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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

III B.Tech I Semester (R16) Regular Examinations November 2018

CONCRETE TECHNOLOGY

(Civil Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 a List and briefly explain about types of cement. 7M
b Explain about heat of hydration and hydration process of cement in detail. 5M

OR

- 2 a Write brief about super plasticizers. 6M
b Write about Bouge's compounds. 6M

UNIT-II

- 3 a Write about the factors that affect the workability. 6M
b Write about segregation and bleeding. 6M

OR

- 4 a Explain in detail the slump test with neat sketch. 6M
b Explain different methods of curing procedure. 6M

UNIT-III

- 5 a What are the various factors affecting shrinkage of concrete. 6M
b What are the various factors affecting the compressive strength of concrete. 6M

OR

- 6 Explain in detail about NDT. 12M

UNIT-IV

- 7 Design a M40 grade concrete IS code method for the following data.
Maximum size of aggregate is 20 mm (angular), degree of workability is 0.90
compaction factor, quality control is good, type of exposure is mild, specific gravity
of cement is 3.09, specific gravity of sand is 2.7, specific gravity of coarse aggregate
is 2.64, water absorption of coarse aggregate is 0.7 % , water absorption of fine
aggregate is 1.5 % , free surface moisture for coarse aggregate is nil, free surface
moisture of fine aggregate is 2.1 %, sand conforming to Zone III grading, assume any
suitable data if necessary. 12M

OR

- 8 Explain the mix design procedure of concrete as per IS code method. 12M

UNIT-V

- 9 a Write brief about self compacting concrete. 6M
b What are the various factors affecting properties of Fibre Reinforced Concrete 6M

OR

- 10 a Write brief about light weight concrete 6M
b Write brief about bacterial concrete 6M

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