Enrolment No./Seat No_____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER–VI EXAMINATION – WINTER 2025

Subject Code:3161303 Date:19-11-2025

Subject Name:Estimation , Specifications and Project Management

Time:02:30 PM TO 05:00 PM Total Marks:70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			Marks
Q.1	**(a)**	Estimate the quantity for Excavation from Figure 1.	**03**
	(b)	Estimate the quantity for R.C.C. work from Figure 1.	**04**
	(c)	Estimate the quantity for P.C.C. work, Brick masonry work and Plaster work from Figure 1.	**07**
Q.2	**(a)**	Explain the factors affecting Rate analysis.	**03**
	(b)	Enlist various type of masonry and explain any one in detail.	**04**
	(c)	Write Specifications of Brick work I Class in cm (1:6).	**07**
		OR	
	(c)	Write Specifications of 20 mm sand faced cement plaster.	**07**
Q.3	**(a)**	Analyze the essential qualities of a good estimator.	**03**
	(b)	Create Rate analysis for the Excavation.	**04**
	(c)	Create Rate analysis for PCC (1:4:8) below column footing in foundation.	**07**
		OR	
Q.3	**(a)**	Enlist the types of cost estimates.	**03**
	(b)	Analyze the factors affecting to the Rate analysis.	**04**
	(c)	Create Rate analysis for 1st class brickwork in cm (1:6).	**07**
Q.4	**(a)**	Describe item rate contract.	**03**
	(b)	What is unbalanced tender?	**04**
	(c)	Describe Lump sum contract along with its advantages and disadvantages.	**07**
		OR	
Q.4	**(a)**	Explain security deposit in the tender.	**03**
	(b)	What are general provisions of condition of contract?	**04**
	(c)	Classify the types of tender and give example of them.	**07**
Q.5	**(a)**	Define (1) head Event (2) Tail Event (3) Dual Event	**03**
	(b)	Define (1) Parallel activity (2) Serial Activity (3) Preceding Activity (4) Successor Activity	**04**
	(c)	Explain the basic functions of Project Planning.	**07**
		OR	
Q.5	**(a)**	Explain about PERT for Project Management.	**03**
	(b)	Explain about CPM for Project Management.	**04**
	(c)	Create critical path for the project completion time using CPM from fig 2.	**07**

