Registration No: | | | | | | | | | | |

Total Number of Pages: 2 **M.TECH**
P2CNCC07

2nd Semester Regular Examination 2016-17
ADVANCE CONSTRUCTION MATERIALS
BRANCH: CONSTRUCTION TECH. AND MANAGEMENT, STRUCTURAL & FOUNDATION ENGG, STRUCTURAL ENGG, TRANSPORTATION ENGG

Time: 3 Hours

Max Marks: 100

Q.CODE: Z794

Answer Question No.1 which is compulsory and any FOUR from the rest.
The figures in the right hand margin indicate marks.

Q1 Answer the following questions: ***Short answer type*** **(2 x 10)**

a) What do you mean by *rheology* of concrete?
b) Distinguish between plasticizers and superplastisizers.
c) What are the various constituents of *light weight concrete*?
d) Distinguish between segregation and bleeding of concrete.
e) What situation leads to develop plastic shrinkage and cracking in concrete?
f) State various types of polymers used in concrete.
g) What do you mean by *no-fines* concrete?
h) What are the special characteristics of *light weight concrete*, compared to the normal concrete?
i) What techniques are used for placing concrete underwater?
j) What do you mean by *ferrocement* ?

Q2 **a)** Describe the various factors which control the creep and shrinkage behaviour of concrete. **(10)**
b) Explain various factors which affect the rheological properties of concrete . **(10)**

Q3 **a)** Distinguish between *nominal mix concrete* and *design mix concrete*. **(6)**
b) Describe the Concrete Mix Design procedure recommended by the Indian Standard. **(14)**

Q4 **a)** Describe the concrete preparation, casting and placing procedures adopted in extreme weather conditions. **(12)**
b) Explain the influence of waste materials on the physical and mechanical properties of concrete. **(8)**

Q5 **a)** Explain the method of preparation of ferrocement concrete with neat sketch . **(10)**
b) Describe the various parameters which are responsible for corrosion of concrete and corrosion of reinforcing steel. **(10)**

Q6 **a)** What do you mean by fibrereinforced concrete? Describe various mechanical and physical properties of fibre reinforced concrete. **(12)**

b) Explain the different types of fibres and matrices used in fibre reinforced concrete. **(8)**

Q7 **Write short notes on the followings.** **(4x5)**

a) Role of admixtures in concrete

b) High strength concrete

c) Fibre reinforced concrete

d) Light weight concrete