

B.Arch 7th semester Examination
Sub: Materials and Methods of Construction (AR 502)

Full Marks: 70

Time: 3 hrs.

Answer any five questions

1. (a) What are the basic principles of thermal insulation in a building? (6)
(b) What is the difference between Bat Insulation and Loose Fill Insulation? (4)
(c) Explain different methods of insulation of walls and glazed windows. (4)

- 2.(a) What is the difference between Kene's Cement and Martin's Cement? What are their utilities in building construction? (4)
(b) Explain the utilities of Gypsum Plaster Board and Flyash in building construction. (4)
(c) What is the advantage of composite materials compared to other materials? (3)
(d) What are the purposes of Matrix and Reinforcements in composite materials? (3)

- 3.(a) Explain briefly the use of different equipments in various stages of construction. (4)
(b) What is the difference in use of Drag Line and Power Shovel? (3)
(c) Explain with sketch the use of Backactor in excavation of trenches. (4)
(d) Name different types of hauling equipments. (3)

- 4.(a) Name different types of joints and their utility in construction. (8)
(b) What are the different types of joint fillers used in construction? (3)
(c) Explain with sketch the details of Expansion Joint in roof construction (3)

- 5.(a) Compare the structural principles of Shell, Folded Plate and Pneumatic Structure.(5)
(b) Draw proportionate sketches of Intersecting Barrel Vault, Cantilever Barrel Vault and North Light Barrel Vault. (6)
(c) Draw the shuttering or formwork for a North Light Barrel Vault. (3)

- 6.(a) Draw sketches of Plate, T, Channel and I Sections used in construction. (5)
(b) What are the different methods of welding? (2)
(c) Explain with sketch the construction of steel stanchions by joining number of steel sections. (7)