ESTIMATING, COSTING AND VALUATION

[ PROFESSIONAL PRACTICE AND QUANTITY SURVEYING ]

By

Rangawala

**Edition**: 17th Revised and Enlarged Edition : 2017 (First Reprint)

**ISBN**: 9789385039058

**Size**: 170 mm × 235 mm

**Binding**: Paperback

**Pages**: 896 + 24 = 920

**About the Book**

The entire subject of Estimating, Costing, Professional Practice, Quantity Surveying and Valuation is divided in two parts:

Part I : Professional practice and Quantity Surveying; Part II : Valuation.

This edition is thoroughly revised, extensively enlarged and completely modified. Each topic of the book has been arranged in such a way that reader is empowered with an in-depth knowledge of the subject. In this revised and enlarged edition four new chapters have been added. Plenty of new matter, numerous examples and figures have been added as per the latest syllabus of different universities of India. The permutation of some of the sporadic matter have been made to collocate the topics in order.

The outline of the book is:

**Chapter 1**: Introduction to the subject of Estimating and Costing

**Chapter 2**: Consists the Types of Estimates

**Chapter 3**: Elucidates Taking Out Quantities

**Chapter 4**: Expounds Mode and Units of Measurements

**Chapter 5**: Discuss about the Specifications and provides 66 model specifications of common civil engineering items.

**Chapter 6**: Market Survey, explains main components of the estimates i.e., rates of materials, labour and construction equipments used.

**Chapter 7**: Rate Analysis of 98 typical items

**Chapters 8 to 14** gives 64 variety of Practical Estimates of Various Types of Buildings; Different R.C.C. Structures; Formwork; Roof and Steel Structures; Water Supply and Sanitary Works; Bridges; Culverts; Piers; Irrigation Works; Road Works.

**Chapters 15 to 18** gives Contracts, Tenders, Conditions of Contracts, Arbitration, Accounts.

**Chapters 19** gives knowledge of Construction Management, Planning, CPM, PERT, Materials Management etc.

**Chapters 20 to 29** gives various topics of Valuation such as Cost, Price, Value, Mortgage, Freehold and Leasehold Properties, Outgoings and Net Income, Easements, Valuation of Licensed Premises, Depreciation, Standard Rent, Methods of Valuation, Valuation Tables etc.

**Appendix** provides 101 Practical Questions with Answers for viva-voce.

It is hoped that the book will satisfy the needs of the Civil Engineering students preparing for the Degree examinations of almost all the Indian Universities, Diploma examinations conducted by various Boards of Technical Education, Certificate courses as well as for the A.M.I.E., U.P.S.C., G.A.T.E., I.E.S. and other similar competitive and professional Examinations. It should also be of an immense help to the practising Civil Engineers.
PART 1 : PROFESSIONAL PRACTICE AND QUANTITY SURVEYING

Chapter 1: INTRODUCTION
1-1. General
1-2. Estimate and estimating
1-3. Quantity survey
1-4. Essentials of an estimator
1-5. Requirements of an estimator
1-6. Accompaniments of an estimate
1-7. Uses of an estimate
1-8. Financial implications
1-9. Cost planning
1-10. Spot items
1-11. Prime cost and provisional sum
1-12. Provisional quantities
1-13. Day work
1-14. Contingencies
1-15. Work-charged establishment
1-16. Regular establishment
1-17. Schedule of rates (S.O.R.)
1-18. Estimated cost and construction cost
1-19. Water and electric consumption charges
1-20. Overhead charges

Questions 1

Chapter 2: TYPES OF ESTIMATES
2-1. Types of estimates
2-2. Detailed estimate
2-3. Types of detailed estimates
2-3-1. Quantity estimate or item rate estimate
2-3-2. Revised estimate
2-3-3. Supplementary estimate
2-3-4. Revised and supplementary estimate
2-3-5. Complete estimate
2-3-6. Annual maintenance and repair estimate
2-3-7. Special repair estimate
2-4. Approximate estimate
2-5. Approximate methods of costing for various structures
2-5-1. Methods of approximate costing for Buildings
2-5-2. Methods of approximate costing for Steel bridges
2-5-3. Methods of approximate costing for R.C.C. retaining walls
2-5-4. Methods of approximate costing for Highways and roads
2-5-5. Methods of approximate costing for Dams
2-5-6. Methods of approximate costing for Culverts
2-5-7. Methods of approximate costing for Irrigation canals
2-5-8. Water supply and sanitary projects

