Enrolment No._____

SARVAJANIK UNIVERSITY

S-2025 Date: 20-05-25 Time: 09:30 AM to 12:30 PM
Backlog Exam

B. Arch IV. - SEMESTER– VII EXAMINATION
Course Code: BRAR12702 **Total Marks: 180**
Course Name: High-Tech Structures & Performance Analysis
Instructions:
1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q1.	Answer the following (Compulsory)	34 Marks
1	Air must be supplied under _____ to ensure stability of pneumatic structures.	
2	The main goal of _____ to create comfortable indoor environment by raising comfort zone by heating in "colder climate" or "cooler region"	
3	The construction of super structure and sub structure can be start at same time in Top-Down construction technique (say true or false)	
4	Define Pneumatic Structure.	
5	Define Smart Building	
6	Shuttering is not required for_____construction technique.	
7	Playing equipment the "Jumping lines" are "Air Supported structures" (True/False)	
8	Define green building.	
9	Which data is required to do energy modeling?	
10	Enlist attributes which define forms of the buildings in parametric architecture.	
11	Define Low -E Glass.	
12	Paper Insulation is also known as _____	
13	Intelligent building is a building that uses the latest advances in information technology, to enhance the way a building can work and upgrade standards of ---------- & ---------- through a networking in services of the building.	
14	Shear blocks are used in _____ construction technique.	
15	Define Digital Fabrication.	
16	Intelligent buildings offer higher levels of ---------- & ----------	

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17	During the ongoing construction of lift slab construction technique we can change / modify the Architectural design (say true or false)	
Q.2	**Answer the following (Any Six)**	**36 Marks**
1	Explain Sensitile flooring system & electrified wood products	
2	What is Low E Glass ? Explain in detail	
3	Define paper insulation	
4	What is ETFE? Explain it	
5	What is the Lift slab construction technique and explain why it evolved?	
6	Discuss in detail about PETER VANDERKLAAUW lift Slab Construction techniques with sketches	
7	Enlist components of pneumatic structures. Explain with sketches.	
8	Enlist advantages & disadvantages of pneumatic structures. Explain with sketches.	
Q.3.		
A	Answer the following (Any four)	**40 Marks**
1	What are the attributes of sustainable building design? Explain any one in detail.	
2	Attributes of building Envelope to achieve sustainability through passive cooling strategies. Explain any 3 in detail	
3	Write a short note on ferro cement.	
4	Discuss the components of CCTV (closed circuit T.V.) along with its application potential in designing the security system.	
5	Name the four services that can be integrated by centrally controlled monitoring systems (CCMS) in an intelligent building to save energy. Briefly explain how each of them could optimize energy consumption	
B	**Answer the following (Any Two)**	**30 Marks**
1	Discuss in detail with sketch about "Top-Down Construction techniques"	
2	Discuss in detail with sketch about "Slip form work Construction techniques"	
3	Explain Pneumatic Structure. Enlist types of pneumatic structures and explain in detail. Enlist components of the pneumatic structures	
Q.4.	**Answer the following (Any two)**	**40 Marks**
1	Explain "Digital Architecture". Enlist types and Explain any 3 in detail with sketches.	
2	How you would project intelligent buildings in 2050. What are the advance services that should be incorporated in building and explain any one in detail.	
3	Explain with the example intelligent building and identify the intelligent factor of the Building. Explain the two parameter in detail	