

B. TECH. SEM – III (CIVIL ENGG.) 2014 COURSE) (CBCS) :

SUMMER - 2018

SUBJECT: CONCRETE TECHNOLOGY

Day: **Friday**

Date: **25/05/2018**

S-2018-2234

Time: **02.30 PM TO 05.30 PM**

Max. Marks: **60**

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.

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- Q.1 a) What is alkali-aggregate reaction? How this reaction can be controlled? (05)**
b) Give the classification of aggregates. (05)

OR

- Q.1 a) What is the importance of setting time of cement? (05)**
b) What is 'hydration of cement'? (05)

- Q.2 a) What are the various method of determining workability of concrete? Write (05)**
any one in detail.
b) What do you understand by 'Stripping time'? Write the stripping time of (05)
various concrete elements.

OR

- Q.2 a) What do you understand by 'Segregation bleeding'? How it can be controlled? (05)**
b) What are the various methods for curing of concrete? (05)

- Q.3 a) What is a split tensile test? How it is performed? (05)**
b) Draw and elaborate stress- strain relation of concrete? (05)

OR

- Q.3 a) How the flexural strength of concrete is determined? What do you understand (05)**
by 'Modulus of Rupture'?
b) What is shrinkage of concrete? Classify and explain any one. (05)

- Q.4 Assume suitable data and design a mix for M25 grade of concrete using I.S (10)**
code method.

OR

- Q.4 a) What are the various variables in mix design of concrete? (05)**
b) Write and explain the formula by which the aggregate content can be (05)
determined by designing a concrete mix.

- Q.5 a) What is Ready mix concrete? How it is useful? (05)**
b) What are Air Entraining Agents'? Elaborate their role. (05)

OR

- Q.5 a) What is silica fume? Write the advantages when it is added to a concrete mix? (05)**
b) Elaborate in detail 'Marsh cone Test'. (05)

- Q.6 a) What is a light weight concrete? How it is prepared? (05)**
b) What is carbonation? How the depth of carbonation is measured? (05)

OR

- Q.6 a) What is a high performance concrete? How it is prepared? (05)**
b) List the various fiber added to the concrete. In what way fiber- reinforced (05)
concrete helps to improve the properties of concrete?

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