Questions 2

Chapter 3: TAKING OUT QUANTITIES
3-1. General
3-2. Meaning of the term taking out quantities
3-3. Methods of taking out quantities
3-4. Methods of computing quantities
3-4-1. Centre-line method
3-4-2. Crossings method
3-4-3. Out-to-out and in-to-in method or long wall and short wall method
3-5. Deductions for opening in masonry
3-6. Theory of arch
3-7. Volume of concrete in trapezoidal footing

Questions 3

Chapter 4: MODES AND UNITS OF MEASUREMENTS
4-1. Introduction
4-2. Principles for Units of measurements
4-3. General rules for measurements
4-4. Degree of accuracy
4-5. Modes of measurement for different items
4-5-1. Preliminaries
4-5-2. Excavation
4-5-3. Concrete work
4-5-4. Brickwork
4-5-5. Stonework

Chapter 5: SPECIFICATIONS
5-1. General
5-2. Definition
5-3. Objects of specifications
5-4. Importance of specifications
5-5. Use of specifications
5-6. Types of specifications
5-6-1. Brief specifications
5-6-2. Detailed specifications
5-7. Classification of specifications
5-8. Design of specifications
5-9. Important aspects of the design of a specification
5-10. Principles of specification writing
5-11. Sources of information
5-12. Typical specifications
5-12-1. Specification for excavation
5-12-2. Specification for removal of water from foundations
5-12-3. Specification for damp proof course
5-12-4. Specification for brickbat lime concrete for foundation in proportion (1:2:4)
5-12-5. Specification for 1st class brickwork in c.m. (1:6)
5-12-6. Specification for timber doors and windows
5-12-7. Specifications for steel doors and windows
5-12-8. Specification for bricknogged partition in c.m. (1:4)
5-12-9. Specification for Random rubble masonry
5-12-10. Specification for coursed rubble masonry
5-12-11. Specification for ashlar masonry in c.m. (1:3)
5-12-12. Specification for R.C.C. work proportion (1:2:4)
5-12-13. Specification for reinforced brick-work for slab of one brick depth
5-12-14. Specification for terrazo finish
5-12-15. Specification for marble flooring
5-12-16. Specification for polished Kotah machine cut stone paving
5-12-17. Specification for brick on edge flooring
5-12-18. Specification for cement concrete flooring in proportion
5-12-19. Specification for pointing in c.m. (1:1)
5-12-20. Specification for 20 mm sand faced cement plaster
5-12-21. Specification for 18 mm thick single coat mala plaster
5-12-22. Specification for whitewashing in three coats
5-12-23. Specification for painting in three coats
5-12-24. Specification for French polish
5-12-25. Specification for wax polish
5-12-26. Specification for suspended ceiling of plaster of Paris
5-12-27. Specification for Manglore-tiled roof
5-12-28. Specification for cast-iron articles
5-12-29. Specification for fixing asbestos cement corrugated roofing sheets on steel purlins
5-12-30. Specification for fixing 1 mm thick corrugated galvanized iron sheets on wooden purlins
5-12-31. Specification for driving precast R.C.C. piles
5-12-32. Specification for uncased cast-in-situ R.C.C. piles
5-12-33. Specification for providing and laying 150 mm diameter S.W. pipe
5-12-34. Specification for providing and laying 900 mm diameter R.C.C. hume pipe
5-12-35. Specification for 160 mm water-bound macadam road for heavy traffic
5-12-36. Specification for 50 mm full grout surface on an existing road
7-8-1. Excavation for foundation in ordinary soft soil including throwing excavated earth within the lead of 30 m and lift of 1.50 m
7-8-2. Sand filling in plinth
7-8-3. Brickbat cement concrete (B.B.C.C.) proportion (1:6:12) for foundations and plinth
