| UkaTarsadia University | |
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| **Diploma Engineering MCQ Question bank** | |
| **Subject Code: 020030504** | **Date:** |
| **Subject Name: Concrete Technology** | |

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Each question is of 1 mark.
4. Use of SIMPLE CALCULATOR is permissible. (Scientific/Higher Version not allowed)
5. English version is authentic.

| Unit 2- Admixtures | | | | |
|---|---|---|---|---|
| 1 | What do you mean by admixtures? | | | |
| | | Ingredients which are added to in cement before or after concrete mix | | Ingredients which are added to make aggregates healthier |
| | | Ingredients added in cement to make it shinier | | Ingredients added in concrete to make good workability |
| | | | | |
| 2 | Which of the following statements is incorrect about the function of admixtures? | | | |
| | | To accelerate the initial set of concrete, to speed up the rate of development of strength at early ages | | To enhance the workability |
| | | To reduce the segregation in grout and concrete mixers | | To retard the initial set, to keep concrete workable for a shorter time for placement |
| | | | | |
| 3 | Which of the following statements is incorrect about the function of admixtures? | | | |
| | | To increase the strength of concrete by reducing the water content and by densification of concrete | | To increase the durability of concrete to enhance its resistance to special conditions of exposure |
| | | To increase the capillary flow of water through concrete and to increase its impermeability to liquids | | To control the alkali-aggregate expansion or alkali silica reaction |
| | | | | |
| 4 | Which of the following option doesn't come in chemical admixtures? | | | |
| | | Plasticizers | | Pozzolanic |
| | | Super plasticizer | | Accelerators |
| | | | | |
| 5 | Classification of admixtures are classified into _____ types. | | | |
| | | 1 | | 2 |
| | | 3 | | 5 |
| | | | | |

| | | | | |
|---|---|---|---|---|
| 6 | Which of the following options doesn't come in mineral admixtures? | | | |
| | | Set retarders | | Blast Furnace Slag |
| | | Fly ash | | Silica Fume |
| | | | | |
| 7 | Admixtures which cause early setting, and hardening of concrete are called _____ | | | |
| | | Plasticizers | | Retarders |
| | | Super plasticizer | | Accelerators |
| | | | | |
| 8 | Mid-range water reducers result in at least _____ %. | | | |
| | | 8 | | 6 |
| | | 4 | | 2 |
| | | | | |
| 9 | What is the main function of set retarders? | | | |
| | | Increase curing rate | | Slows curing rate |
| | | Improves workability at low w/c ratio | | Speeds up start of finishing operations |
| | | | | |
| 10 | Super plasticizers reduce water requirement by _____ %. | | | |
| | | 12-30 | | 10-15 |
| | | 30-42 | | 48 |
| | | | | |
| 11 | Damp proofing is done with a _____ based mixture. | | | |
| | | Sand | | Tar |
| | | Rubber | | Lead |
| | | | | |
| 12 | Damp proofing _____ the process of water absorption. | | | |
| | | Increase | | Slows |
| | | Doesn't effect | | Depends on the mixture |
| | | | | |
| 13 | Damp proofing cracks along with the foundation. | | | |
| | | True | | False |
| | | | | |
| | | | | |
| 14 | Entrapped air normally exists in the form of relatively _____ air voids. | | | |
| | | Small | | Absent |
| | | Large | | Medium |
| | | | | |
| 15 | Damp proofing _____ resist water well enough. | | | |
| | | Does | | Does not |
| | | Doesn't effect | | Depends on the temperature |
| | | | | |
| 16 | What are waterproofing admixtures? | | | |
| | | Water repellent materials | | Water fair material |
| | | Water absorption material | | Water adsorption material |
| | | | | |
| 17 | Waterproofing admixtures are available in powder, paste or liquid and gaseous form. | | | |
| | | True | | False |

