

1 For the manufacture of Portland cement, the proportions of raw materials used are

A : Lime 63%, silica 22% and other 15%

B : Lime 70%, silica 20% and others 10%

C : Lime 40%, silica 40% and other 20%

D : None of these

2 Gypsum is added to cement

A : To prevent cracks

B : To help C^2S and C^3

C : To give a uniform texture

D : To counteract C^3

3 Rapid hardening cement attains early strength due to -

A : Larger proportion of lime grounded finer than normal cement

B : Lesser proportion of lime grounded coarser than normal cement

C : Lesser proportion of lime grounded than normal cement

D : Larger proportion of lime grounded coarser than normal cement

4 Pick up the incorrect statement applicable to the field test of good cement :

A : When one thrust one's hand into a bag of cement, one should feel warm

B : The color of the cement is bluish

C : A handful of cement thrown into a bucket of water should sink immediately

D : All of above

5 For the construction of thin RRC structures the type of cement to be avoided is _____

A : ordinary portland cement

B : rapid hardening cement

C : low heat cement

D : blast furnace slag

6 An ordinary portland cement when tested for its fineness, should not leave any residue on I.S sieve No. 9 more than _____

A : 0.05

B : 0.1

C : 0.15

D : 20

7 Pick up the incorrect statement from the following :

A : The degree of grinding of cement, is called fineness

B : The process of charging cement paste into hard mass, is known as setting of cement

C : The phenomenon by virtue of which cement dose not allow transmission of sound, is know as soundness of cement

D : The heat generated during chemical reaction of cement with water is known as heat of hydration

8 The diameter of the Vicat Plunger is 10 mm and its length varies from -

A : 20mm to 30 mm

B : 30 mm to 40

C : 40 to 50 mm

D : 50 to 60 mm

9 Quick setting cement is produced by adding:

A : Less amount of gypsum in very fine powdered form

B : More amount of gypsum in very fine powdered

C : Aluminium sulphate is very fine powdered from

D : Pozzolana in very powdered from

10 The minimum percentage of chemical ingredient in cement is _____.

A : Magnesium oxide

B : Iron oxide

C : Alumina

D : lime

11 The commercial name of white and colored cement in India is -

A : Colocrete

B : Rainbow cement

C : Silviculture

D : All option are correct

12 Which IS code gives specifications about cement plaster?

A : IS 1500

B : IS 1221

C : IS 1400

D : IS 1661

13 The type of mortar which issued for the construction works carried out in waterlogged area is _____.

A : Cement mortar

B : Loose mortar

C : Mortar of vert low consistency

D : Mortar having works high water/cement ratio

14 Which of the following shows the correct decreasing order of rate of hydration of portland cement compounds

A : $C_3A > C_4AF > C_3S > C_2S$

B : $C_3A > C_4AF > C_2S > C_3S$

C : $C_3A > C_3S > C_2S > C_4AF$

D : $C_4AF > C_3A > C_3S > C_2S$

15 Which of the following constituents is present in the blast furnace slag?

A : 50% alumina and 20% calcium oxide

B : 45% calcium oxide and 35% silica

C : 25% calcium oxide and 15% silica

D : 25% magnesia and 15% silica

16 What is the temperature range in cement kiln?

A : 800 to 1050°C

B : 1050 to 1300°C

C : 1300 to 1500°C

D : 1800 to 2100°C

17 Which of the following is fused together to prepare the high alumina cement?

A : Bauxite and limestone

B : Bauxite limestone and gypsum

C : Limestone, gypsum and clay

D : Limestone, bauxite gypsum, clay and chalk

18 Which of the following statements is true?

A gap 0.3 m is to be maintained between cement bag and wall, while storing cement

A gap 100 cm is to be maintained between cement bag and wall, while storing cement

