

Future Secure Institute®

Question bank (Building)

Q1. The fineness modulus of an aggregate is roughly proportional to:-

- a) Average size of particle in the aggregate
- b) Grading of the aggregate
- c) Specific gravity of the aggregate
- d) Shape of the aggregate

Q2. The aggregate is said to be flaky when:-

- a) Its length is equal to its mean dimension
- b) Its length is equal to 1.8 times its mean dimension
- c) Its dimension is there fifth of its mean dimension
- d) Its least dimension is three fifth of its mean dimension

Q3. The soundness of cement is tested by:-

- a) Vicat's apparatus
- b) Lechatelier's apparatus
- c) Compression testing machine
- d) standard briquette test

Q4. In lime concrete, lime is used as:-

- a) Admixture
- b) binding aggregate
- c) Fine aggregate
- d) Coarse aggregate

Q5. Snoweem is :-

- a) Coloured cement
- b) Powdered lime
- c) Chalk powder
- d) Mixture of chalk powder and lime

Q6. Aggregate impact value indicates which of the following properties of aggregates: -

- a) Durability
- b) Toughness
- c) Hardness
- d) Strength

Q7. Following stone is suitable for damp-proofing:-

- a) Slate
- b) Marble
- c) Laterite
- d) Granite

Q8. The standard size of a masonry brick is:-

- a) 18 cm x 8 cm x 8 cm
- b) 18 cm x 9 cm x 9 cm
- c) 19 cm x 8 cm x 8 cm
- d) 19 cm x 8 cm x 8 cm

Q10. Turpentine oil is used in paint as a :-

- a) Base
- b) Carrier
- c) Drier
- d) Thinner

Q11. The early high strength of rapid hardening cement is due to its:-

- a) Increased content of gypsum
- b) Burning at high temperature
- c) Increased content of cement
- d) Higher content of tricalcium

Q12. As the cement sets and hardens, it generates heat. This is called:-

- a) Heat of hydration
- b) Latent heat
- c) Heat of vaporisation
- d) Sensible heat

Q13. In concrete while hand mixing is adopted, excess cement to be added is:-

- a) 4% b) 10% c) 14% d) 20%

Q14. To prevent segregation, the maximum height for placing concrete, is:-

- a) 100 cm b) 125 cm c) 150 cm d) 200 cm

Q15. Di-calcium silicate (C₂S) :-

- a) Hydrate rapidly b) Generates less heat of hydration c) Hardens rapidly d) Has less resistance to sulphate attack

Q16. Separation of coarse aggregates from concrete during transportation, is Known as:-

- a) Bleeding b) Creeping c) Segregation d) Evaporation

Q17. The resistance of an aggregate to wear is known as:-

- a) Impact value b) Abrasion resistance c) Shear resistance d) Crushing resistance

Q18. If fineness modulus of a sand is 2.5, it is graded as :-

- a) Very fine sand b) Fine sand c) Medium sand d) Coarse sand

Q19. Water- cement ratio is measured.....of water and cement used per cubic meter of concrete:-

- a) Volume by volume b) Weight by weight c) weight by volume d) volume by weight

Q20. For batching 1:2:4 concrete mix by volume the ingredients required per bag (50 kg) of cement are:-

- a) 100 litres of fine aggregate : 140 litres of coarse aggregate
b) 100 kg of fine aggregate : 200 kg of coarse aggregate
c) 70 kg of fine aggregate : 140 kg of coarse aggregate
d) 70 litres of fine aggregate : 140 litres of coarse aggregate

Q21. Bulking is:-

- a) Increase in volume of sand due to moisture which keep sand particles apart
b) Increase in density of sand due to impurities like clay, organic matter
c) Ramming of sand so that it occupies minimum volume
d) Compacting of sand

Q22. Aggregate is Said to be flaky, if its least dimension is less than:-

- a) $\frac{2}{3}$ mean dimension b) $\frac{1}{2}$ mean diameter c) $\frac{3}{5}$ mean dimension d) $\frac{3}{4}$ mean diameter

Q23. The fineness of cement can be found out by sieve analysis using IS sieve number:-