| | | | | |
|---|---|---|---|---|
| | | | | |
| | | | | |
| 18 | Which one is not a chemically active pore filling material? | | | |
| | | Silicate of soda | | Aluminium |
| | | Chalk | | Zinc |
| | | | | |
| 19 | Chemically active pore fillers _____ the setting of concrete. | | | |
| | | Retards | | Decrease |
| | | Accelerates | | No change |
| | | | | |
| 20 | Chemically inactive pore fillers _____ the workability. | | | |
| | | Decrease | | Increase |
| | | Don't affect | | Improve |
| | | | | |
| 21 | Water repelling materials like soda, potash soaps, etc make the concrete pervious. | | | |
| | | True | | False |
| | | | | |
| | | | | |
| 22 | Entrapped air normally exists in the form of relatively _____ air voids. | | | |
| | | Small | | Absent |
| | | Large | | Medium |
| | | | | |
| 23 | Which one is not a chemically inactive pore filling material? | | | |
| | | Aluminium | | Chalk |
| | | Talc | | Fullers earth |
| | | | | |
| 24 | What are plasticizers? | | | |
| | | Which adds water for workability | | Which reduces water for workability |
| | | Which decreases workability at the same water content | | Which oxidizes water for workability |
| | | | | |
| 25 | Which one is anionic surfactants? | | | |
| | | Polyglycol esters | | Hydroxylated carboxylic acids |
| | | Lignosulphonates | | Carbohydrates |
| | | | | |
| 26 | What is the amount used of plasticizers in cement by weight? | | | |
| | | 0 | | 0.1-.4% |
| | | 1% | | 1-2% |
| | | | | |
| 27 | What is the limitation of plasticizers? | | | |
| | | A good plasticizer is one which does not cause air-entrainment in concrete > .1-.2% | | A good plasticizer is one which does not cause air-entrainment in concrete > 5% |
| | | A good plasticizer is one which does not cause air-entrainment in concrete > 10-20% | | A good plasticizer is one which does not cause air-entrainment in concrete > 1-2% |
| | | | | |
| 28 | At constant workability, what is the reduction in mixing water? | | | |

| | | | | |
|---|---|---|---|---|
| | | 1-2% | | 50% |
| | | 0.1-.4% | | 5-15% |
| | | | | |
| 29 | Where do we use plasticizers? | | | |
| | | Where low degree of workability is required | | Where medium degree of workability is required |
| | | Where high degree of workability is required | | Where very low degree of workability is required |
| | | | | |
| 30 | What is super plasticizers? | | | |
| | | Which adds water for workability | | Which reduces high range of water for workability |
| | | Which decreases workability at the same water content | | Which oxidizes water for workability |
| | | | | |
| 31 | What is the allowed reduction of water with super plasticizers without reducing workability? | | | |
| | | 10% | | 20% |
| | | 30% | | 40% |
| | | | | |
| 32 | Is it possible to use w/c ratio as low as 5? | | | |
| | | Yes | | No |
| | | | | |
| | | | | |
| 33 | What is the limitation of Carboxylic acids in High range water reducers? | | | |
| | | 0% | | 0.10% |
| | | 0.20% | | 0.30% |
| | | | | |
| 34 | What is an accelerator? | | | |
| | | Which speed up the initial set of concrete | | Which delays the initial set of concrete |
| | | Which speed up the final set of concrete | | Which delays the final set of concrete |
| | | | | |
| 35 | What is retender? | | | |
| | | Which speed up the initial set of concrete | | Which delays the initial set of concrete |
| | | Which speed up the final set of concrete | | Which delays the final set of concrete |
| | | | | |
| 36 | NaOH is the example of retenders. | | | |
| | | True | | False |
| | | | | |
| | | | | |
| 37 | Zinc is the example of retenders. | | | |
| | | True | | False |
| | | | | |
| | | | | |
| 38 | Retarders are used to _____ | | | |