7-8-4. Brickbat cement concrete (B.B.C.C.) proportion (1:5:10) for foundations and plinth
7-8-5. Brickbat cement concrete (B.B.C.C.) proportion (1:4:8) for foundations and plinth
7-8-6. Brickbat cement concrete for foundations proportion (1:3:6) for foundations and plinth
7-8-7. 65 mm thick brickbat coba concrete proportion (1:6:12) under terrace floors
7-8-8. Brickbat lime concrete (B.B.L.C.) proportion (1:2:4) for foundations and plinth
7-8-9. Plain cement concrete (P.C.C.) proportion (1:6:12) below column footing in foundations
7-8-10. Plain cement concrete proportion (1:4:8) below column footing in foundations
7-8-11. Plain cement concrete (P.C.C.) proportion (1:3:6)
7-8-12. Plain cement concrete (P.C.C.) proportion (1:2:4) M25
7-8-13. Plain cement concrete (P.C.C.) proportion (1:1.5:3) M20
7-8-14. Plain cement concrete (P.C.C.) proportion (1:1:2) M20
7-8-15. Providing and laying Mild steel reinforcement
7-8-16. Providing and laying HYSD steel reinforcement
7-8-17. 12 cm R.C.C. slab proportion (1:2:4) M15 with steel reinforcement
7-8-18. R.C.C. beams proportion (1:2:4) M15 with steel reinforcement
7-8-19. R.C.C. columns proportion (1:2:4)
M15 with steel reinforcement
7-8-20. R.C.C. lintels proportion (1:2:4)
M15 with steel reinforcement
7-8-21. R.C.C. footing proportion (1:2:4)
M15 with steel reinforcement
7-8-22. R.C.C. coping proportion (1:2:4)
M15 with steel reinforcement
7-8-23. R.C.C. plinth beam proportion (1:2:4)
M15 with steel reinforcement
7-8-24. 112.5 mm thick R.C.C. cantilever slab proportion (1:2:4)
M15 with steel reinforcement
7-8-25. Average 75 mm thick R.C.C. parapet proportion (1:2:4) M15
7-8-26. 1.0 m wide R.C.C. step proportion (1:2:4) M15 with steel reinforcement
7-8-27. Average 75 mm thick R.C.C. parapet proportion (1:2:4) M15 with steel reinforcement
7-8-28. Average 125 mm thick R.C.C. canopy slab proportion (1:2:4) M15 with steel reinforcement
7-8-29. 12 cm R.C.C. slab proportion (1:1.5:3) M20 with steel reinforcement
7-8-30. R.C.C. beam proportion (1:1.5:3) M20 with steel reinforcement
7-8-31. R.C.C. column proportion (1:1.5:3) M20 with steel reinforcement
7-8-32. R.C.C. lintel proportion (1:1.5:3) M20 with steel reinforcement
7-8-33. R.C.C. footing proportion (1:1.5:3) M20 with steel reinforcement
7-8-34. R.C.C. coping proportion (1:1.5:3) M20 with steel reinforcement
7-8-35. R.C.C. plinth beam proportion (1:1.5:3) M20 with steel reinforcement
7-8-36. 112.5 mm thick R.C.C. cantilever slab proportion (1:1.5:3) M20 with steel reinforcement
7-8-37. Average 75 mm thick R.C.C. parapet proportion (1:1.5:3) M20 with steel reinforcement
7-8-38. 1.0 m wide R.C.C. step proportion (1:1.5:3) M20 with steel reinforcement
7-8-39. Average 75 mm thick R.C.C. Pardi proportion (1:1.5:3) M20 with steel reinforcement
7-8-40. Average 125 mm thick R.C.C. Canopy slab proportion (1:1.5:3) M20 with steel reinforcement

6-5-13. Specification for the brickwork in arch in c.m. (1:4)
6-5-14. Specification for 2nd class brickwork in c.m. (1:6)
6-5-15. Specification for 3rd class brickwork in c.m. (1:6)
6-5-16. Specification for the brick partition wall in c.m. (1:4)
6-5-17. Specification for reinforced brickwork for walls in c.m. (1:3)
6-5-18. Specification for coursed rubble masonry I sort in c.m. (1:6)
6-5-19. Specification for coursed rubble masonry II sort in c.m. (1:6)
6-5-20. Specification for coursed rubble masonry III sort in c.m. (1:6)
6-5-21. Specification for R.C.C. slab 12 cm thick prop. (1:2:4)
6-5-23. Specification for R.C.C. stair of 1 metre width prop. (1:2:4)
6-5-24. Specification for 40 mm thick Indian patent stone prop. (1:2:4)

