(4 Hours)   **[Total marks : 80]**

NOTE:.
- • Question No. 1 is compulsory.
- • Attempt any three out of the remaining five questions.
- • Figures to the right indicate full marks
- • Assume suitable data if required and mention it.

Q.1   Work out the following quantities from given plan & section. (Refer Fig.no.01)   20
    i) Excavation for all footings.   ii) P.C.C in footing beds.
    iii)Flooring and skirting   iv) Brick work in c:m 1:5 in Superstructure

Q.2a)   Prepare approximate estimate of (G+4) R.C.C. framed bldg. having total carpet area
    of 500 Sq.m. Building is located in Kalyan. Assume suitable rate of construction.
    Also make provision of fund for sanitation, electrification, water supply etc   08

   b) Explain:- i) C.B.R.I Method   ii) Work charged Establishments & Contingencies
            iii) Bill method   12

Q.3a) Define Specification. State the different purposes served by specification.
    Write brief specification of Ist class brickwork in superstructure.   08
  b) Prepare rate analysis for:- P.C.C (1:1.5:3) in footings.   08
  c) Explain Centre line method.   04

Q.4 a) Calculate volume of earthwork in cutting & banking for the road section whose
    details are given below:- (Use Mean Area Method)   10

Chainage	0	30	60	90	120	150	180	210
R.L.of ground (m)	161.5	160.95	160.55	161.55	161.85	162.95	162.35	162.8

    Width of formation = 10 M.   F.L.at zero chainage = 161.60M.
    Rising Gradient (1 in110)   Side Slopes = 1.5:1(Banking) & 2:1 (Cutting)
  b) Explain:- Mass Haul Diagram   05
  c) Explain Lead &Lift with example.   05

Q.5a) Determine standard rent per flat from the following data:-
    A building is constructed newly with costs of Rs.55 lakhs on a plot of valuation
    Rs.70 lakhs. Building consists of 20 flats of 75 sq.m.area each are constructed.
    i) Net return on land and building = 9%   ii) Life of building = 40 years
    iii) Interest rate on Sinking fund = 5%   iv) Salvage Value = 10%
    v) Repairs and Maintenance = 2.5% of the building cost
    vi)Taxes and other expenses = 20 % of the gross rent.   10
  b) What is Bar bending schedule? Explain its importance in estimation Process.   05
  c) What is depreciation? Explain any one method for calculating the depreciation.   05

Q.6) Write notes on followings.(any five)   20
    i) Rules for deduction in plastering as per IS 1200.   ii) B.O.T.Contract
   iii) Easement rights.   iv) Pre-bid conference   v) Sinking fund
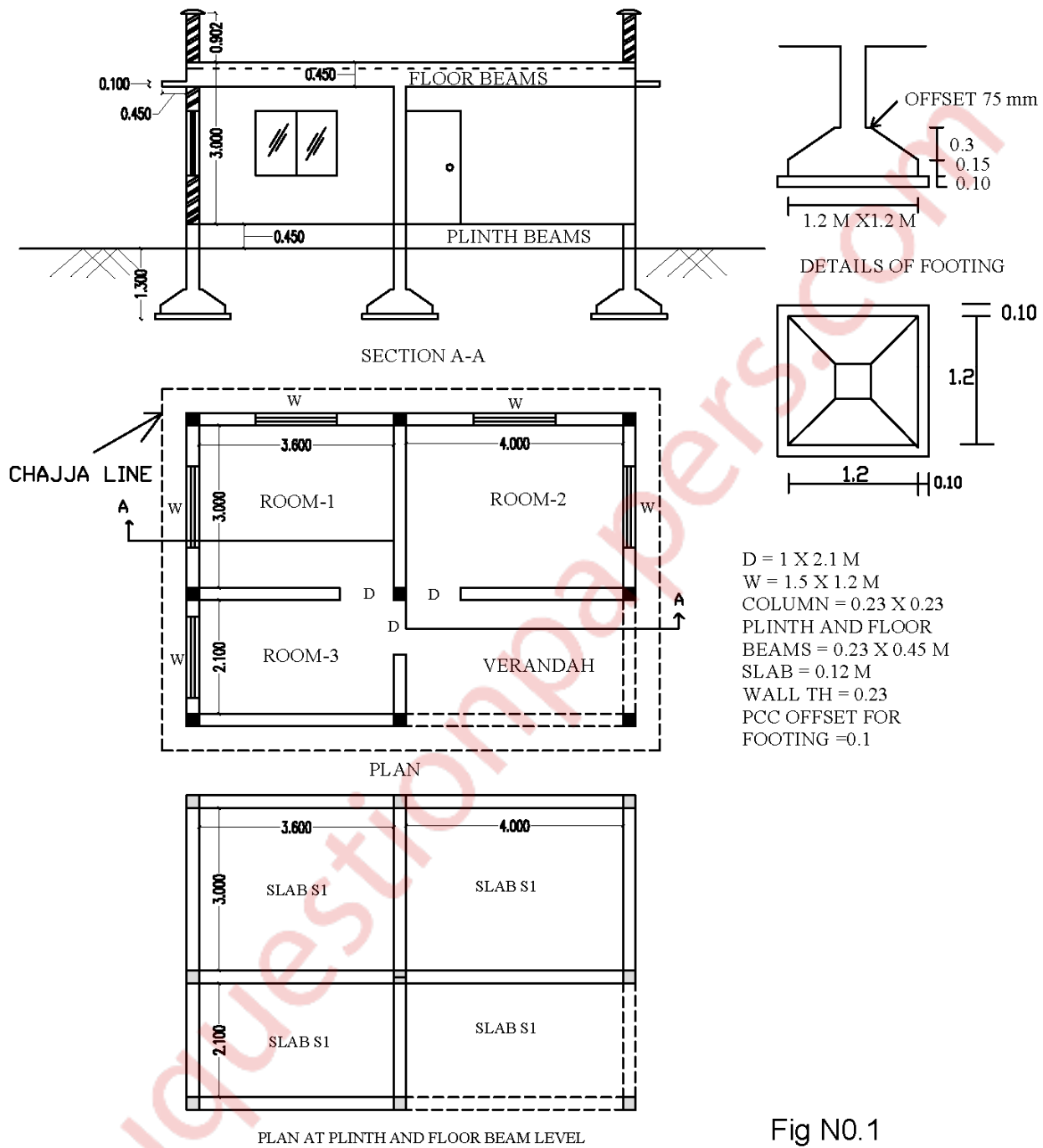   vi) Main inclusions of Tender Notice vii) Arbitration

SECTION A-A

OFFSET 75 mm

0.3
0.15
0.10

1.2 M X1.2 M

DETAILS OF FOOTING

0.10

1.2

1.2   0.10

CHAJJA LINE

W   W

3.600

ROOM-1   ROOM-2   W

3.000

D   D

D

ROOM-3   VERANDAH

W

2.100

PLAN

D = 1 X 2.1 M
W = 1.5 X 1.2 M
COLUMN = 0.23 X 0.23
PLINTH AND FLOOR
BEAMS = 0.23 X 0.45 M
SLAB = 0.12 M
WALL TH = 0.23
PCC OFFSET FOR
FOOTING =0.1

3.600   4.000

3.000   SLAB S1   SLAB S1

2.100   SLAB S1   SLAB S1

PLAN AT PLINTH AND FLOOR BEAM LEVEL

Fig N0.1