| | | | | |
|---|---|---|---|---|
| | | Offset the accelerating effect of cold weather on the setting of concrete | | Offset the accelerating effect of hot weather on the setting of concrete |
| | | Offset the Retarding effect of cold weather on the setting of concrete | | Offset the Retarding effect of hot weather on the setting of concrete |
| | | | | |
| 39 | At normal temperatures, the addition of sugar _____ per cent has little effect on the rate of hydration. | | | |
| | | 0.5-1 | | 1-2 |
| | | 0.05-0.1 | | 0.1-0.2 |
| | | | | |
| 40 | Pick up the correct statement from the following. | | | |
| | | Calcium fluosilicates act as a retarders | | $CaCl_2$ acts as a retarders |
| | | Gypsum acts as a retarders | | Gypsum acts as an accelerators |
| | | | | |
| 41 | Setting time of cement increaGypsumses by adding _____ | | | |
| | | Gypsum | | $CaCl_2$ |
| | | NaOH | | Hydrogen peroxide |
| | | | | |
| 42 | Retarders used at grouting oil wells, where temperature is about _____ $^{o}C$. | | | |
| | | 100 | | 150 |
| | | 200 | | 250 |
| | | | | |
| 43 | Minute spherical bubbles of size ranging from _____ microns. | | | |
| | | 1-100 | | 5-80 |
| | | 15-20 | | 50-60 |
| | | | | |
| 44 | What is Silica Fume? | | | |
| | | Silica fume is a byproduct of producing silicon metal or ferrosilicon alloys | | Silica fume is a mono product of producing silicon metal or ferrosilicon alloys |
| | | Most commonly found in nature as quartz and in various living organisms | | Hydrocarbon combustion affords the two principal carbon oxides: carbon monoxide and carbon dioxide |
| | | | | |
| 45 | Silica fume is _____ | | | |
| | | Less reactive | | Neutral |
| | | More reactive | | Absent in concrete |
| | | | | |
| 46 | Concrete containing silica fume can have very _____ strength and can be very _____ | | | |
| | | Low, Durable | | High, Durable |
| | | Low, brittle | | High, brittle |
| | | | | |
| 47 | Content of $SiO_2$ in silica fume is _____ | | | |
| | | 52 % | | 35 % |
| | | 21.9 % | | 85-97% |
| | | | | |
| 48 | Content of CaO in silica fume? | | | |

| | | | | |
|---|---|---|---|---|
| | | 5 | | 21 |
| | | 40 | | <1 |
| | | | | |
| 49 | The specific surface ($m^2$/kg) of silica fume. | | | |
| | | 370 | | 15000-30000 |
| | | 45000 | | 420 |
| | | | | |
| 50 | Silica fume is usually added during _____ | | | |
| | | Before concrete production at a concrete plant | | After concrete production at a concrete plant |
| | | Concrete production at a concrete plant | | Curing |
| | | | | |
| | Unit 3- Fresh Concrete | | | |
| 1 | What do you mean by workability? | | | |
| | | ASTM C 125 defines workability as the property determining the effort required to manipulate a freshly mixed quantity of concrete with a maximum loss of homogeneity | | ASTM C 125 defines workability as the property determining the effort required to manipulate a freshly mixed quantity of concrete with minimum loss of heterogeneity |
| | | The strict definition of workability is the amount of useful external work, against the external friction between the individual particles in the concrete, necessary to produce full compaction | | The workability is also defined as the ease with which a freshly mixed concrete can be properly compacted and also that it can be transported, placed, and finished |
| | | | | |
| 2 | Workability of concrete can be improved by the addition of _____ | | | |
| | | Iron | | Sodium |
| | | Zinc | | Sulphur |
| | | | | |
| 3 | Workability of concrete can be improved by _____ | | | |
| | | More sand | | More cement |
| | | More fine aggregates | | Fineness of coarse aggregate |
| | | | | |
| 4 | Concrete placed in cold weather will take _____ time to gain strength. | | | |
| | | No | | Less |
| | | More | | Equal to hot water |
| | | | | |
| 5 | Workability of concrete can be improved by _____ | | | |
| | | Increasing size of aggregates | | Decreasing size of aggregates |
| | | Increasing fine aggregates | | Increasing flaky aggregates |
| | | | | |
| 6 | Workability of concrete is directly proportional to _____ | | | |
| | | Grading of the aggregates | | Time of transit |
| | | Aggregates cement ratio | | Water cement ratio |
| | | | | |
| 7 | Workability of concrete is inversely proportional to _____ | | | |
| | | Grading of the aggregates | | Time of transit |