Chapter 7: RATE ANALYSIS
7-1. Definition
7-2. Purposes of rate analysis
7-3. Importance of rate analysis
7-4. Essentials of rate analysis
7-5. Schedule of rates (S.O.R.)
7-6. Standard costing
7-7. Task work per day
7-8. Rate analysis of typical items
7-8-41. 1st class brickwork in cement mortar (1:6) upto plinth using modular bricks
7-8-42. 1st class brickwork in c.m. (1:6) upto plinth using conventional bricks
7-8-43. 1st class brickwork in c.m. (1:8) upto plinth
7-8-44. 10 cm thick brick partition wall in c.m. (1:4) for ground floor
7-8-45. Ashlar masonry in c.m. (1:6) for ground floor
7-8-46. Coursed rubble masonry in c.m. (1:6) for ground floor
7-8-47. Random rubble masonry in c.m. (1:6) for ground floor
7-8-48. Brickwork in arch with c.m. (1:3) using modular bricks
7-8-49. Honey comb brickwork for partition wall in c.m. (1:4) in superstructure
7-8-50. Cement mortar (1:1) (1 Cement : 1 Sand)
7-8-51. Cement mortar (1:2) (1 Cement : 2 Sand)
7-8-52. Cement mortar (1:3) (1 Cement : 3 Sand)
7-8-53. Cement mortar (1:4) (1 Cement : 4 Sand)
7-8-54. Cement mortar (1:5) (1 Cement : 5 Sand)
7-8-55. Cement mortar (1:6) (1 Cement : 6 Sand)
7-8-56. Lime mortar (1:2) (1 Lime Putty : 2 Fine Sand)
7-8-57. Mosaic tiles (precast terrazzo tiles) flooring on average 25 mm thick bedding of c.m. (1:4)
7-8-58. Mosaic tiles flooring on terrace
7-8-59. Mosaic tiles skirting 75 mm high
7-8-60. Polished Kota stone flooring
7-8-61. Polished Kota stone skirting 75 mm high
7-8-62. White glazed tiles flooring of size 150 mm × 150 mm
7-8-63. White glazed tiles in skirting, risers of step and dado on 12 mm thick rough cement plaster (1:3) base and joined with white cement slurry
7-8-64. 40 mm thick Indian patent stone in P.C.C. (1:2:4)
7-8-65. 62 mm thick I.P.S. with ironite finish, 50 mm thick P.C.C. (1:2:4) and 12 mm thick ironite finish
7-8-66. Rough Kota stone flooring on average 40 mm thick bedding
7-8-67. Marble flooring
7-8-68. Marble skirting 75 mm high
7-8-69. 40 mm thick terrazo floor finish
7-8-70. Crazy Marble Stone Flooring
7-8-71. P.V.C. Tiles Flooring
7-8-72. Flooring of bricks on edge–top 25 mm in c.m. (1:1) and rest in c.m. (1:24)
7-8-73. Light weight thor concrete in proportion (1:6:36) (1 cement: 2 sand: 6 brickbats: 36 light weight thor)
7-8-74. 75 mm × 75 mm cement briquet in proportion (1:2:4) (volume per 10 m = 0.075 × 0.075 × 10 = 0.06 cu m)
7-8-75. Cut cement pointing in c.m. (1:1)
7-8-76. 12 mm thick cement plaster in c.m. (1:4)
7-8-77. 12 mm thick cement plaster in c.m. (1:3)
7-8-78. 18 mm thick single coat mala plaster in c.m. (1:4)
7-8-79. 20 mm thick double coat sand faced plaster with 1st coat in c.m. (1:4) and 2nd coat in c.m. (1:2)
7-8-80. 20 mm thick double coat sand faced plaster with 1st coat in c.m. (1:4) and 2nd coat in c.m. (1:1)
7-8-81. Whitewashing in three coats
7-8-82. Oil painting in three coats
7-8-83. Fully panelled double shutter wooden door of size 1.10 m × 2.00 m with brass fastenings and fixtures
7-8-84. Fully glazed double shutter window of size 1.00 m × 1.50 m with brass fastenings and fixtures
7-8-85. Manglore-tiled roof including wooden battens 45 cm × 25 mm at 350 mm centre to centre
7-8-86. Laying G.I. Pipe 40 mm diameter (Open)
7-8-87. Laying G.I. pipe 40 mm diameter (concealed)
7-8-88. Laying 150 mm diameter stone ware pipe
7-8-89. Washbasin of size 550 mm × 400 mm
7-8-90. Indian W.C. of size 580 mm with a pair of foot-rest
7-8-91. Suspended ceiling of Plaster of Paris including wooden main battens 100 mm × 50 mm at 80 cm c/c and cross battens 50 mm × 25 mm at 40 cm c/c
7-8-92. Rubble soling 12 cm thick
7-8-93. 150 mm thick water bound macadam road surface
7-8-94. 50 mm full grout surface on existing road surface
7-8-95. 20 mm thick Damp-poof course in c.m. (1:2)
7-8-96. 25 mm thick Damp-poof course in cement concrete proportion
7-8-97. Concealed electric light point of M.S. conduit
7-8-98. Concealed electric light point of P.V.C. conduit upto average height 3.05 m
7-9. Rates for some typical items of construction

