

- 1) Based on the material and labour rates stated below, analyse and work out "UNIT RATE" for the following items of work
 - a. PCC (1:4:8) leveling course below footing
 - b. BB masonry in CM(1:4) 150mm thick
 - c. 12-15 mm thick neeru finished plaster in CM (1:4)
 - d. Ceramic tile flooring on 30mm CM (1:6) bedding

 - e. Materials : Aggregates – Rs. 700/cum, Sand – Rs. 1750/cum, O.P.C. – Rs. 320/bag, Bricks : Rs. 9/- each, Sanla: 60/bag, ceramic tiles: Rs. 400/sqm

 - f. Labour:
 - g. For item a) = Rs. 500/cum
 - h. For item b) = Rs. 175/sqm
 - i. For item c) = Rs. 120/sqm
 - j. For item d) = Rs. 150/sqm

- 2) Describe the items of work as described in Bill of Quantities, for the following items of work , stating inclusions and exclusions and unit of
 - a. Excavation in Soil & S.M. (0-1.5m)
 - b. BB masonry (1:6) for steps
 - c. 20-25mm sand faced plaster in CM(1:4)
 - d. Inspection Chambers (450 x 900)

- 3) Work out the quantity of materials required for the following items of work, for the quantum shown
 - a. PCC (1:3:6) for floor – 30 cum
 - b. BBM (1:4) more than 230 mm thick – 50 cum
 - c. Commercial flush door shutters for 900 x 2100, TW framed doors – 10nos
 - d. Polished Kota floors (450 x 600x32mm) on 30mm CM(1:6) bedding – 120 sqm

- 4) Write short notes on.
 - a. Purpose, Essential & Importance of Rate Analysis
 - b. Indent of materials
 - c. Factors affecting Rate analysis
 - d. Explain in detail different types of works with example

- 5) Prepare rate analysis for unit quantity.
 - a. Polished Kotah Stone Flooring
 - b. 230mm Br. Mas. In 1:6 cement mortar

 - c. 20mm Cement Plaster in 1:6 cement mortar
 - d. R.C.C. work in column 1:1&1/2:3

Material rates:

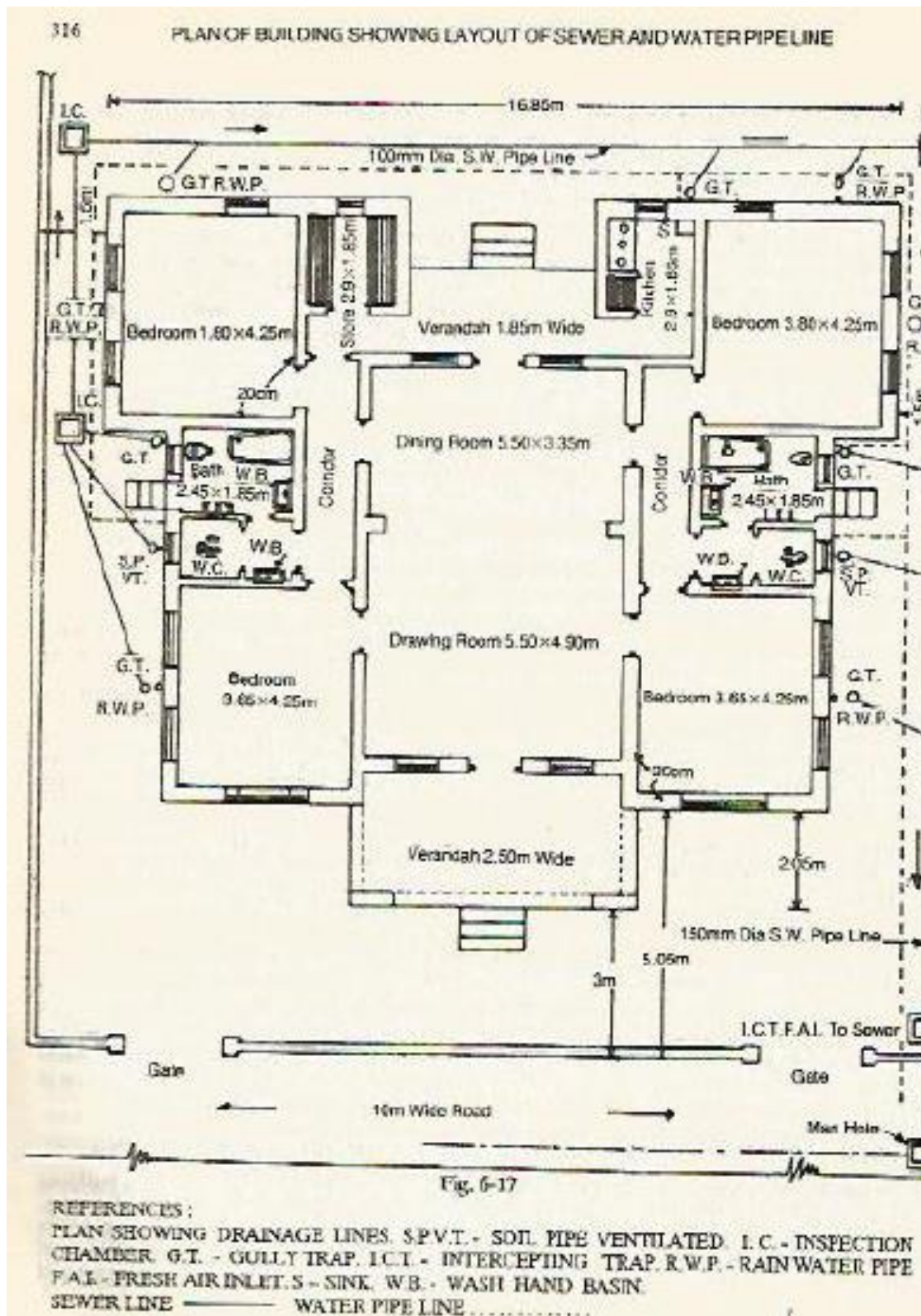
Brick – 7/- per brick

Cement - 400/- per bag
Sand - 4000/- per cu m
Kotah Stone- 767/- per sq m
Aggregate - 610/- per cu m

