

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE**

**Regular End Semester Examination – Summer 2022**

**Course: B. Tech.**

**Branch : Civil Engineering**

**Semester: VI**

**Subject Code & Name: BTCVC606 Building Planning & Design**

**Max Marks: 60**

**Date: 26/08/2022**

**Duration: 5 Hrs.**

**Instructions to the Students:**

1. All the questions are compulsory.
2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.
3. Use of non-programmable scientific calculators is allowed.
4. Assume suitable data wherever necessary and mention it clearly.

(Level/CO) Marks

**Q. 1 Solve Any Two of the following.**

- |   |       |   |
|---|-------|---|
| A) Explain various planning principles that relates to building services. | (CO1) | 6 |
| B) Explain the green building concept.                                    | (CO1) | 6 |
| C) Draw plan of a residential building as per sun wind diagram.           | (CO1) | 6 |

**Q.2 Solve Any Two of the following.**

- |   |       |   |
|---|-------|---|
| A) Explain the standard dimensions of building components as per NBC. | (CO1) | 6 |
| B) Describe the process of obtaining building permission.             | (CO1) | 6 |
| C) Draw a building plan as per the NBC guidelines.                    | (CO1) | 6 |

**Q. 3 Solve Any Two of the following.**

- |   |       |   |
|---|-------|---|
| A) Describe the traditional methods of building construction. | (CO2) | 6 |
| B) Discuss various low cost housing materials.                | (CO2) | 6 |
| C) Draw single-line drainage plan of a residential building.  | (CO2) | 6 |

**Q.4 Solve Any Two of the following.**

- |   |       |   |
|---|-------|---|
| A) Draw single-line electrification plan of a residential building. | (CO2) | 6 |
| B) Discuss various component parts of plumbing system.              | (CO2) | 6 |
| C) Explain fire resistance system in detail.                        | (CO2) | 6 |

**Q. 5 Solve Any Two of the following.**

- |  |       |   |
|--|-------|---|
| A) Draw single-line furniture plan of a residential building.  | (CO3) | 6 |
| B) Discuss the functional requirements of ventilation.   | (CO3) | 6 |
| C) Explain Sabine's formula and discuss various materials to be used for better acoustics in a building. | (CO3) | 6 |

**\*\*\* End \*\*\***

**SLR-TX – 61**

<b>Seat No.</b>	
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**T.E. (Civil) (Part – I) (Old – CGPA) Examination, 2018  
BUILDING PLANNING AND DESIGN**

Day and Date : Wednesday, 12-12-2018  
Time : 2.30 p.m. to 6.30 p.m.

Total Marks : 70

- Instructions :** 1) Q. No. 1 is **compulsory**. It should be solved in **first 30 minutes** in Answer Book Page No. 3. **Each** question carries **one** mark.  
2) **Answer MCQ/Objective type questions on Page No. 3 only. Don't forget to mention, Q.P. Set (P/Q/R/S) on Top of Page.**  
3) Figures on **right** indicate **full** marks.  
4) Draw neat diagram **wherever** necessary.

**MCQ/Objective Type Questions**

Duration : 30 Minutes

Marks : 14

1. Write "Correct" or "Incorrect" for following sentences. **(14×1=14)**

- 1) In hospitals, Area of ward per bed is 8 to 10 sq. m. \_\_\_\_\_
- 2) For cinema hall, ratio of height to width to length is taken as 1 : 2: 3 \_\_\_\_\_
- 3) In hospital, IPD needs 1 w.c. for every 8 beds \_\_\_\_\_
- 4) For cinema auditorium floor area should be in the range of 3.5 to 4.2 sq. m. per person.
- 5) In a post office counter height from the floor is 1.6 m. to 1. 8 m. \_\_\_\_\_
- 6) Around 15 sq. m. per bus shall be considered in the design of the bus station towards the parking area \_\_\_\_\_
- 7) Station point is a point from where the observer is looking at the object/building \_\_\_\_\_
- 8) Unit for fire load is Kcal \_\_\_\_\_
- 9) Reverberation is the part of thermal insulation \_\_\_\_\_
- 10) Ramps provided at hospitals are usually with 1 in 10 slopes \_\_\_\_\_

**P.T.O.**



- 11) The shape of a room is not important factor affecting its acoustical properties \_\_\_\_\_
- 12) Total absorption is calculated for fire resistance of a building.
- 13) Now-a-days rain water harvesting is not having any significance for existing and proposed structures \_\_\_\_\_
- 14) In an auditorium concave surfaces are more preferred than convex surfaces \_\_\_\_\_
- \_\_\_\_\_



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Marks : 56

- Instructions :** 1) Figures on **right** indicate **full** marks.  
2) Draw neat diagram **wherever** necessary.  
3) Use full imperial sheet for section **I** and answer book for Section **II**.