Questions 7

Chapter 8: ESTIMATES OF VARIOUS TYPES OF BUILDINGS
8-1. General
8-2. Estimate of simple steps
8-3. Estimate of corner steps
8-4. Estimate of a shop
8-5. Estimate of a servant’s quarter
8-6. Estimate of a sanitary block for a factory building
8-7. Estimate of a residential building
8-8. Estimate of a children’s library
8-9. Estimate of a compound wall
8-10. Estimate of a ginning factory
8-11. Typical estimates of buildings

Chapter 9: ESTIMATES OF DIFFERENT R.C.C. STRUCTURES AND FORMWORK
9-1. General
9-2. Quantity of steel
9-3. Weights of steel bars
9-4. Number of bars or stirrups
9-5. Types of steel bars
9-6. Length of hook and bent-up bars
9-7. Bar bending schedule
9-8. Estimate of R.C.C. column with footing in prop. (1:1.5:3)
9-9. Estimate of R.C.C. Beam in proportion (1:1.5:3)
9-10. Estimate of R.C.C. beam in proportion (1:1.5:3)
9-11. Estimate of R.C.C. Weathershed with lintel for 1.20 m wide window in proportion (1:1.5:3)
9-12. Estimate of R.C.C. Slab in proportion (1:1.5:3)
9-13. Estimate of R.C.C. Floor in proportion (1:1.5:3)
9-14. Estimate of formwork for R.C.C. Works
9-15. Estimate of R.C.C. Retaining wall in proportion (1:1.5:3)
9-16. Estimate of R.C.C. Retaining wall
9-17. Estimate of a shed for cycles
9-18. Estimate of R.C.C. Staircase

Chapter 10: ESTIMATES OF ROOFS AND STEEL STRUCTURES
10-1. General
10-2. Estimate of a roof with corrugated galvanized iron sheets
10-3. Estimate of a welded steel roof truss
10-4. Estimate of a steel stanchion with grillage foundation

Chapter 11: ESTIMATES OF WATER SUPPLY AND SANITARY WORKS
11-1. General
11-2. Estimate of an underground storage tank (only in bricks)
11-3. Estimate of brick cum R.C.C. type underground water storage tank
11-4. Estimate of an overhead R.C.C. water storage tank
11-5. Septic tanks
11-6. Design of a septic tank and a soak well
11-7. Estimate of a septic tank with soak well
11-8. Estimate of a septic tank
11-9. Estimate of a septic tank with three compartments

Chapter 12: ESTIMATES OF BRIDGES, CULVERTS AND PIERS
12-1. General
12-2. Estimate of a pier
12-3. Estimate of a railway culvert
12-4. Estimate of a hune pipe culvert
12-5. Estimate of a hune pipe culvert
12-6. Estimate of a pipe culvert
12-7. Estimate of a slab culvert
12-8. Estimate of a road bridge
12-9. Estimate of a splayed wing wall
Chapter 13: ESTIMATES OF IRRIGATION WORKS
13-1. General
13-2. Estimate of a cushion type fall
13-3. Estimate of a canal fall
13-4. Estimate of a hume pipe head regulator
13-5. Estimate of an earthen dam

