}$$

③ When interest is compounded quarterly.

$$\text{Amount} = P\left[1 + \frac{(R/4)}{100}\right]^{4n}$$

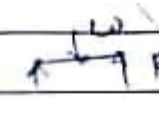④ When interest is compounded Annually but time is in fraction, say $3\frac{2}{5}$ years.

$$\text{Amount} = P\left[1 + \frac{R}{100}\right]^{3} \times \left[1 + \frac{\frac{2}{5}R}{100}\right]$$

⑤ When Rates are diff. for diff years, say R_1%, R_2%, R_3%. for 1st, 2nd & 3rd year resp.

$$\text{Amount} = P\left(1 + \frac{R_1}{100}\right)\left(1 + \frac{R_2}{100}\right)\left(1 + \frac{R_3}{100}\right)$$

25) The section of building cut from sill level & see from TOP it is called -

26) In plinth Area method which part is not considered - Vharanda.

27) In long wall & short wall method - Length of long wall = C.C length of long wall + width of item.

28) Last station of Train - Terminal station.

29) which of the following of bridge is not related to bridge slab - abutment bridge.

30) To fix the rail by using - sleeper.

31) pitot tube is used for measuring -
   ✓① pressure head diff ② ~~velocity in river flow~~

32) Rising height of water on d/s - hydraulic Jump.

33) which is not defect in concrete -
   ① carbonation ② segregation ③✓ strength
   ④ bleeding

34) Depth of Dog spike - 120.6 mm

35) width of concrete sleeper - 250mm

36) Length of Rail for M.G = 11.89m & B.G = 12.8m

37) Design of Rail based on - weight per'm'.

38) In India which of the following rail is not used
   ① 52 kg ② 60 kg ③ 85 kg ④ 90 kg ⑤ 50kg

39) 52 kg rail used for → B.G.

40) 'e' superelevation (e) for plain & rolling terrain = 7%

41) Incremental increase method of in - E-E

42) Residential building main internal door size.

43) In Hot weather generally window provided 20% of floor Area.

44) for LIG Water for Domastic purpose - 135 lpcd

1. Eff. length of s.s. beam - c.c dist. bet. support.
2. partical size dist. curve used for - coarse grained soil.
3. Free fall height of concrete - 1.5 m.
4. Def^n of SSD.
5. Reaction time in SSD - 2.5 sec.
6. MDR
7. ODR
8. IRC
9. full comp. strength achived concrete in 28 days
10. c.c. pavement in heavy Rainfall camber should be provided 1/50.
11. s.s beam carrying central point load reaction equal to w/2
12. field density measurment method.

13. C.G. of circular cone - $\frac{3}{4}$ h. from top & h/4 from base.
14. cement ingradient - Lime - (3·), silica - 20·1. & 15·1) other ingradient
15. Due to bulking volume of sand increares.
16. Water flowing through soil which law is used - Darcy's law.
17. same size of partical is knowm as - unifermely graded soil.
18. Air & ventilation is provided in the roof is known as - Dormer window
19. staircase is a Vertical Communication
20. reading taken from known elevation - B.S.
21. Half brick wall measured in - sq.m
22. Task work for Half brick wall -
23. brick cut across the coidth - Bat.
24. brick cut lengthwise - queen closer
25. upgradient & downgradient meet - summit curve
26. R.f of $\frac{1 cm}{10 m} = \frac{1}{1000}$

(45) Which type of agg. used for concrete - angular agg.

(46) Task Work for Brickwork for Head Masson -

(47) Area of Habitable room ; ~~3 m²~~ 5 m²

(48) minimum with of ~~stero~~ staircase - 1m

(49) In W.B.M road which of the following is used as binding material - ~~sand~~ Stone dust.

(50) what is the ratio of coefficent of compresibi-lity $= \frac{1}{K} = \frac{strain}{stress}$

(51) Unconfined compressive strength test - Triaxial shear test.

(52) 1 hect $= 10^4$ sq.m.

(53) Front view of building is called - elevation.

(25)

(26)

(27)

(28)

(29)

(30)

(31)

(32)

(33)

(34)

(35)

(36)

(37)

(38)

(39)

(40)

(41)

(42)

(43)

(44)

CIDCO

1. Standard size of brick - 19 × 9 × 9 cm.
2. Equal elevation of point - contour line.
3. Contour value decreasing toward center - Depression
4. By using chain - only linear measurment possible.
5. Ratio of volume of voids to the volume of solid
   - Void ratio.
6. In liquid limit test, the moisture content at
   10 blows was 70% & that at 100 blows was 20%.
   The liquid limit of the soil is - 65%.
7. The min. water content at which the soil can
   be rolled into a thread of 3mm ← plastic limit
8. m = 3000 kg & volume = 4m³ then what is 0.75
   - specific gravity.
9. given, ω = 15%, void ratio (e) = 0.5 & G = 2.5
   find Degree of saturation = 75%.
10. The paint used for grill → oil paint.
11. following is not a brand of cement :-
    Lime type
12. what is the ratio of $\frac{V_{avg}}{V_{max}} = \frac{1}{2}$
13. a cantilever beam is used in which type of
    footing - strap footing.
14. 90 to 95% soil is passing from which sieve
    is called sand → 4.75mm.
15. specific volume ⇒ $\frac{1}{\rho}$
16. Reynold no is used for → pipe flow & channelflow
17. 50 kg cement bag ⇒ 35 lit.
18. given stress = , strain= & find
    modulus of elasticity.
19. Ratio of deflection of conical bar to rod = $\frac{1}{3}$

20. Ratio of M.I of circular section to square
    section whose width equal to diameter of circle
    = $\frac{3\pi}{16}$

26) spacer is used for -   27) max dist. bet^n spacer.