| | | | | |
|---|---|---|---|---|
| | | Aggregates cement ratio | | Water cement ratio |
| | | | | |
| 8 | If compaction factor of concrete is .90, then workability is _____ | | | |
| | | Low | | Very low |
| | | Medium | | High |
| | | | | |
| 9 | A compaction factor of 0.85 for a cement concrete sample indicates _____ | | | |
| | | Low workability | | Medium workability |
| | | Good workability | | Very good workability |
| | | | | |
| 10 | Adding water increases _____ | | | |
| | | Workability | | Strength |
| | | Fame | | Quality |
| | | | | |
| 11 | Why Shape and texture of aggregates is a must? | | | |
| | | Smooth surfaces give better workability | | Smooth surfaces give poor workability |
| | | Rough surfaces give better workability | | Rough surfaces give poor workability |
| | | | | |
| 12 | How many types of tests are there to find workability? | | | |
| | | 3 | | 4 |
| | | 5 | | 6 |
| | | | | |
| 13 | These testsfind workability _____ | | | |
| | | Directly | | Indirectly |
| | | 0 | | Equals to the weight of the cement |
| | | | | |
| 14 | Workability of concrete is measured by _____ | | | |
| | | Vicat apparatus test | | Slump test |
| | | Minimum void method | | Talbot Richard test |
| | | | | |
| 15 | Which test gives good results for rich mixes? | | | |
| | | Slump test | | Compacting factor test |
| | | Flow table test | | VeBe test |
| | | | | |
| 16 | Which test is used for low workable concretes? | | | |
| | | Slump test | | Compacting factor test |
| | | Flow table test | | VeBe test |
| | | | | |
| 17 | Which test Used for high workable concretes? | | | |
| | | Slump test | | Compacting factor test |
| | | Flow table test | | VeBe test |
| | | | | |
| 18 | Which test is used for fiber reinforced concrete? | | | |
| | | Slump test | | Compacting factor test |
| | | Flow table test | | VeBe test |
| | | | | |
| 19 | _____ is practical in field tests. | | | |

| | | | | |
|---|---|---|---|---|
| | | Slump test | | Compacting factor test |
| | | Flow table test | | Kelly Ball Test |
| | | | | |
| 20 | What is the compaction factor for medium degree of workability? | | | |
| | | 0.78 | | 0.85 |
| | | 0.92 | | 0.95 |
| | | | | |
| 21 | What is the Vee-Bee time for medium degree of workability? | | | |
| | | 10-20 sec | | 05-10 sec |
| | | 02-05 sec | | 35 sec |
| | | | | |
| 22 | The water–cement ratio is the ratio of _____ | | | |
| | | Weight of water to the weight of cement | | Volume of water to the volume of cement |
| | | Density of water to the Density of cement | | Weight of water to the weight of aggregates |
| | | | | |
| 23 | A lower ratio leads to _____ | | | |
| | | Higher strength and durability | | Higher strength but low durability |
| | | Lower strength but high durability | | Lower strength and durability |
| | | | | |
| 24 | Workability can be resolved _____ | | | |
| | | With not using of plasticizers | | With use of plasticizers |
| | | With the use of both plasticizers and super plasticizers | | With not using of both plasticizers and super plasticizers |
| | | | | |
| 25 | This image has _____  | | | |
| | | High w/c ratio | | Low w/c ratio |
| | | High Strength | | Low porosity |
| | | | | |
| 26 | How to improve the workability of concrete. | | | |
| | | Increase the w/c ratio | | Decrease the w/c ratio |
| | | Decrease the size of aggregates | | Don't mix it for longer time |
| | | | | |
| 27 | What is the compaction factor for low degree of workability? | | | |
| | | 0.78 | | 0.85 |
| | | 0.95 | | 0.92 |
| | | | | |
| 28 | What is workability? | | | |
| | | When it is easily placed and compacted heterogeneous | | When it is easily placed and compacted homogenous |