- a) 20 b) 10 c) 9 d) 6

Q24. Strength based classification of bricks is made on the basis of:-

- a) IS : 3101 b) IS : 3102 c) IS : 3495 d) IS : 3496

Q25. In paints, methylated spirit, naphtha and turpentine are used as:-

- a) Base b) Binder c) Solvent d) Extender

Q26. Coarse sand has a fineness modulus in the range of:-

- a) 2.2 – 2.4 b) 2.4 – 2.6 c) 2.6 – 2.9 d) 2.9 – 3.2

Q27. Under heat and pressure, granite can transform into:-

- a) Quartzite b) marble c) Slate d) Gneiss

Q28. Aluminum is anodized to protect it from weathering effect by forming a surface coat of :-

- a) Aluminium carbide b) Aluminium borate c) Aluminium oxide d) Red lead

Q29. Quartzite and marble are by nature:-

- a) Volcanic b) plutonic c) sedimentary d) Metamorphic

Q30. The density of cement is taken to be:-

- a) 1000 kg/m³ b) 1250 kg/m³ c) 1440 kg/m³ d) 1800 kg/m³

Q31. Which of the following type of lime is used for plastering and white washing:-

- a) Quick lime b) Slaked lime c) Hydraulic lime d) Fat lime

Q32. Identify the wrong statement:-

- a) Bulking of sand can go up to 40%
b) Bulking of sand is maximum at 4 – 6% maximum concrete
c) Bulking of sand is considered in weight batching of concrete mix.
d) Bulking of sand occurs due to free moisture

Q33. Weight of one bag of cement is:-

- a) 70 kg b) 50 kg c) 60 kg d) 65 kg

Q34. Admixtures which cause early setting and hardening of concrete are called:-

- a) Air entraining agents b) Workability admixture c) Accelerators d) Retarders

Q35. Basalt stone is by nature:-

- a) Metamorphic b) Volcanic c) Plutonic d) Sedimentary

Q36. Thickness of plastering is usually:-

- a) 40 mm b) 6 mm c) 12 mm d) 25 mm

Q37. Water absorption of Class-I brick after 24 hours of immersion in water should not exceedof self weight: - a) 25% b) 28% c) 18% d) 22%

Q38. For a given aggregate ratio increasing the water cement ratio:-

- a) Increase the strength b) Decrease shrinkage
c) Increase shrinkage d) Does not cause any in shrinkage

Q39. Granite is a rock that is by nature:-

- a) Metamorphic b) Volcanic c) Plutonic d) Sedimentary

Q40. Zinc Oxide is a pigment having color:-

- a) Blue b) White c) Yellow d) Red

Q41. The most suitable tone for building piers is:-

- a) Granite b) Limestone c) Marble d) Sandstone

Q42. Number of modular bricks required for one cubic meter of brick masonry is:-

- a) 400 b) 450 c) 550 d) 500

Q43. The plasticity to mould bricks in suitable shape is contributed by:-

- a) Alumina b) Lime c) Magnesia d) Silica

Q44. The crushing strength of a first class brick is:-

- a) 3 N/mm² b) 5.5 N/mm² c) 10 N/mm² d) 7.5 N/mm²

Q45. Which of the following cements is suitable for use in urgent repairs of existing massive concrete structure such as large dams?

- a) Ordinary Portland cement b) Low heat cement
c) Rapid hardening Cement d) Sulphate resisting cement

Q46. For polishing mosaic floors we use:-

- a) Carbolic acid b) Muriatic acid c) Acetic acid d) Oxalic acid

Q47. The lintels are preferred to arches because:-

- a) Arches require more headroom to span the opening like doors, windows, etc.
b) Arches require strong abutments to withstand arch thrust.
c) Arches are difficult in construction
d) All of the above

Q48. The base material for distemper is:-

- a) Chalk b) Lime c) clay d) Lime Putty

Q49. The amount of water used in performing settling time test of cement is (assuming P= standard consistency of cement):-

- a) 0.60 P b) 0.65 P c) 0.80 d) 0.85

Q50. Gypsum used in cement manufacturing acts as:-

- a) Accelerator b) Air entraining agent c) Plasticizer d) Retarder

Q51. Maximum admissible water-cement ratio for mild environmental exposure should be:-

- a) 0.55 b) 0.50 c) 0.45 d) 0.40

Q52. Air entrainment in the concrete increase: -

- a) Workability b) Strength c) The effect of temperature variation d) The unit weight

Q53. Which of the following is added for quick setting of cement:-

- a) Gypsum b) Alum c) Zinc sulphate d) Aluminium sulphate

Q54. During the manufacture of Portland cement, gypsum or plaster of paris is added to:-

- a) Increase the strength of cement b) Modify the colour of cement
c) Reduce heat of hydration of cement d) Adjust setting time of cement