27) velocity is vector quantity.

28) sewer used in shape - New egg

29) Detation period of septic tank -

30) gas evolved from septic tank -

31) 0 mark on prismatic compass - at south

32) Arithmetic check - $\Sigma B.S - \Sigma F.S = $ Last R.L - First R.L

33) Temporary str built to enclose an area for excavation
   - Coffer dam

34) Slump test is used for Measuring - consistancy of
   concrete

35) Slump for concrete for road construction - 20 to 40 mm

36) for Mix design which of the following is req.
   - (1) Slump (2) characteristic strength

37) alternate layer of Header & Stracker - English bond

38) Cu for sand > 6

39) standard temp. from IS - $27°C$

40) for clay which of the following method used -
   pumping in test.

41) If superelevation is not provided then where
   side of road dull patches created in road -
   at outer edge.

42) Construction joint provided in cantilever beam

43) MKS unit of Energy -

44) Joining of point of equal elevation - contour

45) B.M of india - Karachi

46) Soil + Air - II - phase - dry

47) caring of concrete - (1) Reduce shrinkage
   (2) To reduce evaporation loss

48) Defn Elastic limit

49) If the base is softer than standard rubber -
   in casagrande apparatus - L.L always increased

50) As per IS water req. 135 LPCd

51) shrinkage ratio = % in volume
                        change in moisture content

52) for uniformly graded soil Cc = 1

Spacing of expansion joints.

① **Wall**

   ① Load bearing wall with cross walls at intervals. Traditional type of one brick thick or more — 30 m interval

   ② Wall of warehouse type const — 30 m

② Chajjas, balconies & parapels — 6 to 12 m interval

③ **Roofs**

   ① ordinary roof slabs of Rcc protected by layers of mud phuska — 20 to 30 m.
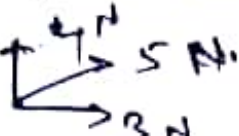
   ② Thin unsupported slab — 15 m

④ Frames — Joint in structure through slabs, beam, columns etc deviding the building into two independant str. unit — 30 m.

⑤ Road — 45 m.

22) Max Tension RFT in slab - 4%.
23) Minimum Area of steel in column = 0.8%
24) Capillary of water more in - ~~silt~~ clay > 30 m
25) For local shear failure Mobilized cohesion

$$C_m = \frac{2}{3} C$$

26) BODs @ - 20°C
27) Sewer is designed for - Maximum hourly Discharge
28) Skimming tank is used for remove oil & grease.
29) When sewage deposed in river at that stage sewage is Acidic in nature
30) Surface area of 43 grade cement - 3250 cm²/kg
31) crushing strength of first class brick - 105 kg/cm²
32) Creep coefficient for 7 days -
33) S.F for battening < 145
34) If lever arm increases then amount of Resistance increases
35) On sloping ground measuring length by chain then correction = $\dfrac{h^2}{2L}$

36) Contour interval for building site = 0.5 m
37) optical square is used for - 90° offset.
38) Theodolite is used for measuring - Horizontal & Vertical angles
39) Bearing stiffner provided on both side of column then ratio of effective length to the original length =
40) inclined parking system more vehicle parked - 90°
41) In two hinge arch hinges provided at - end
42) ~~Amount~~ Design of water ~~req~~ for Hospital -
43) Construction joint in retaining wall -
44) The crop sowing at october & at March & June is this crop is seasonal crops
45) Loess - Wind deposited.

21) No. of sample for testing — 3

22) Bleeding

23) Modular of elasticity def^n

24) $\frac{l}{d}$ ratio for s.s beam –

26) Volume of cube – 0.001 m³

27) Cement – Exothermic.

28) Fine sand size – 75μ to < 425 μ

29) Unit of elasticity – kg/cm².

30) setting time. (initial)

31) Building hight approval from Airport Authority.

32) Cantilever udl Max B.M.

33) Max. heep stress in thick shell. (circumference)

34) Poisson's ratio – uniaxial (Lateral to linear)

35) Slenderness ratio.

36) Tricalcium silicate (what is another name? – Alite)

37) Early strength of concrete.

38) F.M > 3.2 not consider for R.C.C.

39) Cement sand paste = Mortar.

40) Floor space index

41) Contigencies..

42) RMC (which are not consider as RMC Product?)

43) Layout plan.

1. Modulus of resilance
2. Hooks law
3. Melability
4. F.M. Coarse grained
5. Homojinity —Vee-b-compaction
4. W/C ratio & cement content M20 -sewer
5. links - 30 chain
6. in 1m - 30M chain - 5 linker
7. $\nearrow$ 5 N.
   $\searrow$ 3 N
8. without instrumental survey -except- traversing
9. IS- 43
10. IS - 53
11. Range of F.M = 2 to 3.5