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**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

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- 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) Screed 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)

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- 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- (CO2)
- (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)

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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 is 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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