SECTION – I

2. Attempt **all** : **28**

A) A commercial bank proposes to build its branch office in a village. The branch is to have following accommodation

- a) Hall with counter 45 sq. m.
- b) Store and record 20 sq.m.
- c) Strong room 12 sq. m.
- d) Agents room 15 sq. m.
- e) Store room 10 sq. m.
- f) Safe deposit vault 20 sq. m.
- g) Toilets according to NBC.

Assume additional data if required

Draw

1) A detailed plan for the building (Scale 1 : 100) **13**

2) A sectional elevation Passing through a Toilet room  
(Scale 1 : 100)

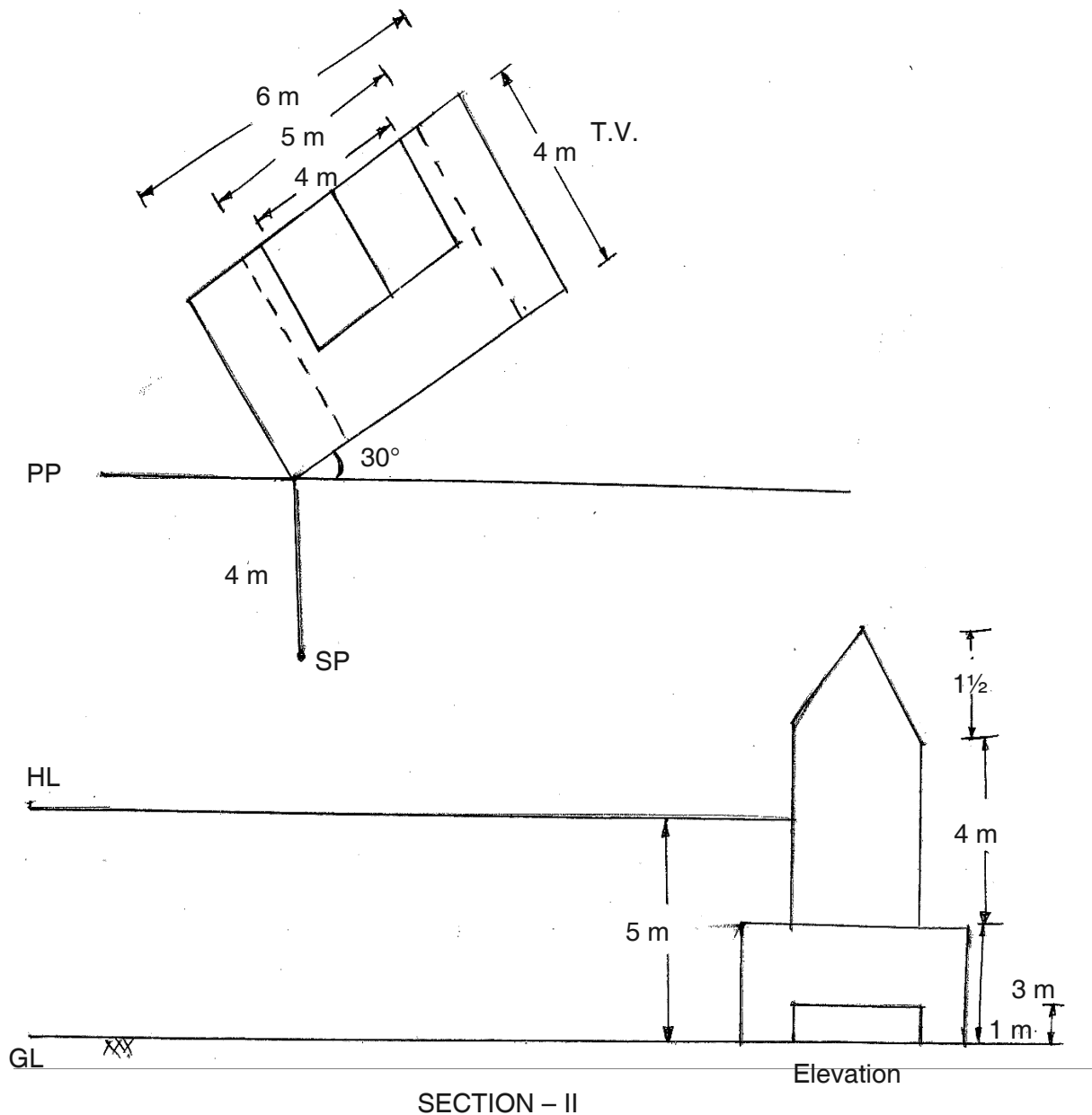
**7**

**Set P**



B) Draw perspective for given sketch. Use scale 1: 100. Symbols have usual meaning.

