

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Sem-II Examination July- 2010

Subject code: 721401

Subject Name: Advanced Civil Engineering Materials

Date: 05 /07 /2010

Time: 11.00am – 1.30pm

Total Marks: 60

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q-1** (a) Explain briefly the physical properties of building materials. **06**
(b) Explain how the following testes for stones are carried out: - **06**
1. Crushing test
2. Attrition test
3. Water absorption test

- Q-2** (a) Describe in brief methods used for quarrying stones for building work. **06**
(b) Describe with sketches the manufacture of bricks by bull's trench kiln. **06**

OR

- (b) What are the materials required in blasting? Describe the process of blasting rocks. **06**

- Q-3** (a) Describe manufacture, properties and uses of **06**
1. Copper
2. Aluminum
3. Lead
(b) What are the characteristics of good concrete? How are concrete classified? **06**

OR

- Q-3** (a) Write short notes on:- **06**
1. Workability
2. Methods of proportioning concrete
3. Fineness modulus method
(b) What is the diff. between ferrous and non ferrous metals? Give two examples of each **06**
type and state their properties and uses.

- Q-4** (a) What is glass wool? What is refractoriness and how is it measured? Describe briefly the use of glass as a building material. **06**
(b) Give the uses and applications of following Concretes **06**
1. High strength concrete
2. Cellular concrete
3. Reinforced cement concrete

OR

- Q-4 (a)** Explain briefly any two of the following special concretes. **06**
1. fibre-reinforced concretes
2. Ferro cement
3. Ultra high strength concrete
- (b)** Describe briefly the meaning of the following terms: **06**
1. Paints
2. Varnishes
3. Enamels.
Discuss their uses, merits and demerits.
- Q-5 (a)** What is an admixture? How are admixtures classified? **06**
- (b)** How are heats insulating materials classified? What are the **06**
requirements of a good heat insulating material?
- OR**
- Q-5 (a)** Give the classification of sound insulating materials. State the **06**
requirements of good sound insulating material.
- (b)** What are Geosynthetics? Briefly describe their application in building and **06**
construction industry.
