

No. of Printed Pages : 4  
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180741/170741/120741  
/030741

**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%

(1) 180741/170741/120741  
/030741

- 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 \_\_\_\_\_

(2) 180741/170741/120741  
/030741

- 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 short note on water - cement ratio
- Q.25 Explain compacting factor test.
- Q.26 What are the various factors that affect the durability of concrete? Explain.

(3) 180741/170741/120741  
/030741

- 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 formwork? Explain the requirements of a good formwork.  
b) Write the methods of curing and their suitability.

(1980) (4) 180741/170741/120741  
/030741