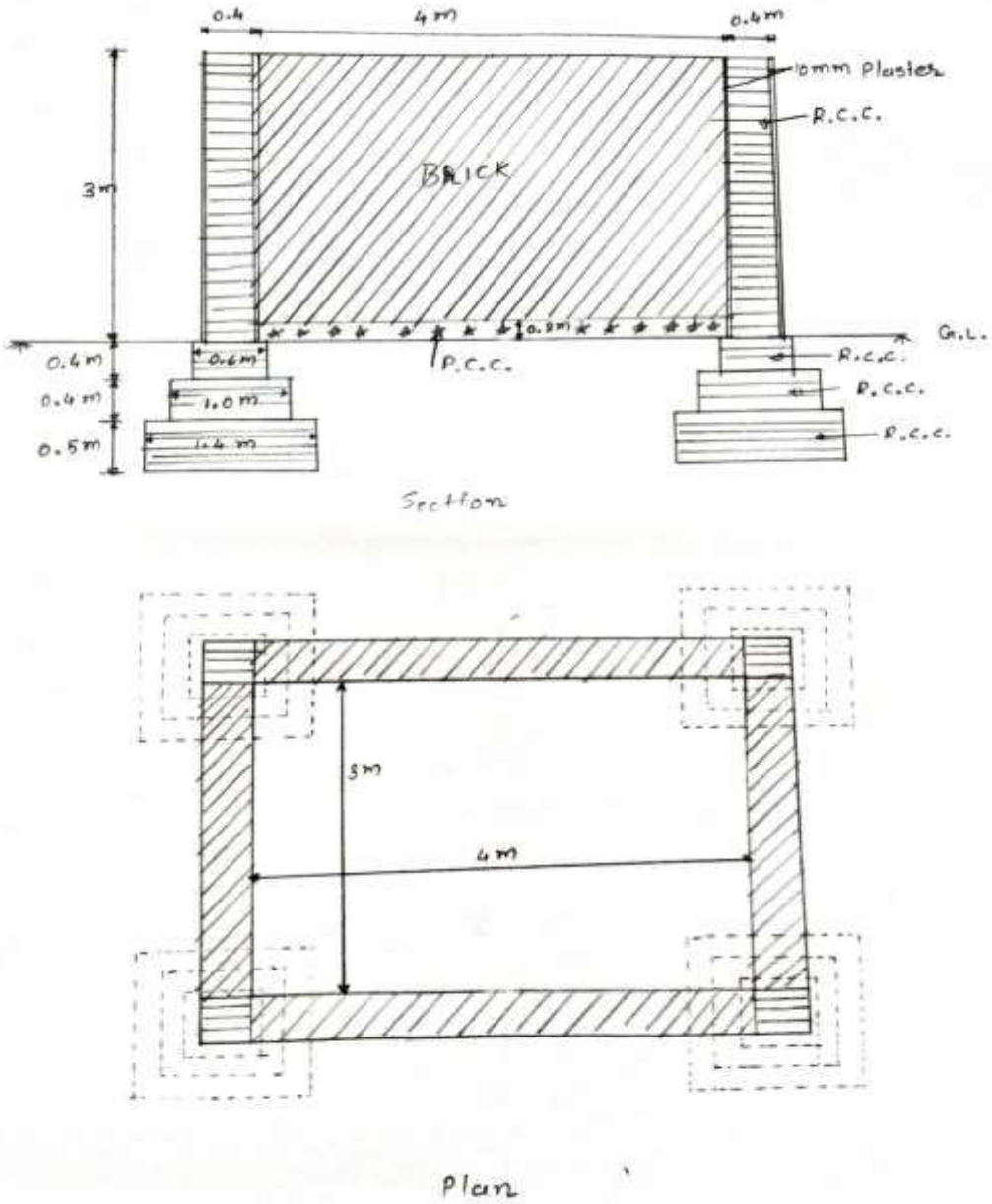

Figure 1: Section and Plan view of Water Tank

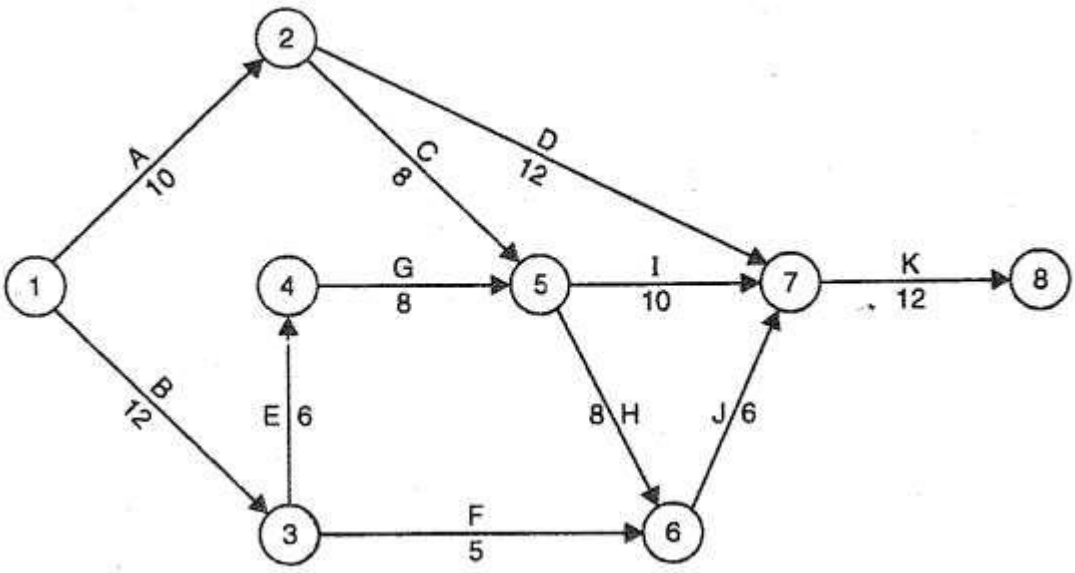

Figure 2: Project Activity Path

********All the Best*********

Enrolment No./Seat No_____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER–VI (NEW) EXAMINATION – WINTER 2024

Subject Code:3161303 Date:28-11-2024

Subject Name: Estimation , Specifications and Project Management

Time:02:30 PM TO 05:00 PM Total Marks:70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

