

Sub: Materials and Methods of Construction-IV (AR 502)

5th Semester Examination

Full Marks: 70

Answer any five questions

Time: 3 Hrs.

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1. (a) What are the primary objectives of thermal insulation in a building? (2)
(b) Explain the difference between Slab/Block Insulation and Blanket Insulation (2)
(c) Explain with sketch the internal and external techniques of roof insulation (6)
(d) Explain various methods of insulation of walls and glazed windows. (4)
2. (a) What is the difference between Plaster of Paris and Gypsum Anhydrite?
What are the differences in their usage in the building? (4)
(b) Indicate the usage of following slags in building:
Granulated Slag, Foamed Slag, Air-Cooled Slag and Slag Wool (4)
(c) What is the advantage of Composite materials over other materials in building construction? (2)
(d) What are the purposes of Matrix and Reinforcements in Composite material? (2)
(e) Name two Composite materials (2)
3. (a) What is the difference between Contraction Joint and Construction Joint? Explain with sketches. (7)
(b) Explain with sketch the utility of Sliding Joint in a building. (7)
4. (a) What is the principle of load distribution in a Shell Structure (2)
(b) Draw proportionate sketch of a Spherical Dome, Cylindrical Dome and Square Dome (6)
(c) What do you mean by a Tensile Structure? (2)
(d) Briefly explain the structural principle of Pneumatic Structure (4)
5. (a) What are the advantages of steel structure compared to conventional R.C.C. structure? (3)
(b) Explain with sketch the following types of Riveted connections:
Single Cover Butt Joint and Double Cover Butt Joint (4)
(c) Explain with sketch the construction of columns by joining more than one steel sections. (7)
6. Write short notes on the following:
(a) Advantage of Welding compared to Riveting.
(b) Folded Plate Structure
(c) Expansion Joint in roof
(d) Composition and use of Flyash in construction (14)