Chapter 14: ESTIMATES OF ROAD WORKS
14-1. General
14-2. Computation of volume by cross-sections
14-2.1. Level section
14-2.2. Two-level section
14-2.3. Side hill two-level section
14-2.4. Three-level section
14-2.5. Multi-level section
14-3. Computation of volume of earthwork
14-3.1. Mid-sectional area method
14-3.2. Mean-sectional area method
14-3.3. Trapezoidal formula
14-3.4. Prismoidal formula
14-3.5. Spot levels
14-4. Typical estimates of road work
14-5. Estimate of Earthwork of a road in cutting
14-6. Estimate of Earthwork of a road partly in cutting and partly in embankment
14-7. Estimate of Earthwork of a road in plain
14-8. Estimate of earthwork for a road using mid-sectional area method
14-9. Estimate of earthwork for a road using mid-sectional area and mean sectional area method
14-10. Estimate of earthwork for a road using mid-sectional area method
14-11. Estimate of earthwork for a road using prismatic formula
14-12. estimate of earthwork for a road using trapezoidal formula
14-13. Estimate of earthwork for a small pond
14-14. Estimate of earthwork for a road in cutting and partly in embankment
14-15. Estimate of earthwork of a road in embankment
14-16. Estimate of earthwork of a curved road in embankment

Chapter 15: CONTRACTS AND TENDERS
CONTRACTS
15-1. Definitions
15-2. Essential requirements or elements of a valid contract
15-3. Trade usages
15-4. Forms of contract
15-4.1. Lump-sum contracts
15-4.2. Unit-price or item-rate contracts
15-4.3. Cost-plus or percentage contracts
15-4.4. Basic price contracts
15-5. Types of contracts
15-6. Termination of contracts
15-7. Contract documents
15-8. Qualification of contractors
15-8.1. Post-qualification of contractors
15-8.2. Pre-qualification of contractors
15-8.3. Independent contractor
15-8.4. Irresponsible contractor
15-9. Responsibilities of different agencies
15-10. Contract between owner and engineer
15-11. Work executed without a contract

TENDERS
15-12. Meaning of tender
15-13. Classification of tenders
15-14. Tender notice
15-15. Advertisement of tender
15-16. Tender form
15-17. Mode of submission of tender
15-18. Opening of tenders
15-19. Scrutiny of tenders
15-20. Acceptance of tender
15-21. Revocation of tender

Chapter 16: CONDITIONS OF CONTRACT
16-1. Definition
16-2. Object
16-3. Importance
16-4. Peculiarities
16-5. General provisions
16-6. Typical clauses of the conditions of contract
16-7. Escalation clause
16-8. Conditions of contract in outlines

Questions 15

Chapter 17: ARBITRATION
17-1. General
17-2. Definition
17-3. Matters for reference to arbitration
17-4. Kinds of arbitration
17-5. Arbitrator
17-6. Appointment of arbitrators
17-7. Powers of an arbitrator
17-8. Disabilities of an arbitrator
17-9. Arbitration agreement
17-10. Revocation of arbitration agreement/denial of reference to arbitration
17-11. Process of arbitration
17-12. Award by an arbitrator
17-13. Conditions favourable for arbitration
17-14. Advantages of arbitration
17-15. Quick Dispute Resolution (QDR) methodology
17-16. Alternative Dispute Resolution (ADR) under the code of civil procedure

Questions 16

Chapter 18: ACCOUNTS
18-1. General
18-2. Stores
18-3. Difference between accounts of ‘Stock’ and ‘Tools and Plants’
18-4. Issue notes
18-5. Note book
18-6. Vouchers
18-7. Hand receipts
18-8. Unstamped receipts
18-9. Receipt of money
18-10. Treasury challan
18-11. Cash book
18-12. Credit note
18-13. Work-abstract
18-14. Register of works
18-15. Appropriation and re-appropriation
18-16. Materials at site accounts
18-17. Capital works and repair works
18-18. Administrative approval and technical sanction
18-20. Muster roll
18-21. Completion report
18-22. Imprest
18-23. Daily report
18-24. Deposit works
18-25. Record of bills
18-26. Advance payment and secured advance payment
18-27. Piece-work system of payment
18-28. Inventory
18-29. Work-slip and work-abstract
18-30. Site order book
18-31. Methods of execution of work in P.W.D.
18-32. Selection of mode of execution of work in P.W.D.
18-33. Difference between department execution and contract system