8



3. Attempt **any seven** :

28

- 1) Draw sketch for sound insulation treatment to a RCC floor slab.
- 2) Explain reverberation and reverberation time.
- 3) Explain structure borne noise and its insulation
- 4) Write note on "Automatic Sprinkler System" with sketch.
- 5) How fire can be confined ?
- 6) Explain design of rain water harvesting scheme for a bungalow with area 50 sq. M. Also state components of rain water harvesting structure.
- 7) Discuss about Computer aided design and drawing of building.
- 8) Explain any two components of aesthetics with sketch.
- 9) Explain acoustic design of a broadcasting room.

Set P



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- 4) The shape of a room is not important factor affecting its acoustical properties \_\_\_\_\_
- 5) Total absorption is calculated for fire resistance of a building.
- 6) Now-a-days rain water harvesting is not having any significance for existing and proposed structures \_\_\_\_\_
- 7) In an auditorium concave surfaces are more preferred than convex surfaces \_\_\_\_\_
- 8) In hospitals, Area of ward per bed is 8 to 10 sq. m. \_\_\_\_\_
- 9) For cinema hall, ratio of height to width to length is taken as 1 : 2 : 3 \_\_\_\_\_
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**P.T.O.**



- 12) In a post office counter height from the floor is 1.6 m. to 1. 8 m. \_\_\_\_\_
- 13) Around 15 sq. m. per bus shall be considered in the design of the bus station towards the parking area \_\_\_\_\_
- 14) Station point is a point from where the observer is looking at the object/building \_\_\_\_\_
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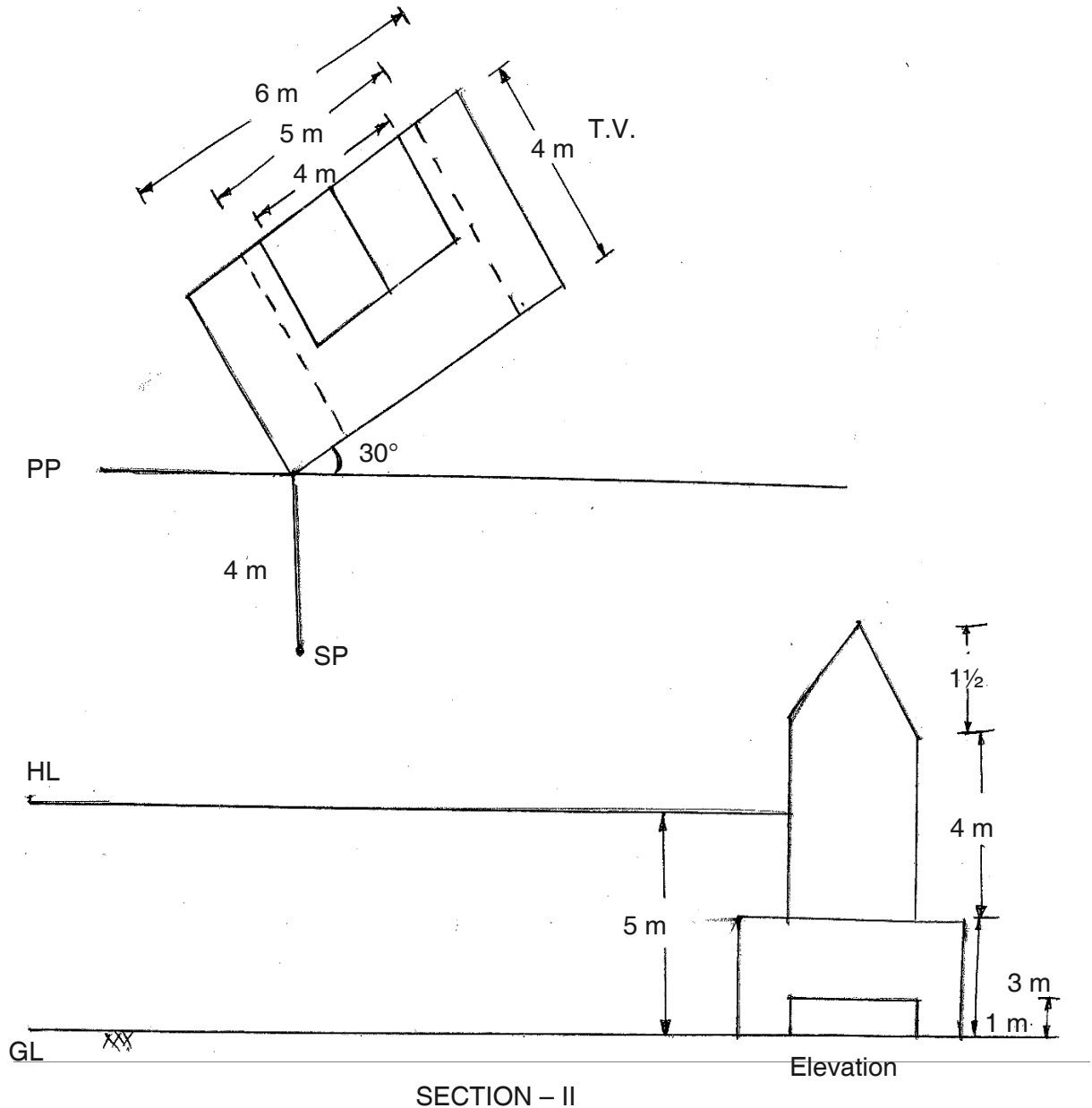
**Set Q**





