

JK Lakshmipat University, Jaipur

Institute of Engineering and Technology

End Term Examination

B. Tech. [II Year]/[III Semester]/[Academic Year 2013-2014]

Course Name: Building Material and Construction

Course Code: CE 303

Max Marks: 40

Time: 03.00 hr

Instructions:

1. Attempt all sections.

Section A



(10 Marks)

- Q.1.** (a) The Suitable temperature of brick during burning is °C. (1)
- (b) Initial setting time of cement is Min. (1)
- (c) Water cement ratio in Concrete is % of cement and % of aggregates. (1)
- (d) Age of tree can be find by (i) Annual rings (ii) Colour (iii) Diameter of Stack (1)
- (e) On one side of Tile is to give shine and water proofing to tiles. (1)
- Q. 2.** (a) Write various types of admixtures of Cement Concrete. (1.5)
- (b) Write various type of Tiles used in building construction. (1.5)
- (c) Write name of various method of curing of cement concrete. (2)

Section B

Attempt any four **questions**.

(20 Marks)

- Q.3** Classified the stone masonry in detail.
- Q.4** Define closer, Bat, Lap, Frog, Racking back and Tothing in brick masonry.
- Q.5** Describe any three type of wood seasoning.
- Q. 6** Define DPC and give detail of various type of DPC.
- Q. 7** What are the properties of good mortar mix?

Section c

(10 Marks)

Q.8 Draw neat sketch of weathering, Throating, coursed rubble masonry, English bond and flemish bond.

Or

Describe in detail precast concrete, Ready mix concrete and white cement.

Q. 9 Define the various defects in Timber with neat sketch.

- Q.3** How we can describe the geometry of fluid motion?
- Q.4** Derive the equation for discharge through open channel?
- Q.5** If a fluid is flowing through a pipe and pipe is bend by a certain angle than find out the force exerted by the flowing fluid on a Pipe bend ?
- Q.6** A pitot tube is inserted in a pipe of 300 mm diameter. The static pressure in the pipe is 100 mm of Hg (Vacuum). The stagnation pressure at the centre of pipe recorded by pitot tube is 0.981 N/cm^2 . Calculate the rate of flow of water through the pipe, if the mean velocity of flow is 0.85 times the central velocity. (Take $C_v = 0.98$)

Section C**(10 Marks)**

Q.7 If a viscous fluid is flowing through a circular horizontal pipe than derive the relation for loss of pressure head in a fluid element of length Δx .

OR

Define minor energy losses. Find out the energy loss due to sudden contraction and loss of head due to sudden enlargement in a pipe ?

(7 Marks)

Q.8A nozzle is situated at a distance 1.2 m above the ground level and is inclined at 60° to the horizontal. The diameter of nozzle is 40 mm and jet of water from nozzle strikes the ground at a horizontal distance of 5m . Find the flow rate?

(3 Marks)