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Roll No. /030741

**4th Sem / Branch : Civil, Brick Tech,
Constr. Mgmt, Highway Engg.
Subject:- Concrete Technology**

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory
(10x1=10)

- Q.1 Setting time of cement decreases by adding: (CO2)
a) gypsum b) hydrogen peroxide
c) calcium chloride d) sodium oxide
- Q.2 For quality control of Portland cement the test essentially done for: (CO2)
a) setting time b) soundness
c) compressive strength d) all the above
- Q.3 A concrete is said to be workable if: (CO4)
a) it shows sign of bleeding
b) it shows sign of segregation
c) it can be easily mixed, place and compacted
d) it is in the form of a paste
- Q.4 Water cement ratio is generally expressed in volume of water required for: (CO3)
a) 20kg b) 30kg
c) 40kg d) 50kg
- Q.5 Shrinkage in concrete can be reduced by using: (CO5)
a) low water cement ratio
b) low cement in the concrete
c) proper concrete mix
d) all the above

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- Q.6 The total number of grades of concrete stipulated in IS: 456-2000 are : (CO6)
a) 15 b) 10
c) 3 d) 5
- Q.7 An accelerator shortens all of the following except: (CO7)
a) setting time
b) period of curing
c) period of removal of formwork
d) strength of concrete
- Q.8 Sometime when the concrete is partially mixed at the central plant and mixing is completed enroute the concrete is known as: (CO8)
a) transit mix concrete b) ready mix concrete
c) shrink mix concrete d) none of these
- Q.9 Curing of pavements, floors, roof and slab is done by: (CO9)
a) membrane method
b) ponding method
c) covering surface with bags
d) sprinkling water method
- Q.10 The circulation of air in a cement warehouse should be: (CO9)
a) forced air circulation b) average
c) maximum d) minimum

SECTION-B

Note: Objective type questions. All questions are compulsory.
(10x1=10)

- Q.11 The chemical reaction between cement and water is called _____ (CO9)
- Q.12 _____ apparatus is used to determine initial and final setting time of cement. (CO2)

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- Q.13 Lesser the water-cement ratio _____ is the strength of concrete. (CO3)
- Q.14 As the slump increases workability decreases. (True/False) (CO4)
- Q.15 Tensile strength of concrete is about _____ percent of its compressive strength. (CO5)
- Q.16 The admixtures used in hot weather concreting are called _____. (CO7)
- Q.17 The curing in cold weather should be continued for 3 days only. (True/False) (CO8)
- Q.18 The volume of one cement bag of cement is 0.05m^3 . (True/False) (CO9)
- Q.19 Cement bags should be stored _____ centimeter away from the wall. (CO9)
- Q.20 Magnetic methods are used to measure _____ of reinforcement in R.C.C. (CO10)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 What are the requirements of a good concrete? Explain. (CO1)
- Q.22 Give the classification of aggregates according to their size. (CO2)
- Q.23 What do you understand by fineness of cement? Give the procedure to determine the fineness of cement. (CO2)
- Q.24 What is water cement ratio? What is its importance in concrete strength? Explain. (CO3)
- Q.25 State the difference between segregation and bleeding. (CO4)
- Q.26 Explain the properties of concrete in green stage. (CO5)

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- Q.27 Differentiate between the following- (CO6)
i) Controlled and ordinary concrete
ii) Preliminary cube strength and works cubes strength
- Q.28 State the factors to be considered while deciding upon the use of admixtures. (CO7)
- Q.29 What are the various precautions to be observed before concreting in cold weather? Explain. (CO8)
- Q.30 What are the methods of compaction of concrete? Explain. (CO9)
- Q.31 Explain the method of repairing the old concrete work. (CO9)
- Q.32 Give importance of non-destructive test. (CO10)
- Q.33 What are the requirements of a good warehouse? Explain. (CO9)
- Q.34 How will you determine the workability of a concrete using compaction factor test? (CO4)
- Q.35 What is bulking of sand? Explain and write note on its importance. (CO2)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain the procedure to determine strength of aggregates using Impact Test. Draw the diagram impact testing machine. (CO2)
- Q.37 What are the various methods used for transportation of concrete. Explain in details. (CO9)
- Q.38 What are the various chemical constituents of ordinary Portland cement? Explain the function and effect of each chemical constituent. (CO2)

(**Note:** Course outcome/CO is for office use only)

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