



Name: ..... Roll No.: .....

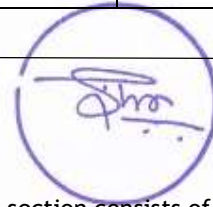
Branch: ..... Signature of Invigilator: .....

Semester: VIth Date: 26/04/2022 (MORNING)

Subject with Code: AR351 SPECIFICATION, ESTIMATION AND COSTING

Marks Obtained	Section A (30)	Section B (20)	Total Marks (50)

INSTRUCTION TO CANDIDATE



1. The booklet (question paper cum answer sheet) consists of two sections. First section consists of MCQs of 30 marks. Candidates may mark the correct answer in the space provided / may also write answers in the answer sheet provided. The Second section of question paper consists of subjective questions of 20 marks. The candidates may write the answers for these questions in the answer sheets provided with the question booklet.
2. The booklet will be distributed to the candidates before 05 minutes of the examination. Candidates should write their roll no. in each page of the booklet.
3. Place the Student ID card, Registration Slip and No Dues Clearance (if applicable) on your desk. All the entries on the cover page must be filled at the specified space.
4. Carrying or using of mobile phone / any electronic gadgets (except regular scientific calculator)/chits are strictly prohibited inside the examination hall as it comes under the category of unfair means.
5. No candidate should be allowed to enter the examination hall later than 10 minutes after the commencement of examination. Candidates are not allowed to go out of the examination hall/room during the first 30 minutes and last 10 minutes of the examination.
6. Write on both side of the leaf and use pens with same ink.
7. The medium of examination is English. Answer book written in language other than English is liable to be rejected.
8. All attached sheets such as graph papers, drawing sheets etc. should be properly folded to the size of the answer book and tagged with the answer book by the candidate at least 05 minutes before the end of examination.
9. The door of examination hall will be closed 10 minutes before the end of examination. Do not leave the examination hall until the invigilators instruct you to do so.
10. Always maintain the highest level of integrity. Remember you are a BITian.
11. Candidates need to submit the question paper cum answer sheets before leaving the examination hall.

Birla Institute of Technology, Mesra

End Sem Examination

Class: B. Arch. | Semester II | SP 2022 |

## **Specifications, Estimation, and Costing**

Branch: Architecture and Planning

### **Section A**

*Answer all questions*

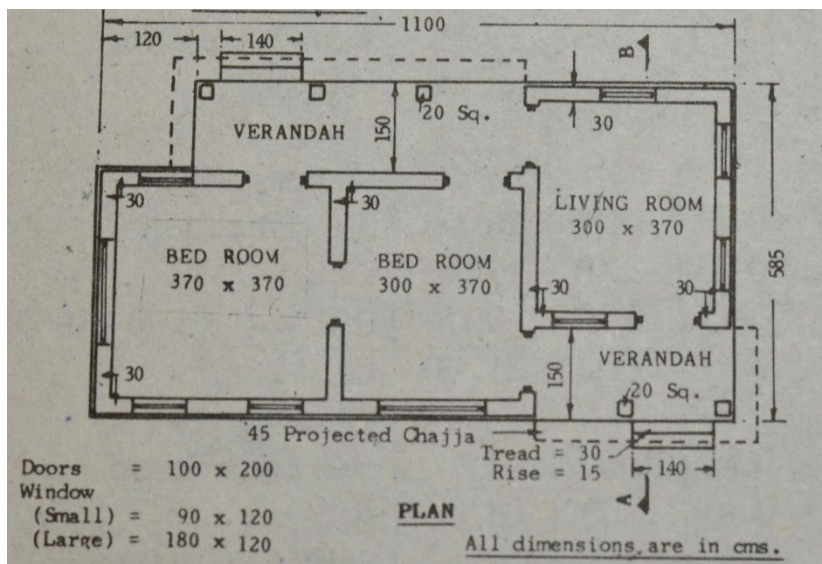
1. An estimate created without getting into the detailed specification is called (1)
  - a. Actual estimate
  - b. Rough estimate
  - c. General estimate
2. Nosing in steps is measured in (1)
  - a. Running meters
  - b. Sq m
  - c. Cu m
3. For creating a detailed estimate, we require (1)
  - a. Drawings
  - b. Detailed specifications
  - c. Description of workmanship
  - d. All the above
4. From an estimation, it *cannot* be determined whether a client can afford a project. (1)
  - a. True
  - b. False
5. In estimation, we also estimate the time taken to complete a project. (1)
  - a. True
  - b. False
6. In general specifications, detailed workmanship is not mentioned (1)
  - a. True
  - b. False
7. Earthwork in excavation is measured in (1)
  - a. Cu m
  - b. Sq m
  - c. Feet
8. A revised estimate requires additional drawings (1)

