

AR-2416

Faculty of Engineering & Technology

B.Arch. (Architecture Engineering) Eighth Semester (C.G.S.) Examination

ADVANCED CONSTRUCTION-II

(10066)

Paper—08 AR 02

Time : Four Hours]

[Maximum Marks : 80

INSTRUCTIONS TO CANDIDATES

- (1) Question No. 1 is compulsory.
- (2) Due credit will be given to neatness and adequate dimensions.
- (3) Assume suitable data wherever necessary.
- (4) Retain the construction lines.
- (5) Illustrate your answers wherever necessary with the help of neat sketches.
- (6) Use pen of Blue/Black ink/refill only for writing the answer book.

1. (a) Explain with sketches the lamella-roofing system. 5
- (b) Design and draw a structural roofing system for an automobile industry having dimensions 20 m × 60 m by North-light steel portal frames. Assume suitable height for an industry.

Draw the following to a suitable scale :

- (i) Key plan and Elevation.
- (ii) Detail sectional elevation of Portal Frames.
- (iii) Purlin fixing details.
- (iv) Ridge detail.
- (v) Any isometric view. 15

2. Explain and draw to a suitable scale of the following :

- (a) Schwedeler Shell Structures. 10
- (b) Conoid Shell Structures. 10

OR

- 3. (a) Explain with sketches the Hyperbolic Paraboloid Shell Structures. 10
- (b) Explain with sketches the space frame structures and its importance. 10
- 4. (a) How modular techniques are useful to design temporary structures ? 10
- (b) Explain with sketches the steel module useful to design the spectator gallery for a sports event. 10

OR

- 5. (a) Explain with sketches the folded plate structures and its types. 10
- (b) Explain with sketches the types of Elevators. 10
- 6. Explain Ferrow Cement techniques with its various uses for construction of building elements. 20

OR

- 7. (a) Explain the advantages and disadvantages of prestressed concrete. 10
- (b) Explain with examples the use of prestressed concrete. 10