

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

Time : 3 Hrs. M.M. : 100

SECTION-A

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

- Q.1 Vicat apparatus is used to perform the test of: (CO2)
a) Fineness b) Consistency
c) Setting time d) Soundness
- Q.2 Bulking of sand is: (CO2)
a) Mixing of different sizes of sand particles
b) Mixing of lime with sand
c) Mixing of water with sand
d) Swelling of sand when wetted
- Q.3 If the slump value of a concrete mix is 60 mm its workability is: (CO4)
a) Very low b) Low
c) Medium d) High
- Q.4 Water required per bag to cement with water - cement ratio 0.7 is: (CO3)
a) 7Kg b) 14Kg
c) 21 Kg d) 35 Kg
- Q.5 Impermeability is an important property in : (CO5)
a) RCC structures
b) Deep foundations
c) Water retaining structures
d) Shallow foundations

- Q.6 Proper proportioning of concrete ensures: (CO6)
a) Desired strength and work ability
b) Desired durability
c) Water tightness of the structure
d) All the above
- Q.7 Addition of air-entraining agents to concrete increases all of the following except: (CO7)
a) Work ability b) Strength of concrete
c) Durability d) Impermeability
- Q.8 In cold weather curing of concrete should be continued for at least: (CO8)
a) 7 days b) 15 days
c) 20 days d) 28 days
- Q.9 Curing : (CO9)
a) Reduces the shrinkage of concrete
b) Preserves the properties of concrete
c) Prevent the loss of water by evaporation
d) All the above
- Q.10 Which type of vibrator is generally used in concrete work: (CO9)
a) Surface vibrator b) Screeed vibrator
c) Needle vibrator d) Form vibrator

SECTION-B

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

- Q.11 Fresh or plastic concrete is liable to _____ on drying. (CO1)
- Q.12 Initial setting time of ordinary Portland cement is _____. (CO2)
- Q.13 Duff Abraham's law is valid only when the concrete is of _____ plasticity. (CO3)

- Q.14 Segregation of concrete decreases the strength of concrete. (True/False) (CO4)
- Q.15 Impermeability of concrete increases if the water cement ratio increases. (True/False) (CO5)
- Q.16 The admixtures used in cold weather concreting are called _____. (CO7)
- Q.17 Ready mixed concrete is also called premixed concrete. (True/False) (CO8)
- Q.18 Strength of cement is independent of storage period. (True/False) (CO9)
- Q.19 The maximum height of cement pile should not be more than _____ meters. (CO9)
- Q.20 Non-Destructive test can give absolute value of Compressive strength. (True/False) (CO10)

SECTION-C

- Note:** Short answer type Questions. Attempt any twelve questions out of fifteen Questions. (12x5=60)
- Q.21 Give the advantages of concrete as compared to other building materials? (CO1)
- Q.22 Distinguish between-
 (i) Rapid hardening cement and quick setting cement
 (ii) Blast furnace slag cement and low heat cement.
- Q.23 List the various field tests for checking the quality of cement. (CO2)
- Q.24 Explain how setting and hardening of cement takes place? (CO3)
- Q.25 How will you determine the workability of concrete by slump test? Explain? (CO4)
- Q.26 What are the factors which affect workability? Explain. (CO5)
- Q.27 Write a note on the importance of mix design? (CO6)

(3)

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- Q.28 What is the purpose of using admixtures in concrete? Explain. (CO7)
- Q.29 Write the precautions which are necessary for under water concreting? (CO8)
- Q.30 Write the advantages of machine mixing over the hand mixing of concrete. (CO9)
- Q.31 Differentiate between screeding, floating and troweling. (CO9)
- Q.32 Enlist different types of non-destructive tests. (CO10)
- Q.33 What do you understand by all-in-aggregate? Explain. (CO2)
- Q.34 As per IS: 456-2000 in how many grades concrete is designated? What do you mean by M20 concrete? Explain. (CO4)
- Q.35 Write a short note on fibre reinforced concrete? (CO2)

SECTION-D

- Note:** Long answer questions. Attempt any two questions out of three Questions. (2x10=20)
- Q.36 List different types of cements and situations where they are suitable. (CO2)
- Q.37 What if form work? What are the requirements of a good form work? Give different material used for form work. Why we prefer steel form work over timber form work? Explain. (CO9)
- Q.38 What are the different properties of a concrete in plastic (green) stage? Explain each property in detail. (CO2)

Note : (CO) Course Outcomes mentioned in the question paper is for official purpose only.

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(4)

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