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Code No. : 13168 N/O

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD

Accredited by NAAC with A++ Grade

B.E. (Civil Engg.) III-Semester Main & Backlog Examinations, Jan./Feb.-2024

Building Materials and Construction

Time: 3 hours

Max. Marks: 60

Note: Answer all questions from Part-A and any FIVE from Part-B

Part-A (10 × 2 = 20 Marks)

Q. No.	Stem of the question	M	L	CO	PO
1.	What is the significance of functional design in building planning?	2	1	1	1,6,7
2.	List two facilities that make a building accessible to physically handicapped individuals.	2	1	1	1,6
3.	Briefly explain a characteristic of good building stones.	2	1	2	1
4.	What is the importance of seasoning in timber?	2	1	2	1
5.	Define the chemical composition of cement.	2	1	3	1
6.	Differentiate between paints, varnishes, and distempers.	2	1	3	1,6
7.	Define dog-legged staircase.	2	1	4	1
8.	Name two measures for fire protection in construction.	2	1	4	1,6
9.	Define green buildings in the context of sustainable development.	2	1	5	1,6,7
10.	Define GRIHA and its role in green building certification	2	1	5	1,6,7
Part-B (5 × 8 = 40 Marks)					
11. a)	Discuss the key considerations in site selection for building construction.	4	2	1	1,6,7
b)	Elaborate on the principles of planning in building construction.	4	6	1	1,6,7
12. a)	Examine the composition of brick clay and the characteristics that define good building bricks.	4	4	2	1
b)	Examine the importance of wood-based products in modern building construction.	4	4	2	1
13. a)	Describe the method of manufacture of cement by dry process by flow diagram	4	2	3	1
b)	Discuss the characteristics of coarse aggregates for preparation of Concrete.	4	2	3	1

Contd... 2

14. a)	Discuss the significance of scaffolding and formwork in the construction process. Also, explain the types of scaffolding.	4	3	4	1
b)	Examine the characteristics and purposes of English and Flemish brick bonds.	4	4	4	1
15. a)	Discuss the benefits of green buildings towards sustainable development.	4	3	5	1,6,7
b)	Examine the typical features of green buildings and how they contribute to energy efficiency and environmental conservation.	4	4	5	1,6,7
16. a)	Explain various principles underlying building byelaws.	4	2	1	1,6,7
b)	Explain the manufacturing process of bricks.	4	2	2	1
17.	Answer any <i>two</i> of the following:				
a)	Examine the role of emerging building materials in sustainable construction practices.	4	4	3	1,6
b)	Distinguish between spiral stairs and bifurcated staircase.	4	2	4	1
c)	Discuss the concept of rainwater harvesting and its significance in the context of green buildings.	4	3	5	1,6,7

M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

i)	Blooms Taxonomy Level – 1	25
ii)	Blooms Taxonomy Level – 2	30
iii)	Blooms Taxonomy Level – 3 & 4	45
