

Roll No. 

--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 01

Total No. of Questions : 08

**M.Tech. (Civil Engg.) (2016 Batch) (Sem.-1)****COMPOSITE MATERIALS**

Subject Code : MTCE-201

M.Code : 74237

Time : 3 Hrs.

Max. Marks : 100

**INSTRUCTION TO CANDIDATES :**

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

- Q1. What are the types of supplementary cementing materials? How do these materials affect on concrete properties?
- Q2. How fibres effect in concrete? Explain the necessity of fibre reinforced concrete. What are the different types of fibre reinforced concrete?
- Q3. *"Fly ash effect in large quantities on the strength properties of concrete"*. Explain in detail.
- Q4. (a) What are the requirements for concrete mix design?  
(b) Write Procedure for concrete mix design as per IS 456-2000.  
(c) Prepare concrete mix design for M50 grade concrete.
- Q5. (a) How waste materials and by-products effect on the various properties of mortar and concrete?  
(b) Explain the term "leachates from waste materials".
- Q6. Differentiate the behavior of normal concrete, high strength concrete and self compacting concrete at high temperature.
- Q7. (a) Define high performance concrete. How can we select material for high performance concrete? Discuss it.  
(b) What parameters for concrete being considered as high performance concrete?
- Q8. Write short note on the followings :  
(a) Types of polymer concrete and their applications.  
(b) Types of fibre reinforced plastics & their effects on concrete elements on concrete elements under various loading conditions.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**

