

AR—2026

Faculty of Engineering & Technology

B.Arch. (Architecture) Fifth Semester (CGS) Examination

**BUILDING SERVICES AND EQUIPMENT**

(10038)

Paper—5 AR 02

Time : Three Hours]

[Maximum Marks : 80

**INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
- (2) Answer **FOUR** questions.
- (3) Question No. **5** is compulsory.
- (4) Due credit will be given to neatness and adequate dimensions.
- (5) Assume suitable data wherever necessary.
- (6) Illustrate your answers wherever necessary with the help of neat sketches.
- (7) Use pen of Blue/Black ink/refill only for writing the answer book.

1. (a) Describe the various types of “impurities” present in water. 9
- (b) Describe with neat sketches how will you give “Hot Water” supply to building. 6
- (c) Sketch the different types of water taps with their fittings. 5

**OR**

2. (a) Describe with neat sketches the direct and indirect systems of water supply to the building. 7
- (b) Draw neat sketch of “Bath tub” with a provision of hot and cold water supply with their necessary fittings. 7
- (c) Describe with neat sketch the “intermittent” system of water supply. State their merit and demerits. 6

3. (a) Draw neat sketch of "Toilet Block" with various sanitary fittings. 8
- (b) Draw drainage plan of a building showing the disposal sewage from starting point to the final point of disposal. 7
- (c) Explain the P.V.C. and C.P.V.C. pipe's used for plumbing. State their merits and demerits. 5

OR

4. (a) Describe with neat sketch "Commode" type w.c. under which circumstances they are used. State their advantages and disadvantages. 7
- (b) State the importance of "Earthing" in electric supply. How the earthing is carried out ? 7
- (c) Draw neat sketches of P, Q, S trap with water-seal. 6
5. Describe with neat sketches any *four* of the following :
  - (i) Inspection chamber
  - (ii) Vertical and horizontal inlets
  - (iii) Systems of electrical wiring
  - (iv) Bawl and stall type urinals
  - (v) Kitchen sink
  - (vi) Electrical appliances
  - (vii) Water Storage Reservoirs (tanks). 20
6. (a) Describe the principles of house drainage system. 7
- (b) What do you mean by the term "Traps" ? State their importance and how they are classified according to use. 7
- (c) Calculate the standard per head per day water demand. 6

OR

7. (a) Describe, why water carriage lane system is called as most modern system nowadays. 7
- (b) Define the terms :
  - (i) Sullage
  - (ii) Bacteria
  - (iii) Cowl
  - (iv) Self cleansing velocity of sewer line. 8
- (c) Differentiate between combined and separate systems of sewerage. State their merits and demerits. 5