- A : Only A
- B : Only B
- C : Both A and B
- D : None of these

19 Before plastering, the surface has to be

- A : Rough
- B : Smooth
- C : Cement
- D : Watered

20 How many method of ferro cementing are there?

- A : 3
- B : 2
- C : 4
- D : 6

21 In fineness test of rapid hardening portland cement the residue on sieve number 9 should not be more than

- A : 0.01
- B : 0.05
- C : 0.1
- D : 0.15

22 In ordinary cement about 99% of its final strength is achieved in _____.

- A : 3 days
- B : 7 days
- C : 28 days
- D : 1 year

23 Bulking of sand occurs in the moisture content of _____.

- A : 0.03
- B : 0.05
- C : 0.1
- D : 0.12

24 What do you mean by 'work house pack' of cement?

- A : Full capacity of the warehouse
- B : Pressure exertion of the bags of upper layers
- C : Pressure compaction of the bags of lower layers
- D : Packing the warehouse

25 Which of the below is not property of ferro cement?

- A : Impervious nature
- B : Capacity to resist shock
- C : No need of formwork
- D : Strength per unit mass is low

26 Strength of concrete increases with

- A : Increase in water cement ratio
- B : Decrease in water cement ratio
- C : Decrease in size of aggregate
- D : Decrease in curing time

27 Workability of concrete mix with low water cement ratio is determined by :

- A : Slump test
- B : Tensile strength test
- C : Compaction factor test
- D : Flexural strength test

28 Which of the following proportion of the ingredients of concrete mix, is not in conformation to arbitrary method of proportioning?

- A : 1 : 1 : 2
- B : 1 : 1 : 4
- C : 1 : 3 : 6
- D : 1 : 4 : 10

29 Modulus of elasticity for concrete improves by :

- A : Shorter curing period
- B : Age
- C : Higher W.C. ratio
- D : All option are correct

30 If 50 kg of fine aggregates and 100 kg of coarse aggregate are mixed in a concrete whose water cement ratio is 0.6, the weight of water required for harsh mix is :

- A : 8 kg
- B : 10 kg
- C : 12 kg
- D : 14 kg

31 In case of hand mixing of concrete, the extra cement to be added is :

- A : 0.05
- B : 0.1
- C : 0.15
- D : 0.2

32 Segregation is responsible for _____.

- A : Honey comb concrete
- B : Porous layers in concrete
- C : Sand streaks in concrete
- D : All the option are correct

33 In order to have segregation in concrete dropping height should not less than _____.

- A : 25 cm
- B : 50 cm
- C : 100 cm
- D : 250 cm

34 Addition of sugar in concrete results in _____.

- A : Increase in setting time by about 1 hour
- B : Increase in setting time by about 4 hour
- C : Decrease in setting time by about 1 hour
- D : Decrease in setting time by about 4 hour

35 Poisson's ratio for concrete _____.

- A : increases with richer mix
- B : Decreases with richer mix
- C : Remains constant
- D : None of these

36 The last most suitable for concrete of very low workability is :

- A : Slump test
- B : Compaction factor test
- C : Vee-Bee test
- D : All option are correct

37 Which of the following represents the correct expression for maturity (m) of the concrete sample?

- A : A rich mix of concrete possesses higher strength than a lean mix of desired work- ability with excessive quantity of water.
- B : The strength of concrete decreases as the water cement ratio increased.
- C : If the water cement ratio is less than 0.45 the concrete is not workable and caused honeycombed structure
- D : Good compaction by mechanical vibration, increases the strength of concrete.

38 Pick up the correct statement from the following :

- A : Higher workability indicated unexpected increase in the moisture content.
- B : Higher workability indicated deficiency of sand
- C : If the concrete mix is dry, the slump is zero.
- D : All option are correct.