Labour rates:

R.C.C. Work - 6,625/- per cu m
Bk. Mas. Work - 5357 /- per cum
Cement Plaster - 347/- per sq m
Kotah Stone Flooring - 460/- per sq m

- 6) Prepare indent of material for following.
- a. P.C.C. below foundation in 1:3:6 for 17cum
 - b. 12mm cement plaster in 1:6 mortar for 575sqm
 - c. 100mm th. Bk. Work in 1:4 mortar for 65sqm
 - d. 100mm th. D.P.C. in 1:1&1/2:3 for 22sqm
- 7) Explain in detail all the terminologies related to cost and rate.
- 8) Prepare a Bill of quantities for sanitary & water supply works of a building given below *Use Measurement & Abstract Sheets.
- a. Inspection Chamber
 - b. 100 mm dia Rain water pipe
 - c. Nani traps
 - d. Wash hand Basins
 - e. Gully Trap
 - f. G I pipe for water supply work
 - g. Bib Taps



9) Calculate the quantities for Steel roof truss given below.

*Use Measurement & Abstract Sheets.

1. M. S. Angles for purlin
2. M. S. angles for single truss
3. M. S. gusset plates
4. Painting of single truss
5. G. I. Sheet roof covering for shed in diagram.



STEEL ROOF TRUSS
 12.00m Span for a Shed 21.00 Long
 Spacing of Truss 3.50m

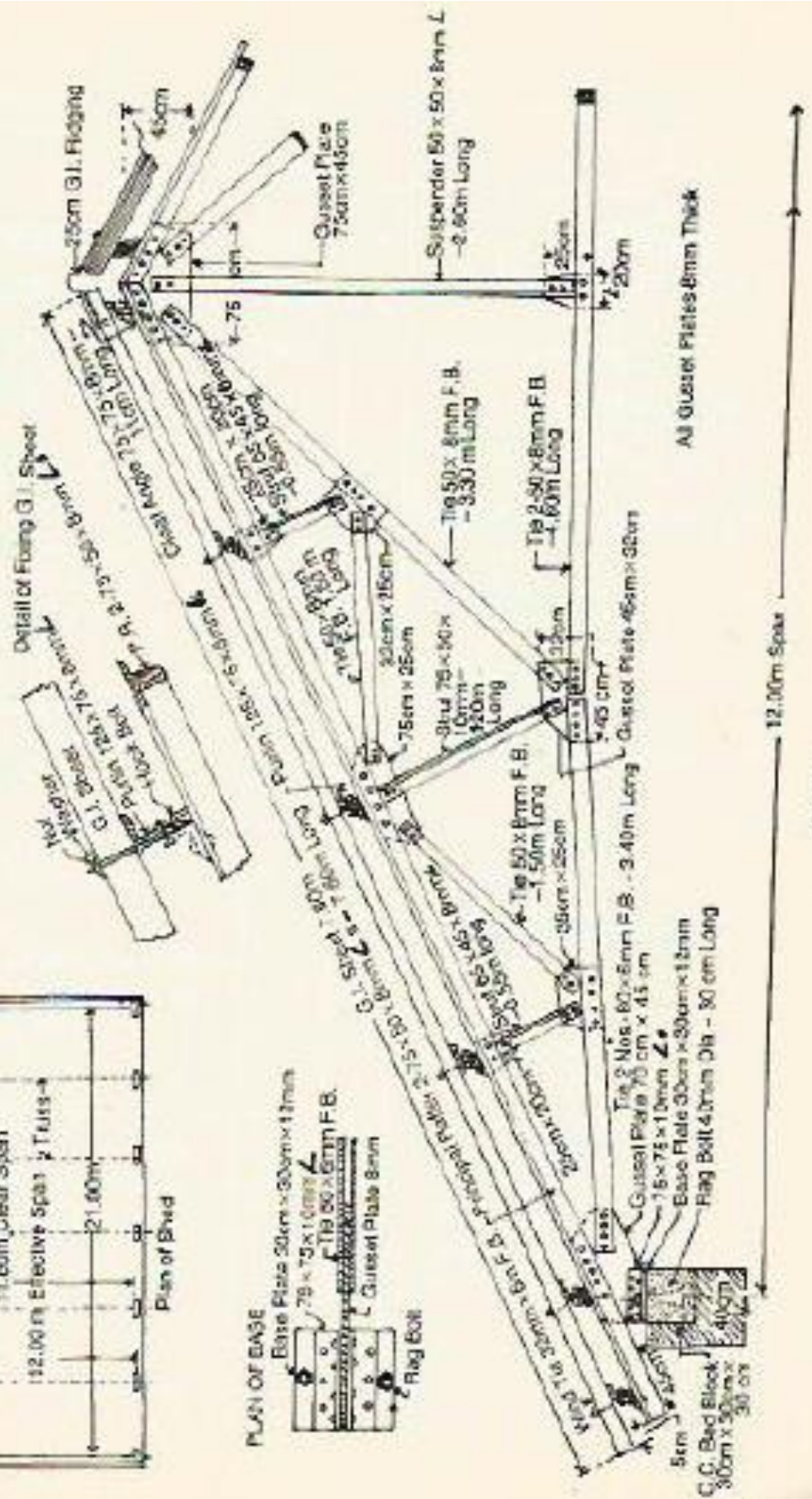


Fig. 4-8