

Code No: RT22015

R13**SET - 1**

II B. Tech II Semester Supplementary Examinations, April-2018
CONCRETE TECHNOLOGY
(Civil Engineering)

Time: 3 hours

Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
2. Answer **ALL** the question in **Part-A**
3. Answer any **THREE** Questions from **Part-B**

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**PART -A**

- |       |                                             |    |
|-------|---------------------------------------------|----|
| 1. a) | Define specific gravity.                    | 3M |
| b)    | What is placing of concrete?                | 4M |
| c)    | Define maturity concept.                    | 3M |
| d)    | Write about nature of creep.                | 4M |
| e)    | What are the statical methods of mix design | 4M |
| f)    | What is self healing concrete?              | 4M |

**PART -B**

- |       |                                                                                                                                                                                                                                                                                                                   |     |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 2. a) | Write about plasticizers and super plasticizers.                                                                                                                                                                                                                                                                  | 8M  |
| b)    | What is the affect of size of aggregate on concrete?                                                                                                                                                                                                                                                              | 8M  |
| 3. a) | Write in detail about segregation and bleeding of concrete.                                                                                                                                                                                                                                                       | 10M |
| b)    | What is the effect of time and temperature on workability?                                                                                                                                                                                                                                                        | 6M  |
| 4. a) | What are the factors affecting the strength of concrete?                                                                                                                                                                                                                                                          | 8M  |
| b)    | Write about Abram's law and Gel space ratio.                                                                                                                                                                                                                                                                      | 8M  |
| 5.    | Write in detail about elasticity, creep and shrinkage of concrete.                                                                                                                                                                                                                                                | 16M |
| 6.    | Design a concrete mix for characteristic strength of 25MPa at 28 days with a standard deviation of 4MPa. The specific gravity of FA and CA are 2.64 and 2.74 respectively. A slump of 40mm is necessary. The specific gravity of cement is 3.15. Assuming the necessary data design the mix as per IS code method | 16M |
| 7.    | Write about different special concretes. How they are different from conventional concrete? Explain.                                                                                                                                                                                                              | 16M |