

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**B.Tech. Summer 2022-23 Examination**

**Semester: 4th**  
**Subject Code: 203115254**  
**Subject Name: CTBM**

**Date: 27-03-2023**  
**Time: 2:00 to 4:30**  
**Total Marks: 60**

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**Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

**Q.1 Objective Type Questions - (Each of one mark)****(15)**

1. In the past, earthwork excavating calculations were done by hand using a slide rule and with methods such as Simpson's rule.
  - a) True
  - b) False
2. Which ratio of cement mortar is used for stone masonry?
  - a) 1:6
  - b) 1:3
  - c) 1:8
  - d) 1:4
3. Live loads and dead loads act in a horizontal direction.
  - a) True
  - b) False
4. \_\_\_\_\_ masonry occupies an intermediate position between rubble masonry and ashlar masonry.
  - a) Rubble block in a course
  - b) Ashlar rubble in course
  - c) Ashlar block in a course
  - d) Rubble ashlar in course
5. Which of the below is not to be followed for stone masonry construction?
  - a) Header stones are dumb-bell shaped
  - b) Properly cured for 2-3 weeks
  - c) Construction to be raised uniformly
  - d) Wetted stones to be used
6. The size of the bulldozer is indicated by the dimension of its \_\_\_\_\_
7. \_\_\_\_\_ are engineering works created through the processing of parts of the earth's surface involving quantities of soil or unformed rock.
8. Give the types of arches based on materials.
9. Which ratio of cement mortar is used for stone masonry?
10. The thickness of a thatch roof covering should be at least \_\_\_\_\_
11. The process of direct transmission of heat through a material is known as \_\_\_\_\_
12. Definition: Thermal conductivity
13. Heavy construction equipment is usually used due to the amounts of material to be moved – up to millions of cubic meters. (True/ False)
14. Draw a sketch of English Bond.
15. Definition: Lintels

- Q.2** Answer the following questions. (Attempt any three) **(15)**
- A) Explain Arches with neat sketch.
  - B) Explain Earth moving operation for earthwork.
  
  - C) Give difference between Load bearing structure and Frame structure.
  - D) Explain Reinforced brick work.
- Q.3** A) Explain Construction of Green Building. **(07)**
- B) Enlist different types of stone masonry and explain anyone. **(08)**
- OR**
- B) Enlist different types of bonds in masonry and explain anyone. **(08)**
- Q.4** A) Give the Physical description of asbestos sheets. **(07)**
- OR**
- A) Explain material used for thermal insulation in construction. **(07)**
- B) Enlist different types of Cranes and explain Tower crane. **(08)**