| | | | | |
|---|---|---|---|---|
| | | When it is not easily placed | | When it is easily placed but not compacted homogenous |
| | | | | |
| 29 | What is the moisture content in the slurry for wet processes? | | | |
| | | 35-50% | | 12% |
| | | 40-45% | | 100% |
| | | | | |
| 30 | The slurry, in its movement down the kiln, encounters a progressively higher temperature. At first, the water is driven off and _____ is liberated. | | | |
| | | $SiO_2$ | | $CO_2$ |
| | | Gypsum | | CaO |
| | | | | |
| 31 | For complete hydration of cement the w/c ratio needed is _____ | | | |
| | | More than 0.25 | | More than 0.25 but less than 0.35 |
| | | More than 0.35 but less than 0.60 | | More than 0.60 |
| | | | | |
| 32 | The minimum water to cement ratio for cement concrete to hydrate is _____ | | | |
| | | 0.65 | | 0.5 |
| | | 0.38 | | 0.27 |
| | | | | |
| 33 | Approximate percentage range of $A_2O_3$ in OPC is _____ | | | |
| | | 17-25 | | 3-8 |
| | | 3-10 | | 4-15 |
| | | | | |
| 34 | What is the percentage of iron oxide in white cement? | | | |
| | | High | | Very high |
| | | Medium | | Very low |
| | | | | |
| 35 | What is the percentage of air by volume in Air Entraining Cement? | | | |
| | | 3-4 | | 10-11 |
| | | 7-8 | | 9 |
| | | | | |
| 36 | What is curing? | | | |
| | | Dehydration | | Hydration |
| | | Drying | | Dipping |
| | | | | |
| 37 | In a dry environment, concrete strength will be loosed as much as _____ % in the moist environment. | | | |
| | | 30 | | 40 |
| | | 50 | | 60 |
| | | | | |
| 38 | After finishing concrete surface must be kept _____ | | | |
| | | Dry | | First dry it and then wet it |
| | | First wet it and then dry it | | Wet |
| | | | | |
| 39 | Dry intervals in surface wetting leads to _____ | | | |
| | | Cracking | | Fogging |
| | | High strength | | Good workability |

| | | | | |
|---|---|---|---|---|
| 40 | Contractors place blankets over the concrete to _____ | | | |
| | | Increase the rate of evaporation | | Slow the rate of evaporation |
| | | To increase the strength | | Ease to do work |
| | | | | |
| 41 | Well cured concrete _____ thermal, plastic & drying shrinkage cracks. | | | |
| | | Doesn't affect | | Maximize |
| | | Minimize | | Create |
| | | | | |
| 42 | **The property of fresh concrete, in which the water in the mix tends to rise to the surface while placing and compacting, is called** | | | |
| | | Segregation | | Bleeding |
| | | Bulking | | Creep |
| | | | | |
| 43 | **Select the incorrect statement** | | | |
| | | Lean mixes bleed more as compared to rich ones. | | Bleeding can be minimized by adding pozzuolana finer aggregate. |
| | | Bleeding can be increased by addition of calcium chloride. | | none of the above |
| | | | | |
| 44 | Which method is the most common and cheaper for water curing? | | | |
| | | Ponding | | Sprinkling |
| | | Mist curing | | Wet covering |
| | | | | |
| 45 | **Workability of concrete is directly proportional to** | | | |
| | | Aggregate cement ratio | | Time of transit |
| | | Grading of the aggregate | | All of above |
| | | | | |
| 46 | **Workability of concrete is inversely proportional to** | | | |
| | | Time of transit | | Water-cement ratio |
| | | The air in the mix | | Size of aggregate |
| | | | | |
| 47 | The hydration that provides the initial mix and chemical bond of the concrete's ingredients is the _____ | | | |
| | | First step | | Second step |
| | | Third step | | Fourth step |
| | | | | |
| 48 | **The property of the ingredients to separate from each other while placing the concrete is called** | | | |

