

March 2023

ESTIMATING COSTING AND VALUATION

Time Allowed: 2.5 Hours

Full Marks: 60

Answer to Question No. 1 of Group A is compulsory and to be answered first. This answer is to be made in separate loose script(s) provided for the purpose. Maximum time allowed is 30 minutes, after the loose answer scripts will be collected and fresh answer scripts for answering the remaining part of the question will be provided. On early submission of answer scripts of Question No. 1, a student will get the remaining scripts earlier.

Answer any Five (5) Questions from the Group B.

Group-A

1. Choose the correct answer from the given alternatives (any Twenty):

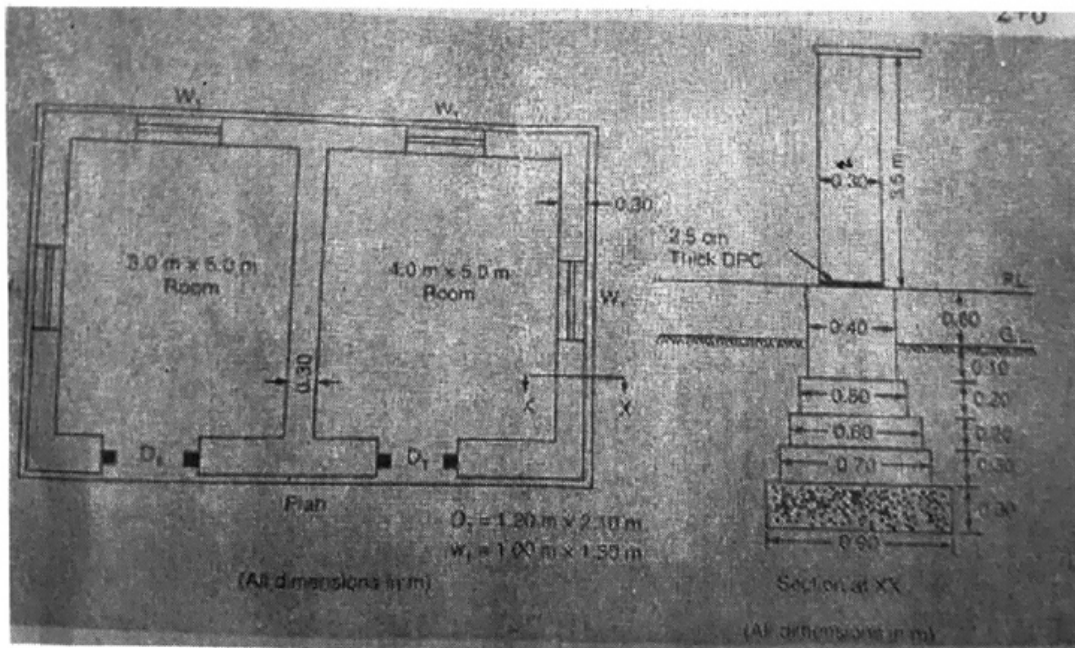
1x20=20

- i. The unit of measurement for the earth work in excavation in ordinary soils, earth work in mixed soil with kankar, bajree etc. when depth of excavation does not exceed 30 cm, is-----
(a) Per m, (b) cu.m (c) Sq.m (d) 100 Sq.m
- ii. A revised estimate is prepared if the sanctioned estimate exceeds-----
a. 2% (b) 5% (c) 8% (d) 10%
- iii. In a detailed estimate the provision for the contingencies is, usually-----
a. 1% (b) 3%-5% (c) 10% (d) 12% - 15%
- iv. The most reliable estimate is---
a. Plinth area estimate (b) Detailed estimate (c) Preliminary estimate (d) Cube rate estimate
- v. The damp proof course is measured in-----
(a) Length (b) Area (c) Volume (d) Weight
- vi. The floor area included the area of balcony up to----
(a) 25% (b) 85% (c) 75% (d) 50%
- vii. The thickness of plastering is usually----
(a) 40mm (b) 6mm (c) 12mm (d) 25mm
- viii. In the analysis of rates, the profit for the contractor is generally taken as----
(a) 20% (b) 15% (c) 10% (d) 5%
- ix. Working out the exact quantities of various items of work is known as----
(a) Estimation (b) Mensuration (c) Quantity surveying (d) Valuation
- x. Scrap value of a property may be----
(a) Both negative & positive (b) Constant (c) Negative (d) Positive
- xi. What is the unit of measurement for steel reinforcement?
(a) Number (b) kilogram (c) Running meter (d) Quintal
- xii. Volume of one bag cement (50 kg) is-----
(a) 0.0347 (b) 0.355 (c) 0.0345 (d) 0.0457
- xiii. The minimum width Of a septic tank is taken as----
(a) 70 cm (b) 75 cm (c) 80 cm (d) 90 cm
- xiv. The height of the sink of wash basin above floor level is kept----
(a) 60 cm (b) 70 cm (c) 75 cm to 80 cm (d) 80 cm
- xv. The floor area includes the area of the balcony up to
(a) 100% (b) 75 % (c) 50 % (d) 25 %
- xvi. Long wall-short wall method is also known as---
(a) Out to Out (b) In to In (c) PWD method (d) All the above
- xvii. If a bar is cranked at both ends at 45° then extra length required for each crank is----
(a) 0.42d (b) 0.45d (c) 0.27d (d) 0.84 d
- xviii. In general, compare to plinth area method, the cubic rate method is-----
(a) more accurate (b) less accurate (c) same as plinth area method (d) none of these
- xix. Plinth area is equal to --- (a) Carpet area plus wall area (b) carpet area plus wall area plus horizontal circular area (c) carpet area plus wall area plus circular area (d) carpet area plus wall area minus horizontal circular area