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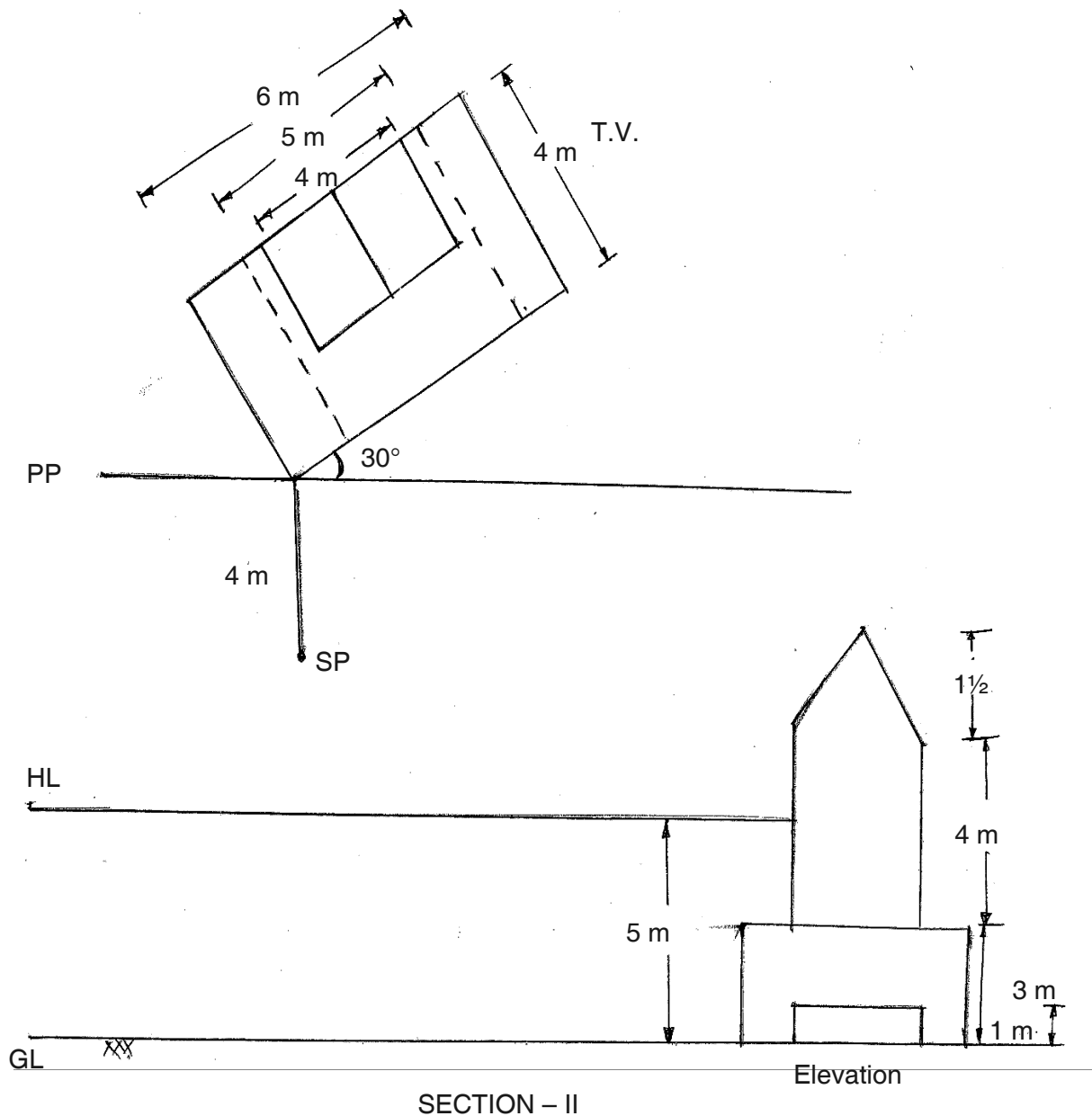
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## SECTION – II