| | | | | |
|---|---|---|---|---|
| | | Segregation | | Compaction |
| | | Shrinkage | | Bulking |
| | | | | |
| 49 | What is the full form of rH? | | | |
| | | Rhesus factor | | Relative humidity |
| | | Rush hour | | Radio head |
| | | | | |
| 50 | **Air entrainment in the concrete increases** | | | |
| | | Workability | | Strength |
| | | The effects of temperature variations | | The unit weight |
| | | | | |
| | Unit 5- Concrete Mix Design | | | |
| | | | | |
| 1 | Depending on the degree of workability and placing condition determine the _____ | | | |
| | | Slump value | | The maximum size of aggregate |
| | | The amount of mixing water | | The minimum water-cement ratio |
| | | | | |
| 2 | Depending on the economical availability and dimensions of the structure determine the _____ | | | |
| | | Slump value | | The maximum size of aggregate |
| | | The amount of mixing water | | The minimum water-cement ratio |
| | | | | |
| 3 | For the given slump and maximum size of coarse aggregate determine the-------- | | | |
| | | Slump value | | The maximum size of aggregate |
| | | The amount of mixing water | | The minimum water-cement ratio |
| | | | | |
| 4 | Determine the _____ either from strength considerations or from durability considerations. | | | |
| | | Slump value | | The maximum size of aggregate |
| | | The amount of mixing water | | The minimum water-cement ratio |
| | | | | |
| 5 | Determine the amount of cement per unit volume of concrete from _____ | | | |
| | | Slump value | | The maximum size of aggregate |
| | | The amount of mixing water | | The maximum size of aggregate and the amount of mixing water |
| | | | | |
| 6 | This cement content should _____ the cement content required based on durability criteria. | | | |
| | | Be more than | | Be equal to |
| | | Be less than | | Not be less than |
| | | | | |
| 7 | The lower the w/c ratio _____ the strength of concrete. | | | |
| | | Higher | | Lower |
| | | Poor | | Moderate |
| | | | | |
| 8 | The aim of the designer should always be to get concrete mixtures of optimum | | | |

| | | | | |
|---|---|---|---|---|
| | strength at _____ cement content and _____ workability. | | | |
| | | Maximum, Nonacceptable | | Minimum, Nonacceptable |
| | | Maximum, acceptable | | Minimum, acceptable |
| | | | | |
| 9 | Maximum size of aggregates should not be larger than _____ | | | |
| | | 1/5 the minimum dimension of structural members | | 1/4 the minimum dimension of structural members |
| | | 1/3 the minimum dimension of structural members | | 1/6 the minimum dimension of structural members |
| | | | | |
| 10 | Maximum size of aggregates should not be larger than _____ | | | |
| | | 1/3 the thickness of a slab | | 1/2 the thickness of a slab |
| | | 1/1 the thickness of a slab | | 1/4 the thickness of a slab |
| | | | | |
| 11 | According to IRC:15-2011, Characteristic Flexural Strength at 28 days is _____ | | | |
| | | 4 $N/mm^2$ | | 4.5 $N/mm^2$ |
| | | 5 $N/mm^2$ | | 3.5 $N/mm^2$ |
| | | | | |
| 12 | According to IRC:15-2011 _____% Fly ash is required to be replaced with the total cementitious materials. | | | |
| | | 15 | | 20 |
| | | 25 | | 30 |
| | | | | |
| 13 | According to IRC:15-2002 _____% Fly ash is required to be replaced with the total cementitious materials. | | | |
| | | 15 | | 20 |
| | | 25 | | 30 |
| | | | | |
| 14 | According to IRC:15-2002, Maximum nominal size of aggregates is _____ | | | |
| | | 20 mm crushed aggregates | | 31.5 mm crushed aggregates |
| | | 25 mm crushed aggregates | | 30.5 mm crushed aggregates |
| | | | | |
| 15 | According to IRC:15-2011, Maximum nominal size of aggregates is _____ | | | |
| | | 20 mm crushed aggregates | | 31.5 mm crushed aggregates |
| | | 25 mm crushed aggregates | | 30.5 mm crushed aggregates |
| | | | | |
| 16 | According to IRC:15-2011, Minimum cement content for 4.5 $N/mm^2$ characteristic flexural strength for OPC shall _____ | | | |
| | | Shall not be less than 360 $kg/m^3$ | | Shall not be less than 425 $kg/m^3$ |
| | | Shall not be less than 340 $kg/m^3$ | | Shall not be less than 500 $kg/m^3$ |
| | | | | |
| 17 | According to IRC:15-2011, Minimum cement content for 4.5 $N/mm^2$ characteristic flexural strength for PPC shall _____ | | | |
| | | Shall not be less than 360 $kg/m^3$ | | Shall not be less than 425 $kg/m^3$ |
| | | Shall not be less than 340 $kg/m^3$ | | Shall not be less than 500 $kg/m^3$ |
| | | | | |
| 18 | According to IRC:15-2011, Minimum cement content for 4.5 $N/mm^2$ characteristic | | | |

