

AR-1948

Faculty of Engineering & Technology  
B.Arch. (Architecture) IV Semester (CGS) Examination  
BUILDING MATERIALS AND CONSTRUCTION—III  
(10029)  
Paper—04 AR 02

Time : Four Hours]

[Maximum Marks : 80

INSTRUCTIONS TO CANDIDATES

- (1) All questions carry equal marks.
- (2) Answer **FOUR** questions.
- (3) Question No. 1 and 3 are compulsory.
- (4) Due credit will be given to neatness and adequate dimensions.
- (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. Design a metal partition for Doctor's clinic, the size of clinic is 4.00 m×8.00 m. Provide the partition in such a way that the clinic will be divided into two parts, one of them will be Doctor's cabin and the other part is used as a waiting area. Locate the position of partly panelled and partly glazed steel door in the partition and draw to a suitable scale key plan, sectional plan, elevation section, and important fixing details to an enlarged scale.  
(Assume suitable size of door and height of partition) 20
2. (a) Differentiate between ferrous and nonferrous metals. 6  
(b) Describe the manufacturing process of pig-iron by blast furnace. 7  
(c) What are the operations involved in the mechanical treatment of steel ? 7
3. Design a fully glazed steel casement window for a class room, the width of window is 2.0 m and height is 1.20m. Draw to a suitable scale plan, elevation, section and important fixing details to an enlarged scale. 20

4. (a) Describe the manufacturing process of Aluminium. State its properties and uses. 7
- (b) Explain with neat sketches the various market form of steel used in building industries. 6
- (c) Distinguish between steel revolving door and collapsible door. 7
5. Describe with neat sketches **any four** of the following :
  - (a) Architectural uses of plastic
  - (b) Anti-corrosive treatment for steel.
  - (c) Metal casement ventilators and its types
  - (d) Fully glazed sliding door in Aluminium section.
  - (e) Manufacturing process of glass and its general properties.
  - (f) Structural plastics and Reinforced plastic.
  - (g) Classification and composition of glass. 20
6. (a) An opening of size 1.50 m × 1.20 m is kept in a 0.23 m thick brick wall for the designing of Aluminum section sliding fully glazed window. Draw to a suitable scale its plan, elevation, section and any two fixing details in enlarged scale. 14
- (b) Explain with neat sketch **any one** of the following :
  - (i) Rolling steel shutter door
  - (ii) "Treatment on glass" and its uses in interior
  - (iii) What is an alloy ? How it is formed ? 6