B. TECH. SEM – III (CIVIL ENGG.) 2014 COURSE) (CBCS) :
WINTER - 2017
SUBJECT: CONCRETE TECHNOLOGY

Day: **Monday** Time: **10.00 AM TO 01.00 PM**
Date: **22/01/2018** Max. Marks: 60

W-2017-2026

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat diagrams **WHEREVER** necessary.
4) Assume suitable data if necessary.

Q.1 **a)** Name the bogue compounds and elaborate their role related to hydration of cement. **(05)**

b) What do you understand by grading of aggregates? How it is important in preparation of concrete mix? **(05)**

OR

Q.1 **a)** What are the different types of cement? Write ASTM classification of cement. **(05)**

b) What are Artificial and Recycled aggregates? **(05)**

Q.2 **a)** Write and explain steps involved in concreting process. **(05)**

b) Write and elaborate different factors affecting workability of concrete. **(05)**

OR

Q.2 **a)** What is the effect of temperature on curing? **(05)**

b) What do you understand by 'Segregation and bleeding'? **(05)**

Q.3 **a)** What do you understand by 'Nondestructive Testing of Concrete'? What is 'Rebound Hammer Test'? **(05)**

b) Write and justify the relation between compressive and tensile strength of concrete. **(05)**

OR

Q.3 **a)** What are the factors affecting strength of concrete? **(05)**

b) What is creep of concrete? Write a note on 'Creep Time Curve' of concrete. **(05)**

Q.4 **a)** What are the various methods of mix design of concrete? Which parameters are required for designing a mix of concrete? **(05)**

b) What do you understand by acceptance criteria? How it is decided and checked? **(05)**

OR

Q.4 Assume suitable data and design a mix for M30 grade of concrete using IS code method. **(10)**

Q.5 **a)** Write the effect of flyash on properties of concrete. **(05)**

b) Write the use of Plasticizers and Retarders in concrete. **(05)**

OR

Q.5 **a)** What are the purposes and functions of adding admixtures to the concrete? **(05)**

b) What is a Self-Compacting Concrete? **(05)**

Q.6 **a)** Write the special techniques used for 'Underwater Concreting'. **(05)**

b) What do you understand by 'Ferrocement'? Elaborate in detail. **(05)**

OR

Q.6 **a)** How the durability and strength are related to each other? Write the durability requirements as per the IS code. **(05)**

b) What precautions are taken in 'Concreting in Cold Weather Countries'? **(05)**

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