| | | | | |
|---|---|---|---|---|
| | flexural strength for OPC + fly ash mix OPC shall _____ | | | |
| | | Shall not be less than 360 kg/$m^3$ | | Shall not be less than 425 kg/$m^3$ |
| | | Shall not be less than 340 kg/$m^3$ | | Shall not be less than 500 kg/$m^3$ |
| | | | | |
| 19 | According to IRC:15-2011, maximum free W/C ratio for OPC is _____ | | | |
| | | 0.45 | | 0.4 |
| | | 0.5 | | 0.55 |
| | | | | |
| 20 | According to IRC:15-2011, maximum free W/C ratio for PPC is _____ | | | |
| | | 0.45 | | 0.4 |
| | | 0.5 | | 0.55 |
| | | | | |
| 21 | IS code for Specification for ordinary Portland cement, 33 grade? | | | |
| | | IS 269:1989 | | IS 383:197 |
| | | IS 455:1989 | | IS 456:2000 |
| | | | | |
| 22 | IS code for Specification for coarse and fine aggregates from natural sources for concrete? | | | |
| | | IS 269:1989 | | IS 383:197 |
| | | IS 455:1989 | | IS 456:2000 |
| | | | | |
| 23 | IS code for Specification for Portland slag cement? | | | |
| | | IS 269:1989 | | IS 383:197 |
| | | IS 455:1989 | | IS 456:2000 |
| | | | | |
| 24 | IS Code of practice for plain and reinforced concrete is _____ | | | |
| | | IS 269:1989 | | IS 383:197 |
| | | IS 455:1989 | | IS 456:2000 |
| | | | | |
| 25 | IS 457:1957 is for _____ | | | |
| | | Code of practice for general construction of plain and reinforced concrete for dams and other massive structures | | Specification for Portland pozzolana cement fly ash based |
| | | Specification for Portland pozzolana cement calcined clay based | | Methods of test for pozzolanic materials |
| | | | | |
| 26 | IS 1489(Part 1):1991 is for _____ | | | |
| | | Code of practice for general construction of plain and reinforced concrete for dams and other massive structures | | Specification for Portland pozzolana cement Part 1 Fly ash based |
| | | Specification for Portland-pozzolana cement: Part 2 Calcined clay based | | Methods of test for pozzolanic materials |
| | | | | |
| 27 | IS 1489(Part 2):1991 is for _____ | | | |
| | | Code of practice for general construction of plain and reinforced concrete for dams and other massive | | Specification for Portland pozzolana cement fly ash based |