Q55. The water absorption for good brick should not be more than:-

- a) 10% of its dry weight b) 15% of dry weight
c) 10% of its saturated weight d) 15% of its saturated weight

Q56. The disease of dry rot in timber is caused by:-

- a) Complete submergence in water b) None of these
c) Alternate wet and dry conditions d) Lack of ventilation

Q57. Out of the constituents of cement namely, tri calcium silicate (C_3S), dicalcium silicate (C_2S), tri calcium aluminate (C_3A), And tetra-calcium aluminoferrite (C_4AF) the first to set and harden is:-

- a) C_3A b) C_4AF c) C_3S d) C_2S

Q58. The addition of $CaCl_2$ in concrete results in:-

- (1) Increase shrinkage
(2) decrease setting time
(3) decrease shrinkage
(4) increase setting time
a) Only (1) b) only (1) and (2) c) only (1) and (4) d) only (4)

Q59. The concrete mix design is conducted as per:-

- a) IS : 10262 b) IS : 13920 c) IS : 383 d) IS : 456

Q60. Clay brick are made of earth having:-

- a) Nearly equal proportion of silica and alumina b) Nearly equal proportion of alumina, silica and lime
c) 35-70% silica and 10 – 20% alumina d) 10 – 20% silica and 35 – 70% alumina

Q61. The compound first to settle in cement is:-

- a) Tricalcium silicate b) Tetra calcium alumina-ferrite c) Tetra calcium aluminate d) Dicalcium silicate

Q62. The age of trees can be understood by:-

- a) Measuring the diameter of pith b) The thickness of bark
c) Counting number of rings d) Length of medullary

Q63. Putty is made up of:-

- a) Red lend and linseed oil b) Zinc oxide and boiled linseed oil
c) White lend and turpentine d) Powdered chalk and raw linseed oil

Q64. Which of the following Bouge's compounds of cement liberates maximum heat of hydration:-

- a) C_3S b) C_4AF c) C_3A d) C_2S

Q65. AS per IS : 456-2000, the organic content of water used for making concrete should NOT be more than :-

- a) 200 mg/L b) 250 mg/L c) 100 mg/L d) 150 mg/L

Q66. Which of the following is the hardest wood?

- a) Babul b) Chir c) Teak d) Shisham

Q67. Hardness of rock can be tested in situ using:-

- a) Smith's test b) Schmidt hammer test c) Acid test d) Crystallization test

Q68. Unit weight of brick work is about:-

- a) 17-18 kN/m³ b) 18-19 kN/m³ c) 19-20 kN/m³ d) 20-21 kN/m³

Q69. Which one of the following is the purest form of iron?

- a) Cast iron b) Wrought iron c) Mild steel d) High carbon Steel

Q70. The volatile diluents added to paint are Known as:-

- a) Drier b) Pigment c) Thinner d) Distemper

Q71. Identify which grade of cement is not available in Indian market:-

- a) 23 grade b) 33 grade c) 43 grade d) 53 grade

Q72. Rapid setting cement contains relatively higher proportion of:-

- a) C_3S b) C_2S c) C_3A d) C_4AF

Q73. According to IS : 383, the coarsest sad falls under grading zone:-

- a) I b) II c) III d) IV

Q74. The initial setting time of fresh concrete should be: -

a) Lower than 15 minutes b) Greater than 30 minutes c) Greater than 1 hour d) Not more than 10 hours

Q75. Find the wrong statement:-

In Le chatelier's apparatus we:-

- a) Estimate expansion potential in cement b) Estimate Presence of magnesia in cement
c) Estimate presence of free lime in cement d) Adopt 0.78 times the standard consistency of water

Q76. Find the old entry among silica fume, rice husk ash, metakaoline and ground granulated blast furnace slag with respect to cement production.

- a) Silica fume b) Rice husk ash c) metakaoline d) Ground granulated blast furnace slag

Q77. Dry Rot:-

- a) Cracks the timber b) Reduces the timber to powder
c) Reduces the strength of timber d) Shrinks the timber

Q78. Resins are:-

- a) Not soluble in water b) Soluble in spirit
c) Used in varnishes d) Left behind on evaporation of oil

Q79. Age of a tree may be ascertained by:-

- a) Radius of its stem b) Circumference of its stem c) Number of branches d) Number of angular rings

Q80. The main ingredients of Portland cement are:-

- a) Lime and silica b) Lime and alumina c) Silica and alumina d) All the above

Q81. Pozzolana are rich in:-

- a) Silica b) Silica and alumina
c) Silica, alumina and alkali d) Silica, alumina, alkali and iron

Q82. Which of the following is a rock?