Elevation

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### Set R

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**S**

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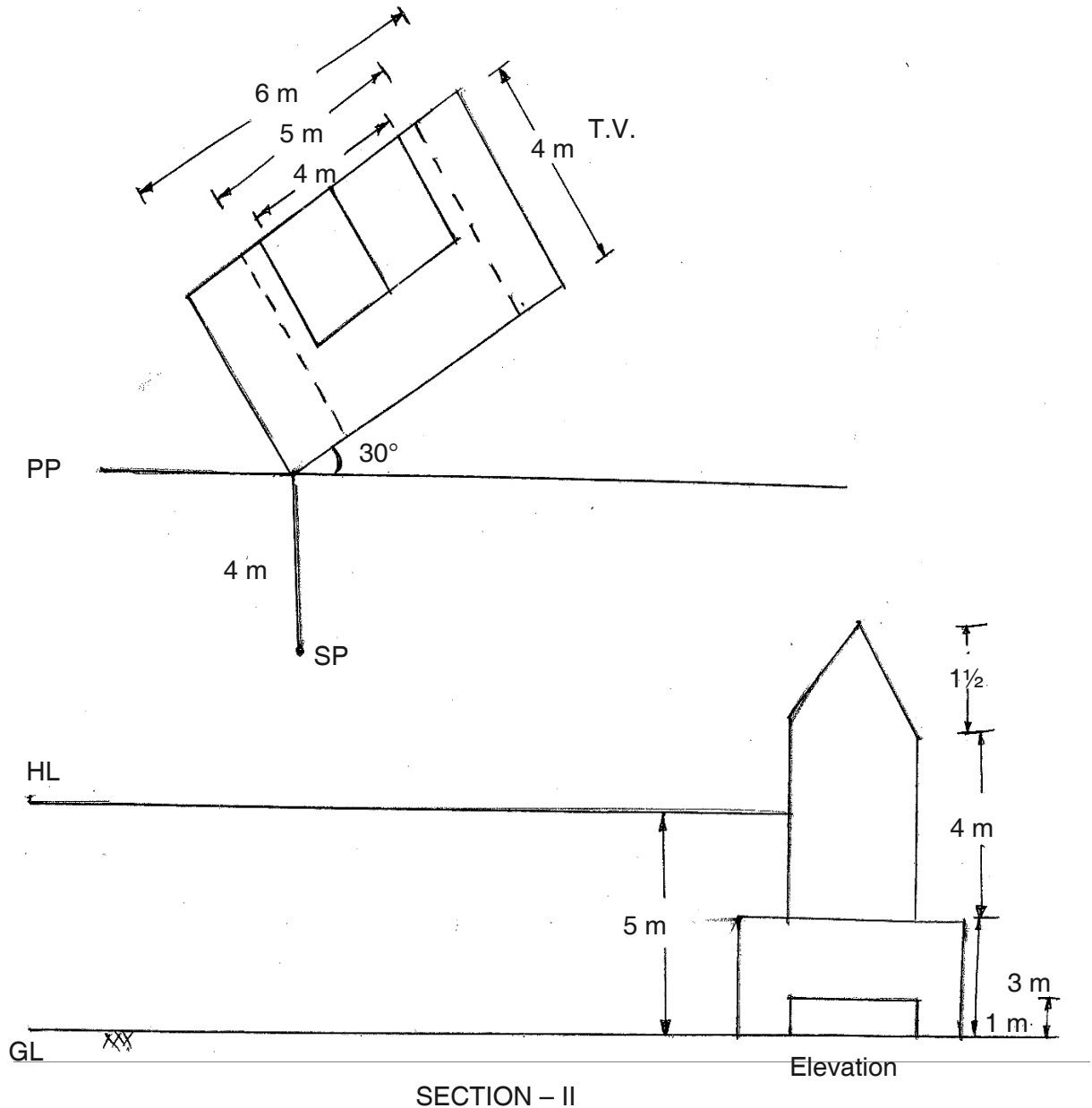
**Set S**





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Set S