| | | | | |
|---|---|---|---|---|
| | | structures | | |
| | | Specification for Portland pozzolana cement calcined clay based | | Methods of test for pozzolanic materials |
| | | | | |
| 28 | IS 1727:1967 is for _____ | | | |
| | | Code of practice for general construction of plain and reinforced concrete for dams and other massive structures | | Specification for Portland pozzolana cement fly ash based |
| | | Specification for Portland pozzolana cement calcined clay based | | Methods of test for pozzolanic materials |
| | | | | |
| 29 | IS 650:1991 is for _____ | | | |
| | | Specification for standard sand for testing of cement | | Methods of sampling and analysis of concrete |
| | | Specification for pozzolana cement | | Methods of test for pozzolanic materials |
| | | | | |
| 30 | IS 1199:1959 is for _____ | | | |
| | | Specification for standard sand for testing of cement | | Methods of sampling and analysis of concrete |
| | | Specification for pozzolana cement | | Methods of test for pozzolanic materials |
| | | | | |
| 31 | 1. The _____ compressive strength required | | | |
| | | Nominal | | Minimum |
| | | Maximum | | No |
| | | | | |
| 32 | The adequate workability necessary for _____ compaction with the compacting equipment available. | | | |
| | | Half | | Quarter |
| | | Full | | Double |
| | | | | |
| 33 | _____ water-cement ratio content to give adequate durability for the particular site conditions. | | | |
| | | Minimum | | Maximum |
| | | 0.5 | | Nominal |
| | | | | |
| 34 | _____ cement content to avoid shrinkage cracking due to temperature cycle in mass concrete. | | | |
| | | Minimum | | Maximum |
| | | 0.5 | | Nominal |
| | | | | |
| 35 | _____ has designated the concrete mixes into a number of grades as M10, M15. | | | |
| | | IS 456-2000 | | IS 456-2010 |
| | | IS 513-1999 | | IS 465-2000 |
| | | | | |
| 36 | What is the approx. mix proportion for M10? | | | |
| | | 1:3:6 | | 1:2:4 |
| | | 1:1.5:3 | | 1:1:2 |

| | | | | |
|---|---|---|---|---|
| 37 | What is the approx. mix proportion for M15? | | | |
| | | 1:3:6 | | 1:2:4 |
| | | 1:1.5:3 | | 1:1:2 |
| | | | | |
| 38 | What is the approx. mix proportion for M20? | | | |
| | | 1:3:6 | | 1:2:4 |
| | | 1:1.5:3 | | 1:1:2 |
| | | | | |
| 39 | What is the approx. mix proportion for M25? | | | |
| | | 1:3:6 | | 1:2:4 |
| | | 1:1.5:3 | | 1:1:2 |
| | | | | |
| 40 | Maximum nominal size of aggregates to be used in concrete may be as large as possible within the limits prescribed by _____ | | | |
| | | IS 456-2000 | | IS 456-2010 |
| | | IS 513-1999 | | IS 465-2000 |
| | | | | |
| 41 | The grade of concrete M 150 means that compressive strength of a 15 cm cube after 28 days, is | | | |
| | | 100 kg/ $cm^2$ | | 150 kg/ $cm^2$ |
| | | 200 kg/ $cm^2$ | | 250 kg/ $cm^2$ |
| | | | | |
| 42 | Maximum quantity of water needed per 50 kg of cement for M15 grade concrete is | | | |
| | | 28 Litres | | 30 Litres |
| | | 32 Litres | | 34 Litres |
| | | | | |
| 43 | Which of the following is requirement of a good concrete mix design? | | | |
| | | Strength | | Durability |
| | | Economy | | All of the above |
| | | | | |
| 44 | What stands M in M30 concrete | | | |
| | | Major | | Minor |
| | | Mix | | None of the above |
| | | | | |
| 45 | Fck stands for___ | | | |
| | | Ductility of bar | | Characteristic strength |
| | | Workability | | None of the above |
| | | | | |
| 46 | Grade of concrete should be greater than ___ | | | |
| | | Standard deviation | | Ultimate strength |
| | | Target mean strength | | None of the above |
| | | | | |
| 47 | ___ method is based on American mix design of concrete. | | | |
| | | I.S method | | ACI method |
| | | IRC-44 method | | All of the above |
| | | | | |
| 48 | Which of the following is not factor affecting water content? | | | |

| | | | | |
|---|---|---|---|---|
| | | Size of aggregate | | Workability |
| | | Type of cement | | Type of structure |
| | | | | |
| 49 | Slump of the concrete is an essential property for concrete mix design | | | |
| | | True | | False |
| | | | | |
| | | | | |
| 50 | IS method of mix design describes amendments as IS-10292-2009 | | | |
| | | True | | False |
| | | | | |
| | | | | |

**Best of Luck**