		CBCS SCHEME	RY Chilecture
USN		Banga * Banga	15ARC52
		Fifth Semester B.Arch. Degree Examination, July/Augus	t 2021
Materials and Methods in Building Construction – V			
Tin	ne; 4	hrs.	ax. Marks: 100
1		Note: 1. Answer any FIVE full questions.	
1		2. Assume any missing data and scale suitably.	
		3. Provide neat sketches wherever necessary.	
1	a.	Explain with sketches different types of steel trusses.	(08 Marks)
-	b.	An AC sheet roof with angular section truss roof system has to be provided	
		building of size $12 \text{ m} \times 20 \text{ m}$ . Draw following details:	
		(i) Key plan – 1:100 scale	(03 Marks)
		(ii) Sectional Elevation – 1:50 scale	(06 Marks)
		(iii) Any 1 junction detail – 1:5 scale	(03 Marks)
2	a.	Provide following construction details of tubular steel truss for a b $12m \times 18m$ .	ouilding of size
		(i) Key plan $-1:100$ scale	(03 Marks)
		(ii) Sectional elevation – 1:50 scale	(05 Marks)
		(iii) Any one detail – 1:5 scale	(03 Marks)
	b.	Write short notes on:	
		<ul> <li>(i) North light truss</li> <li>(ii) Multi Bay truss</li> </ul>	(03 Marks) (03 Marks)
		(iii) Cantilever truss	(03 Marks) (03 Marks)
3		Write short notes on:	
3	a.	PEB structures	(05 Marks)
	b.	Truss roof coverings	(05 Marks)
	c.	Multi bay barrel vaults	(05 Marks)
	d.	Stiffening beams and edge beams	(05 Marks)
4	4	A pre engineered building is required for an industrial building of $12 \text{ m} \times 24$	m and has clear
		height of 6m. Provide following details:	
	а. b.	Key plan – 1:100 Section showing portal frames – 1:100 scale	(07 Marks) (07 Marks)
	о. с.	Any 2 details – 1:10 scale	(06 Marks)
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5		Explain with sketches:	
	a.	Hyperbolic parabola	(05 Marks)
	b.	Conoid	(05 Marks)
	c. d.	Hyperboloid North light shells	(05 Marks) (05 Marks)
	a.	North light shells	(05 1141K3)
6	a.	Explain with sketches folded plate structures.	(10 Marks)
	b.	Write short notes on metal domes.	(10 Marks)
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