- xx. In specification of earth work in foundation trenches, drains etc. lift ordinarily specified as---
 (a) 30 m (b) 1.5 m (c) 5 m (d) 3 m
- xxi. The useful part of livable area of a building is known as--- (a) carpet area (b) vertical circulation area
 (c) horizontal circulation area (d) plinth area
- xxii. Brick work of one or more than one brick work, no deduction shall be made for opening up to ----
- xxiii. (a) 0.1 Sq.m (b) 0.01 Sq.m (c) 0.2 Sq.m (d) 0.02 sq. m in area.
- xxiv. In measuring from work no deduction is made for opening up to-(a) 1m² (b) 0.5 m² (c) 0.4 m² (d) 0.01 m²
- xxv. The ratio of cost of labour to the total cost of the building is—(a) 1:10 (b) 1:4 (c) 1:1 (d) 6:10

Group-B

2. a) State the purpose of estimate.
 b) Differentiate between Revised estimate and supplementary estimate 3+5
3. a) State the purpose of approximate estimate.
 b) A person constructs a building of plinth area equal to 100 Sq.m on a plot of land in a certain locality at a cost of Rs. 95000. The height of the building from ground level to the top of the roof is 3.5 m and a parapet wall of height equal to 80 cm is constructed on the terrace. Determine the cost of a similar building of plinth area equal to 135 Sq.m to be constructed in the same locality by plinth area rate and also by volume rate. 2+6
4. a) Draw the details estimate sheet & Abstract estimate sheet.
 b) Estimate the quantities of the following items of a two roomed building from the given plan and section (i). Earth work in excavation, (ii). 1st class brick work in cement mortar (1:4) in foundation & plinth, (iii). 25 mm thick D.P.C (1:2:4) in cement concrete 2+6



5. Details of a Simply Supported R.C.C Slab (1:1.5:3) as below: -
 Size-500 mm X 500 mm Thickness-110 mm, Cover- Top & Bottom-15 mm, End-25 mm
 Reinforcement- # 8mm dia bar placed in the direction of 2500 @ 150 mm C/C.
 # 1/2 of the bar have been Ckd at 45° at appropriate place & hooked at end. Other bars are straight & hooked at end to hold at the Ckd portion 4 nos St. & hooked 8 mm dia bar in used. # 8 mm dia bar placed in the direction of 5000 mm @ 200 mm C/C. All of these bars are St. & hooked at ends.
 Estimate the- a) Quantities of materials b) Bar Bending schedule and quantities of Steel. 3+5

6. Draw a neat sketch of a R.C.C Lintel from the following data-

Main bars-12 mm dia, 3 nos, 2 nos Straight bars & 1 no of bent up bar, Anchor bars-6 mm dia, 2 nos
Stirrups - 6 mm dia @ 150 mm C/C. Length of Lintel: 1500 mm, Thickness of wall: 250 mm

a. Estimate the quantities of materials b) Prepared a bar bending schedule and quantities of Steel 3+5

7. Prepare an estimate for the portion of a road from chainage 14 to 22 from the data given below. Draw the longitudinal typical cross-section for the cutting and banking. Turfing with grass sods shall be provided for the sides of the embankment @ Rs. 1200 per Sq.m. The rate of earth work in cutting is Rs. 1500 per cu.m and embankment is Rs. 1600 per cu.m. The formation width of the proposed road is 12 m, side slope 1.5:1 in cutting & 2:1 in banking. 8

Chainage	14	15	16	17	18	19	20	21	22
R.L of G Level	108.60	109.25	109.40	108.85	108.5	107.25	106.80	107.15	107.20

8. a) List the data to be consider to fix-up rate per unit of an item.

b) Analysis the rates for the following items- (any one)

i). 1st class brick in cement mortar (1:4) in foundation and Plinth ii). 100 mm thick R.C.C Slab (M₂₀ Grade Concrete) with down 20 mm graded stone chips excluding reinforcement & shuttering. 2+6

9. a) Define the following terms- (i). Book value (ii). Scrap value (iii). Salvage value

b) Differentiate between depreciation and obsolescence. 3+5

10. a) Define Lead and Lift.

b) What is rate analysis? Write down the purpose of rate analysis. 3+2+3