Questions 17
Chapter 19: CONSTRUCTION MANAGEMENT AND PLANNING

19-1. General
19-2. Need for construction management
19-3. Scope of construction management
19-4. Factors affecting construction management
19-5. Methods for planning construction activities
19-6. Bar charts or Gantt charts
19-7. Network technique
19-8-1. Typical problems on CPM
19-8-2. Advantages of CPM
19-8-3. Limitations of CPM
19-8-4. Uses of CPM
19-8-5. Difficulties in implementation of the CPM
19-10. Time-grid diagram method
19-11. Mile–stone charts
19-12. Resources planning
19-13. Resource allocation
19-14. Resource levelling
19-15. Job layout of construction site
19-16. Storage of materials
19-17. Stock control
19-18. Stages of material management
19-19. Inventory control
19-20. Disposal of surplus materials

Questions 19

PART II: VALUATION

Chapter 20: COST, PRICE AND VALUE

20-1. General
20-2. Real properties and personal properties
20-3. Differences between the real properties and personal properties
20-4. Valuation
20-5. Cost, price and value
20-6. Concept of the term value
20-7. Purposes of valuation
20-8. Different forms of value
20-9. Factors affecting changes in market value
20-10. Classification of the valuers
20-11. Role of the valuer
20-12. New horizons of valuation

Questions 20

Chapter 21: MORTGAGE, FREEHOLD AND LEASEHOLD PROPERTIES

21-1. General
21-2. Types of interests
21-3. Freehold interests
21-4. Leasehold interests
21-5. Difference between freehold and leasehold property
21-6. Mortgage
21-7. Reverse mortgage
21-8. Typical problems

Questions 21

Chapter 22: OUTGOINGS AND NET INCOME

22-1. Definition
22-2. Usual types of outgoings
22-3. Typical problems
22-4. Gross income and net income

Questions 22

Chapter 23: EASEMENTS

23-1. General
23-2. Definition
23-3. Essential characteristics of easements
23-4. Creation of easements
23-5. Extinguishment of easements

23-6. Easements and natural rights
23-7. Effect on valuation due to easement
23-8. Typical problems

Questions 23

Chapter 24: VALUATION OF LICENCED PREMISES

24-1. General
24-2. General principle of valuation
24-3. Valuation of a cinema
24-4. Valuation of a hotel
24-5. Typical problems

Questions 24

Chapter 25: DEPRECIATION

25-1. Meaning of the term
25-2. Depreciation as cost in operation
25-3. Depreciation as decrease in worth
25-3-1. Physical conditions
25-3-2. Functional obsolescence
25-3-3. Economic obsolescence
25-4. Difference between depreciation and obsolescence
25-5. Methods for estimating cost depreciation
25-6. Cost of construction
25-7. Cost depreciation and value depreciation
25-8. Reproduction cost and replacement cost
25-9. Depreciation and depletion
25-10. Typical problems

Questions 25

Chapter 26: STANDARD RENT

26-1. General
26-2. Forms of rent
26-3. Objects of Rent Act
26-4. Meaning of standard rent
26-5. Exemptions from the Rent Act
26-6. Process of fixing standard rent
26-7. Methods of ascertaining standard rent
26-8. Important factors
26-9. Inheritance of tenancy right
26-10. Typical problems

Questions 26

Chapter 27: METHODS OF VALUATION

27-1. General
27-2. Methods of valuation for open lands
27-3. Methods of valuation for lands with buildings
27-3-1. Rental method
27-3-2. Direct comparisons of the capital value
27-3-3. Valuation by reference to profits
27-3-4. Valuation based on the cost or contractor’s method
27-3-5. Residual or development method
27-4. Typical problems

Questions 27

Chapter 28: MISCELLANEOUS TOPICS

28-1. General
28-2. Amortization
28-3. Annuity
28-4. Capitalised value
28-5. Deferred or reversionary land value
28-6. Encumbrance factor
28-7. Year’s purchase

Questions 28

Chapter 29: VALUATION TABLES

29-1. General

Appendix: PRACTICAL QUESTIONS

BIBLIOGRAPHY

Index