- a) Quartzite b) Mica c) Gypsum d) None

Q83. Stone is rejected if it absorbs water more than:-

- a) 5% b) 10% c) 20% d) 25%

Q84. Crushing strength of first class bricks should not less than:-

- a) 35 Kg/cm² b) 70 Kg/cm² c) 100 Kg/cm² d) 150 Kg/cm²

Q85. Plaster of Paris is obtained by calcination:-

- a) Bauxite b) Gypsum c) Kankar d) Limestone

Q86. The compressive strength of ordinary Portland cement after 3 day should not be less than:-

- a) 50 Kg/cm² b) 100 Kg/cm² c) 115 Kg/cm² d) 150 Kg/cm²

Q87. The constituent of cement which is responsible for initial setting time of cement:-

- a) Dicalcium silicate b) Tricalcium silicate c) Tricalcium aluminate d) All the above

Q88. The age of a tree can be known by examining:-

- a) Cambium layer b) Annular rings c) Medullary rays d) Heart wood

Q89. Asbestos is used as:-

- a) A Corrugated sheet used for roofing b) An incombustible fire-proof clothes
c) An organic substance d) All the above

Q90. In paints, the pigments responsible for:-

- a) Durability b) Color c) Smoothness d) Glassy face

Q91. Resins are:-

- a) Not soluble in water b) Soluble in spirit c) Used in varnishes d) All of the above

Q92. Chemically, Marble is known as:-

- a) Metamorphic rock b) Argillaceous rock c) Calcareous rock d) Siliceous rock

Q93. The standard size of a masonry brick is:-

- a) 18 cm × 8 cm × 8 cm b) 19 cm × 9 cm × 9 cm
c) 20 cm × 10 cm × 10 cm d) 21 cm × 11 cm × 11 cm

Q94. Generally Wooden moulds are made from:-

- a) Plywood b) Shisham wood c) Deodar wood d) Teak wood

Q95. Good quality sand is never obtained from:-

- a) River b) Nala c) Sea d) Gravel powder

Q96. Plywood is made from:-

- a) Common timber b) Bamboo fiber c) Teak wood only d) Asbestos sheets

Q97. The most commonly used base for timber painting is:-

- a) Red lead b) Zinc white c) White lead d) Titanium white

Q98. Plastic asphalt is:-

- a) Used as a waterproofing layer over roof b) A mixture of cement and asphalt
c) A natural asphalt d) A refinery product

Q99. The most durable varnish is:-

- a) Water varnish b) Spirit varnish c) turpentine varnish d) Oil varnish

Q100. Bitumen is generally obtained from:-

- a) Organic material b) Synthetic material c) Petroleum product d) Coal

Q101. Snowcrete is one of the patent forms of :-

- a) Distempers b) Waterproof cement paints c) Enamel paints d) Cellulose paints

Q102. For the manufacture of Portland cement, the proportion of raw materials used is:-

- a) Lime 63%; silica 22% and other 15%
b) Silica 70%, lime 20% and other 10%
c) Silica 40%, lime 40% and other 20%
d) None of the above

Q103. Compound of cement which reacts immediately with water and sets first is:-

- a) Tri-calcium silicate b) Tri-calcium aluminate
c) Di-calcium silicate d) All of the above

Q104. Seasoning of timber is done for removing:-

- a) Knots from timber b) Sap from timber c) Roughness of timber d) None

Q105. The most commonly used base for iron and steel work is:-

- a) Zinc white b) White lead c) Red lead d) None

Q106. Bitumen in:-

- a) Solid state is called asphalt b) Semi fluid state is called mineral tar
c) Fluid state is called petroleum d) All of the above

Q107. The proper size of cube mould for testing compressive strength of cement is:-

- a) 7.05 cm b) 10.05 cm c) 10 cm d) 15 cm

Q108. Specific gravity of OPC is generally:-

- a) 4.92 b) 3.15 c) 2.10 d) 1.75

Q109. Concrete attains major part of its strength in:-

- a) One week b) two weeks c) four weeks d) Five weeks

Q110. M 20 grad that strength of 15 cm cubes at 2% than of curing shall be:-

- a) 20 kg/cm² b) 20 N/cm² c) 8 N/mm² d) 8 N/mm²