

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)**

**CLASS: BE
BRANCH: CIVIL**

**SEMESTER: VII
SESSION : MO/2019**

SUBJECT : CE8015 CONSTRUCTION ENGINEERING PRACTICES

TIME: 1.5 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The total marks of the questions are 30.
 2. Candidates may attempt for all 30 marks.
 3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. The missing data, if any, may be assumed suitably.
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- Q1 (a) Why the batching plant is build in a concrete manufacturing industry? Why weight batching is more favorable than the volume batching? [2]
(b) What is the main purpose of compaction in concrete technology? Discuss the various methods of compaction with their specified field of application. [3]
- Q2 (a) Define curing of concrete? Discuss different water curing methods with their respective applications. [2]
(b) What is ready mixed concrete? Discuss the advantages of ready mixed concrete over the traditional mixed concrete. [3]
- Q3 (a) Discuss the influence of temperature in early strength gain of concrete? Comment on the low temperature and high temperature both. [2]
(b) Write short note on Steam curing with pressure. Why this method is also referred as Autoclaving? [3]
- Q4 (a) Discuss fully matured concrete. [2]
(b) The maturity and strength of the concrete is supposed to follow the following empirical relationship: [3]
$$f_{ck} = -33 + 15 \times \log_{10}(M)$$

M is the maturity of the concrete in (°C hr).
If at a site location the concrete is cured with 20°C temperature during the day time and 10°C at the night time. Find out the minimum number of days required to remove the formwork if the stripping stress of concrete is 25 MPa.
- Q5 (a) What are the factors that affect the concreting process in hot weather region? [2]
(b) Discuss the consequences of concreting in hot weather region. [3]
- Q6 (a) What are the consequences of concreting in cold weather region? [2]
(b) What are the precautionary measures you would suggest while concreting in cold weather region? [3]