- a. True
  - b. False
9. DPC (damp proof coat) is measured in (1)
- a. Sq m
  - b. Cu m
  - c. Number of items
10. In center-line method, the longer walls are measured out-to-out, and the shorter walls are measured in-to-in. (1)
- a. True
  - b. False
11. For creating a rough estimate for factories and warehouses, what method is adopted?(2)
- a. Bay method
  - b. Cost-comparison method
  - c. Plinth area method
12. When creating a rough estimate for a hospital, what type of method is adopted? (2)
- a. Cubic m method
  - b. Plinth area method
  - c. Service unit method
13. When calculating the volume of RCC, the volume occupied by reinforcements is not deducted from the volume of concrete. (2)
- a. True
  - b. False
14. In RCC calculation, all reinforcements are assumed to be of the same diameter (2)
- a. True
  - b. False
15. Brickwork in 10 cm thick walls is measured in (2)
- a. Cu m
  - b. Sq m
  - c. Running meters
16. The additional length of ONE HOOK of a hooked steel bar of diameter D calculated in RCC Calculation of a slab would amount to approximately (2)
- a. 21D
  - b. 9D
  - c. There will be no extra length
  - d. 0.5D
17. In calculation of earthwork in filling, the volume is calculated from subtracting the volume of lime concrete at the footing from that of the earthwork excavated. (2)
- a. True
  - b. False
18. This summer, you have been fortunate to find a job at Sikkim. You have visited your client and the site a couple of times, and have included your travel charges in the estimation as: (2)
- a. Labour cost

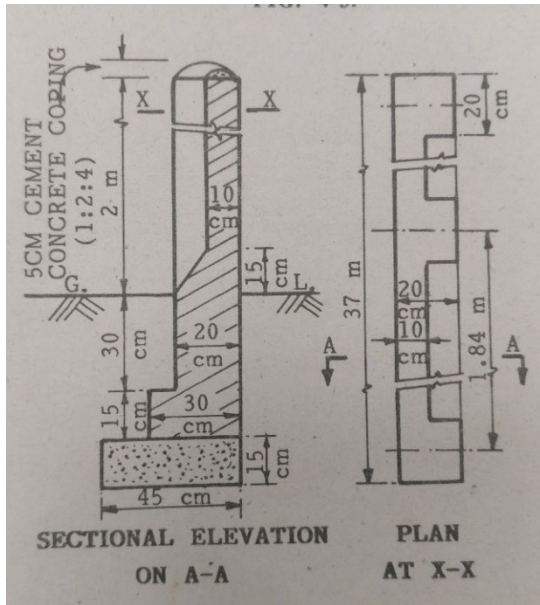
- b. General overhead charges
  - c. Job-specific overhead charges
  - d. Profit
19. For all jobs in your office, the estimate includes labour rates according to the Schedule of Rates as applicable in Ranchi. For your new job in Sikkim, you don't need to change the labour rates. (2)
- a. True
  - b. False
20. For a steel bar in a slab of depth 'd' (minus the cover on both sides) cranked at 45 degrees, the extra length would amount to approximately: (2)
- a. 0.42d
  - b. 90d
  - c. 11d
  - d. 21d

**Section B**

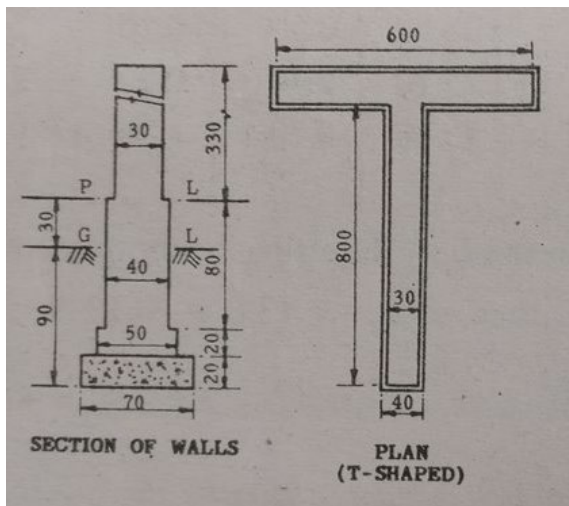
1. You are remodeling a kitchen for your client. After seeing the initial design and your rough estimate, the client has determined that she cannot afford the granite kitchen top and would like to go with a cheaper stone instead. With these changes, what kind of estimate will you be required to submit again to the client before she can give you a formal go-ahead to create the construction drawings? Briefly explain your answer. (2)
2. In the given floor plan, find the rough estimate by plinth area method. (3)



3. Calculate the volume of earthwork in excavation and lime concrete in foundation for the boundary wall. All dimensions in cms. (5)



4. For the given T-shaped wall, estimate the quantity of brickwork up to PL using the centerline method. All dimensions in cms. Show calculations including consideration for necessary deductions. (5)



5. For a semicircular arch estimate the quantity of brickwork when the span (s) is 2m, thickness (t) of arch is 30cm, and breadth of the wall is 40cm. (5)

