



Name: Roll No.:

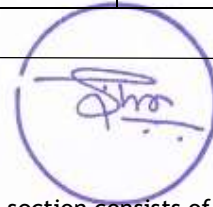
Branch: Signature of Invigilator:

Semester: VIth Date: 26/04/2022 (MORNING)

Subject with Code: CE413 CONCRETE TECHNOLOGY

Marks Obtained	Section A (30)	Section B (20)	Total Marks (50)

INSTRUCTION TO CANDIDATE



1. The booklet (question paper cum answer sheet) consists of two sections. First section consists of MCQs of 30 marks. Candidates may mark the correct answer in the space provided / may also write answers in the answer sheet provided. The Second section of question paper consists of subjective questions of 20 marks. The candidates may write the answers for these questions in the answer sheets provided with the question booklet.
2. The booklet will be distributed to the candidates before 05 minutes of the examination. Candidates should write their roll no. in each page of the booklet.
3. Place the Student ID card, Registration Slip and No Dues Clearance (if applicable) on your desk. All the entries on the cover page must be filled at the specified space.
4. Carrying or using of mobile phone / any electronic gadgets (except regular scientific calculator)/chits are strictly prohibited inside the examination hall as it comes under the category of unfair means.
5. No candidate should be allowed to enter the examination hall later than 10 minutes after the commencement of examination. Candidates are not allowed to go out of the examination hall/room during the first 30 minutes and last 10 minutes of the examination.
6. Write on both side of the leaf and use pens with same ink.
7. The medium of examination is English. Answer book written in language other than English is liable to be rejected.
8. All attached sheets such as graph papers, drawing sheets etc. should be properly folded to the size of the answer book and tagged with the answer book by the candidate at least 05 minutes before the end of examination.
9. The door of examination hall will be closed 10 minutes before the end of examination. Do not leave the examination hall until the invigilators instruct you to do so.
10. Always maintain the highest level of integrity. Remember you are a BITian.
11. Candidates need to submit the question paper cum answer sheets before leaving the examination hall.

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: BTECH
BRANCH: CIVIL

SEMESTER : VI
SESSION : SP/22

SUBJECT: CE413 CONCRETE TECHNOLOGY

TIME: 2 HRS.

FULL MARKS: 50

SECTION- A.

Answer the all questions. (30).

1. a). The normal initial setting time of cement (OPC) is taken as _____ and final setting time is taken as _____.
- (b). The 43 grade of cement has 7 days compressive strength is considered as _____ while 53-grade compressive strength is considered as in that of days _____.
- (c). The Lechatier's apparatus is used measures the _____; within a limit of _____ mm.
- (d). The Rapid hardening cement has cement has higher value of _____. The specific surfaces of OPC cement is taken as _____.
- (e). The maximum percentage of _____ in the cement. The deleterious materials in Coarse aggregate are _____.
- (f). The sources of sand are i). _____ ii) _____ iii) _____ iv) _____.
- (g). The target mean strength is determined by formula _____.

SECTION-B

4X2.5 =10

2. Explain about workability of fresh concrete.
3. Write the tests for suitable aggregates.
4. Write the different ND tests.
5. Suggest the tests for water that use for concrete.

10x1=10

6. Calculate the quantities of ingredients required to produce One Cubic meter of concrete. The mix is to be in portion of 1 part of cement to 1.57 parts of sand to 3.11 parts of coarse aggregates by dry volume with a water to cement ratio 0.48 (by mass). The bulk densities are 1450kg/m³ (cement), 1700kg/m³ (sand) and 1750kg/m³ (coarse aggregates). The spgr. are 3.15 (cement), 2.6 (sand), and 2.78 (coarse aggregates). Assume percentage of entrapped air 2.3.

:::::26/04/2022 E:::::



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