



GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

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Name of Examination : **Winter 2020** - (Preview)

Course Code & Course Name : **CE204U - Building Planning and Construction**

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Maximum Marks : **60**

Duration : **3 Hrs**

[Edit](#) [Print](#) [View Answer Key](#) [Close](#) **Answer Key Submission Type:** Marking scheme with model answers and solutions of numerical

Instructions:

1. All questions are compulsory.
2. Illustrate your answer with suitable figures/sketches wherever necessary.
3. Assume suitable additional data; if required.
4. Use of logarithmic table, drawing instruments and non programmable calculators is allowed.
5. Figures to the right indicate full marks.

- 1) a) A single storied residential bungalow (framed structure) is proposed to be constructed on a plot of size 18m x 24m of which 18m side faces the road in the east direction. The owner requires -
- i) Living room
 - ii) Minimum two bedrooms with attached WC, bath,
 - iii) Kitchen cum dining
 - iv) WC and Bath with suitable sizes and according to bye-laws.
- A staircase for access to terrace is to be provided. Other units such as passage, verandah etc. may be provided suitably. Take scale 1:100.
- i. Draw a detailed plan with furniture arrangement [7]
 - ii. Draw a site plan [2]
- b) A hospital to serve a population of 25,000 is to be designed. Separate ward for men and women, Doctor's room, Nurses room, Operation theatre, sanitary blocks for men and women etc. are to be provided.
- i. Draw a line plan to a suitable scale, showing position of doors, windows and ventilators. [6]
 - ii. Draw detailed furniture in wards. [3]
- OR**
- iii. Show parking arrangements for various vehicles in hospital building [3]
- 2) a) Differentiate between Framed structure and Load bearing structure with diagram [3]
- OR**
- b) What is masonry? List various types of masonry. Why and where reinforced brick masonry can be used, explain with its sketch. [3]
- c) Draw c/s of wall, showing various components of two storied building (framed structure) [6]
Explain substructure and masonry walls, columns, floors, sills, lintels, weather sheds in superstructure with their functions.
- 3) a) Which foundation do you adopt for big structures having concentrated loads? Explain it with a neat sketch. [4]
- OR**
- b) Define foundation? Why foundations are necessary and explain the factors for selection of appropriate foundations for a given structure. [4]
- c) Define the term with sketches:- [3]
- i) Queen closer
 - ii) King closer
 - iii) Perpend
 - iv) Arrises
 - v) Bullnose
 - vi) Bevelled closer
- 4) a) Draw and characterize the following bonds- [4]
- i) Plan of English bond with wall thickness is an uneven multiple of half brick.
 - ii) Scotch bond
 - iii) Herring-bone bond
 - iv) St. Andrews cross bond
- b) What is formwork? Give the functions of formwork and describe erection process of formwork in detail. [5]
- OR**
- c) Define cavity wall, why they are used? Write the cases in which two leaves of cavity wall will may be equal thick or unequal thick. [5]
Draw a sketch of cavity wall with details of metal ties arrangement.
- 5) a) List various types of doors. Explain with diagram the type of door which cause no obstruction to the floor as well as the opening and used for garages, show room, godowns etc [4]
- b) What is circulation? Explain various types of turning stairs with neat sketches. [3]
- OR**
- c) Give the planning and design considerations for staircase. [3]
- 6) a) Define lintel? Draw a sketch of RCC lintel and give advantages of precast lintel. [3]
- b) Explain with a neat sketch basement floor of timber. [4]
- c) What is flooring? Give various materials commonly used as flooring. Explain Linoleum, and Terrazzo flooring. [3]

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