39 The top diameter, bottom diameter and the height of a slump mould are_____.

- A : 10 cm, 20 cm, 30 cm
- B : 20 cm, 30 cm, 20 cm
- C : 20 cm, 10 cm, 30 cm
- D : 20 cm, 30 cm, 10 cm

40 A concrete having a slump of 6.5 cm is said to be_____.

- A : Dry
- B : Earth moist
- C : Semi-plastic
- D : Plastic

41 Inert material of a cement concrete mix is _____.

- A : Water
- B : Cement
- C : Aggregate
- D : None of these

42 Which of the below is an example of plasticizer ?

- A : Hydroxylated carboxylic acid
- B : Flouro-silicate
- C : Gypsum
- D : Surkhi

43 For M25 grade concrete, the split tensile strength in terms of percentage of its compressive strength is_____.

- A : 7 to 11%
- B : 18 to 28%
- C : 28 to 38%
- D : 38 to 48%

44 Transport of concrete by pumps, is done for a distance of

- A : 100 m
- B : 200 m
- C : 300 m
- D : 400 m

45 The gel space ratio of a concrete sample is given as 589. What is the theoretical strength (N/mm²) of that concrete sample?

- A : 49.04
- B : 65.71
- C : 104.03
- D : 116.8

46 For compacting plain concrete road surface o thickness less than 20 cm, we use

- A : Internal vibrator
- B : Screed vibrator
- C : From vibrator
- D : None of these

47 Compaction factor is defined as the ratio of

- A : Mass of fully compacted concrete to mass of partially compact concrete
- B : Mass of partially compacted concrete to mass of fully compacted concrete
- C : Mass of partially compacted concrete to the total mass of concrete
- D : None of these

48 Compaction factor for heavily reinforced section with vibration is:

- A : 0.75
- B : 0.75 - 0.85
- C : 0.85 -0.92
- D : > 0.92

49 The first operation of finishing floors is known as:

- A : Floating
- B : Screeding
- C : Trowelling
- D : Finishing

50 Sand requiring a high water cement ratio, belongs to

- A : Zone I
- B : Zone II
- C : Zone III
- D : Zone IV

51 The concrete sample is cured at 15 degree celsius for 28 days. If the origin temperature is taken as (-11) degree Celsius, What is the maturity (degree Celsius days) of concrete sample?

- A : 112
- B : 307
- C : 402
- D : 728

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52 Which of the following statements is true?

Impermeability is a property of fresh concrete
Impermeability is a not property of fresh concrete
Impermeability is nothing to do with concrete at all

- A : Only A
- B : Only B
- C : Only C
- D : None of these

53 A slump of 50 -100 mm can be used for

- A : Mass concreting
- B : Strip footing
- C : Trench fill
- D : Beams

54 For preparing ordinary concrete, what is the quantity of water used?

A : 5% by weight of aggregates plus 20% of weight of cement

B : 10% by weight of aggregates plus 10% of weight of cement

C : 5% by weight of aggregates plus 30% of weight of cement

D : 30% by weight of aggregates plus 10% of weight of cement

55 How many components are mainly used to prepare concrete?

- A : 5
- B : 3
- C : 2
- D : 4

56 ____ is added to make white concrete.

- A : Fly ash
- B : Metakaolin
- C : Rice husk
- D : Figments

57 How does the strength of concrete differ with age of concrete?

- A : Increases
- B : Decreases
- C : No effect
- D : Increases, then decreases

58 The figure given below represents a

- A : Low slump of concrete
- B : Normal slump of concrete
- C : Shear slump of concrete
- D : collapse slump of concrete

59 Separation of coarse aggregate from mortar during transportation is known.

- A : Bleeding
- B : Creeping
- C : Segregation
- D : Shrinkage

60 Workability of concrete for a given water content is good if the aggregate are

- A : Rounded aggregate
- B : Irregular aggregate
- C : Angular aggregate
- D : Flaky aggregate

61 Pick up the correct statement from the following

A : Continuous grading is not necessary for obtaining a minimum of air voids

B : The omission of a certain size of aggregate is shown by a strength horizontal line on the grading curve

C : The omission of certain size of aggregate in concrete increases the workability but also increase the liability

D : All option are correct

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