Ref. No. Ex/CON/PC/B/T/213/2024

# B.E. Construction Engineering. 2nd YEAR EXAMINATION, 2024

## (1st Semester)

## SUBJECT : MATERAILS OF CONSTRUCTION

**(Name in full)**

## PART I

Time : ~~Two hours~~ / Three hours ~~/ Four hours / Six hours~~

Use separate answer script for each Part

Full Marks ~~30~~/50

(~~15~~/ 50 Marks for each part)

| No of Questions | Part I | Marks |
|---|---|---|
| | Answer all Questions | |
| Q1. | Mention three test of clay brick by which we can classify bricks. Explain three test properties in short notes. | 10 |
| Q2. | Why Dubai in middle East has to import sand from Western India, which it is situated in the middle of desert. Explain this fact with engineering properties sand. | 05 |
| Q3. | (a) What is TMT bar, Explain TMT procedure in short | 7.5 |
| | (b) To counter seismic effect structure Fe550D is more preferable than Fe550D grade if steel, explain why. | 05 |
| | (c) Supposed you are a site procurement engineer, at site level no universal testing Machine is available, which basic test you can perform to cheek quality of TMT reinforcement bar. Explain that test procedure. | 2.5 |
| Q4. | What is rolling procedure of structural steel. What are the different grades of structural steel available in India work day. | 10 |
| Q5. | ACC blocks are more acceptable product than normal clay burnt bricks from engineering point of view. Explain this point. | 05 |
| Q6. | What is flakiness and elongation index of coarse aggregate? Explain with a sketch | 05 |

[ Turn over

*Ex/CON/PC/B/T/213/2024*

**BE SECOND YEAR FIRST SEMESTER (CONSTRUCTION) EXAMINATION - 2024**

Subject : **MATERIALS OF CONSTRUCTION**

**Time : 3 hours** **PART – II** **Full Marks : 50**

Answer parts of any question **SERIALLY.**

Answer ***Question No. 1*** & any ***TWO*** questions. Please start answering a question or part thereof from a **NEW** page. Answers should be brief. Please mark the answers with answer numerical & NOT as 'CO' Nos. which are for Course Curriculum from NAB concepts & students do NOT have any relation & relevance to the same. Different parts of the same question should be answered together.

| | | |
|---|---|---|
| 1. | What are the cardinal properties that affect the durability of Building Stones. Enumerate the merits & demerits of using Stone against Brick in Masonry. Distinguish between Ashler & RubbleMasonry 6 X 3 = 18 | CO1 [18] |
| 2. | Discuss the usage & applicability of Terra-Cotta & Glazed white-ware products with reference to their relevance to construction industry. Why is seasoning of timber necessary ? Enumerate the methodology of Timber Seasoning, with reference to natural & kiln process & which is advantageous ? 6 + 4 + 6= 16 | CO3, CO4 [16] |
| 3. | Elaborate the constituent parts of paints & indicate their relevance in the construction process. Discuss the various uncased cast-in situ concrete piles stating their advantages. What are the cased cast-in situ concrete piles. 6 + 5 + 2 + 3 = 16 | CO5, CO9, CO10 [16] |
| 4. | Discuss various types of bonds & closers used in masonry. Distinguish between brick copings & corbels. Enumerate the salient terms used in stairs. What are the various forms of Coffer Dams ? Classify doors based on their movements & construction. 3 + 2 + 3 + 4 + 4 = 16 | CO2, CO7, CO6 [16] |