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Roll No.

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

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

Q.1 In plastic stage concrete should be free from

- a) Segregation
- b) Bleeding
- c) Creep
- d) Both A & B

Q.2 The final setting time of OPC is _____.

- a) 10 hrs
- b) 30 minutes
- c) 1 hr
- d) 40 minutes

Q.3 More W/C ratio lead to

- a) Softening
- b) Water-Cement reaction
- c) Hydration of cement
- d) To porous concrete mix

Q.4 Air entraining agents help in reducing _____.

- a) Segregation
- b) Bleeding
- c) Creep
- d) Both A & B

Q.5 Shear strength of concrete is _____ of compressive strength

- a) 10% to 12%
- b) 8% to 10%
- c) 20% to 25%
- d) 15% to 20%

Q.6 Grade upto M20 are designated as

- a) Ordinary work
- b) Pre tensioning work
- c) Special work
- d) Post tensioning work

Q.7 Mix design must be performed for _____ loaded structures.

- a) Heavily
- b) Small
- c) Lightly
- d) Long

Q.8 In cold weathering concreting _____ can be used.

- a) Retarder
- b) Plasticizers
- c) Accelerator
- d) Damp proofer

Q.9 The last and final operation of finishing is termed as _____.

- a) Compaction
- b) Trowelling
- c) Finishing
- d) Stripping

Q.10 If the pulse velocity is 4km/s-5km/s than the concrete is _____.

- a) Good
- b) Durable
- c) Bad
- d) None of these

Section-B

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

Q.11 Unit weight of RCC is _____.

Q.12 In pre stressed concrete the stresses are induced _____ actual use.

Q.13 The initial setting time of OPC is _____

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- Q.14 Chemical reaction between cement and water is known as _____.
- Q.15 Bleeding can be reduced by using admixtures like _____.
- Q.16 Grade lower than _____ should not be used in pre-tensioning works.
- Q.17 The admixtures used in hot weather concreting are called _____.
- Q.18 RMC is used for columns only. (True/False)
- Q.19 Segregation can be prevented by properly storing aggregates. (True/False)
- Q.20 Concrete is weak in _____ and strong in _____.

Section-C

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

- Q.21 Explain the importance of concrete technology.
- Q.22 Explain the importance of grading of concrete. What are the different types of grading?
- Q.23 What are the various compounds of cement? Explain.
- Q.24 a) Write a short note on initial setting time & final setting time
b) Write a short note on water - cement ratio
- Q.25 Explain compaction factor test.
- Q.26 What are the various factors that affect the durability of concrete? Explain.

- Q.27 Explain the properties of concrete in plastic stage?
- Q.28 Write the objectives of mix design?
- Q.29 What are the functions of admixtures? Explain.
- Q.30 Write a short note on water reducing admixtures.
- Q.31 Write a short note on ready mix concrete.
- Q.32 What is stripping and stripping time? Explain.
- Q.33 What is curing of concrete and its objective? Explain.
- Q.34 What is batching? Explain two ways of batching.
- Q.35 Explain the Rebound hammer test.

Section-D

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

- Q.36 a) What are the various tests for determining the workability of concrete? Explain. the slump test, its suitability, advantages and disadvantages.
b) What is workability? Explain factors affecting workability of concrete.
- Q.37 What are the main objectives of proportioning of normal concrete? Differentiate between nominal and controlled concrete mix.
- Q.38 a) What do you mean by form work? Explain the requirements of a good formwork.
b) Write the methods of curing and their suitability.