

Note:

- Q.1 is compulsory
- Attempt any three out of remaining Five Questions.
- Figures to right indicates full marks.
- Assume Suitable data if required.



Q.1 Workout following quantities from given plan and section. (Fig.01).

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- Excavation for work for all footings.
- Brickwork in superstructure with cement mortar 1:5.
- RCC work for all columns including steel & excluding formwork & shuttering.
- Internal Plastering in cement mortar 1:4

Q.2 A) Explain the meaning of specification. Draft general specifications for 1st class brickwork in cement mortar (1:5) including scaffolding.

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B) Explain in brief rate analysis? Prepare rate analysis for internal plastering 12 mm thickness in cement mortar in cement mortar 1:4

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Q.3 A) Prepare approximate estimate for RCC residential building with following data:

Plot area = 80M x 50M, FSI = 0.6. Building is constructed G+5 storey with pile foundation. Assume cost of construction as Rs.7500 / m² Assume foundation cost 20% of cost of superstructure. Assume allowance for services such as water supply sanitation electrical installation as 20% of building cost. Allowance for consultant's fee = 5% of overall cost. Allowance for contingencies and work charged establishment = 5% and 3%.

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B) Explain acceptance and rejection of tender.

04

C) Draft Notice inviting tender for construction of School Building in Mumbai region for estimated cost of Rs. 500 lacs time limit for work is two years. Contract will be having item rate type and tender fee Rs. 2000/- along with document

06

Q.4 A) The initial cost of construction equipment is Rs.75,00,000. It has useful life of 15 years. The estimated salvage value of the equipment at the end of useful life is Rs.7, 00,000. Calculate the annual depreciation and book value of the construction equipment using a) Straight line method, b) Constant percentage method.

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B) What are different types of contracts. Explain any two in detail.

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- Q.5 A)** Prepare road estimate for portion of road chainage 14 to 22 from the data as given below. Draw L-section and typical cross section for cutting and banking. Turfing with grass provided with side embankment at the rate of Rs. 50/m². rate of earthwork in cutting is Rs. 350/ m³ and rate of earthwork for banking is Rs. 250/ m³. Formation width of proposed road is 12m and side slope is 1.5:1 in cutting and 2:1 in banking. Road formation is proposed at uniform falling gradient 1:200 passing through ground level at chainage 14. Length of chain is 30 M.

Chainage	14	15	16	17	18	19	20	21	22
RL of ground(m)	108.60	109.85	109.40	108.85	108.50	107.25	106.80	107.15	107.20
RL of formation(m)	108.60								

Formation width of proposed road is 12m and side slope is 1.5:1 in cutting and 2:1 in banking. Road formation is proposed at uniform falling gradient 1:200 passing through ground level at chainage 14. Length of chain is 30m.

- B)** A room having dimension 6m x 5m. There is one T-beam of c/s 30 x 50 cm below the slab of thickness 15 cm. Find the quantity of steel for the reinforcement, bottom main bars total 8 nos having 16 mm ϕ placed in two rows, one bottom row 4 Nos straight and other top row 4 nos (2 straight and 2 bent up) Top bars 2 nos 16mm ϕ Stirrups 10 mm diameter with spacing 15 cm c/c.

Q.6 Write short notes on (any Five).

- Easement rights.
- EMD and SD
- Technical Sanction

- Mass Haul Diagram
- Rules for deduction in plastering work & brickwork.
- Balanced and unbalanced tender.

Fig.01