Q.1	**(a)**	Budget was initially set at RS 10,000 for constructing the cylindrical water tank with a diameter of 4 m and height of 5 m. Cost of construction is RS 150 per cubic meter for actual construction. Analyze whether the project remains within budget or not?	**03**
	(b)	A contractor estimates the cost of building a two-room structure at RS 90,000 using conventional materials with 12% maintenance costs annually. B contractor proposes a modern alternative with a cost of RS 1,00,000 but a 8% maintenance costs annually. Evaluate the total costs after 5 years for both contractors. Which contractor is more cost-effective?	**04**
	(c)	Which methods can be used for subsurface investigation? State its importance.	**07**
Q.2	**(a)**	Explain the methods of Estimate.	**03**
	(b)	Explain the types of Estimate.	**04**
	(c)	From the data of table 1, prepare the network diagram and create critical path.	**07**
		OR	
	(c)	From the data of table 1, create critical path Gantt chart (bar chart).	**07**
Q.3	**(a)**	Explain various type of foundation.	**03**
	(b)	Explain various types of specification	**04**
	(c)	Describe specifications of RCC work proportion (1:2:4).	**07**
		OR	
Q.3	**(a)**	Explain various type of masonry.	**03**
	(b)	Describe application of specification in environment engineering.	**04**
	(c)	Describe specifications of 20 mm sand faced cement plaster.	**07**
Q.4	**(a)**	What is unbalanced Tender?	**03**
	(b)	Explain various types of contract.	**04**
	(c)	Evaluate the Rate analysis for the BBCC (1:6:12).	**07**
		OR	
Q.4	**(a)**	What are three forms of Tender?	**03**
	(b)	Classify the Tender.	**04**
	(c)	Evaluate the Rate analysis for the P.C.C. proportion (1:4:8).	**07**
Q.5	**(a)**	What is Project Scheduling?	**03**
	(b)	How would you apply the key components of project planning?	**04**
	(c)	Design and draw a milestone chart for a project of developing school.	**07**

OR

Q.5 **(a)** What is Project planning? **03**

(b) Explain about Elements of Network Diagram. **04**

(c) Compare and contrast PERT and CPM in terms of their applications and limitations. **07**

Table 1: Activity details

Activity	Duration (Days)	Preceding activity	Following activity
A: Site Preparation	5	None	B
B: Foundation	10	A	C
C: Framing	15	B	D
D: Roofing	7	C	G
E: Electrical Work	10	C	G
F: Plumbing	8	C	G
G: Interior Finishing	12	D, E. F	H
H: Final Inspection	3	G	None

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Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI (NEW) EXAMINATION – WINTER 2023

Subject Code:3161303 Date:07-12-2023

Subject Name:Estimation , Specifications and Project Management

Time:02:30 PM TO 05:00 PM Total Marks:70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	**(a)**	Estimate the quantity for Excavation from Figure 1.	**03**
	(b)	Estimate the quantity for B.B.C.C. from Figure 1.	**04**
	(c)	Estimate the quantity for Brick masonry work and Plaster work from Figure 1.	**07**
Q.2	**(a)**	Estimate the quantity for Kotah stone flooring from Figure 1.	**03**
	(b)	Prepare Abstract (Cost Estimation) for the Corner step from Figure 1.	**04**
	(c)	Write Specifications of 20 mm sand faced cement plaster.	**07**
		OR	
	(c)	Write Specifications of painting in three coats.	**07**
Q.3	**(a)**	What is contract? What is importance of the contract?	**03**
	(b)	Write purpose of foundation.	**04**
	(c)	Explain various types of contract.	**07**
		OR	
Q.3	**(a)**	What is unbalanced Tender?	**03**
	(b)	Write brief note on subsurface investigation.	**04**
	(c)	Explain three forms of Tender.	**07**
Q.4	**(a)**	What do you mean by Preceding Activity in the project management? Explain it with example.	**03**
	(b)	Write Rate analysis for the Oil Painting.	**04**
	(c)	Write Rate analysis for the RCC beam proportion (1:2:4) with steel reinforcement.	**07**
		OR	
Q.4	**(a)**	Explain factors affecting Project planning.	**03**
	(b)	Write Rate analysis for the Marble flooring.	**04**
	(c)	Write Rate analysis for the P.C.C. proportion (1:6:12).	**07**
Q.5	**(a)**	What do you mean by dummy activity in the project management?	**03**
	(b)	Explain advantage and disadvantage of Bar chart.	**04**
	(c)	From the data of table 1, create critical path bar chart.	**07**
		OR	
Q.5	**(a)**	Explain needs of Construction Management.	**03**
	(b)	Explain about Network diagram for Project Management.	**04**
	(c)	From the data of table 1, prepare the network diagram and create critical path.	**07**

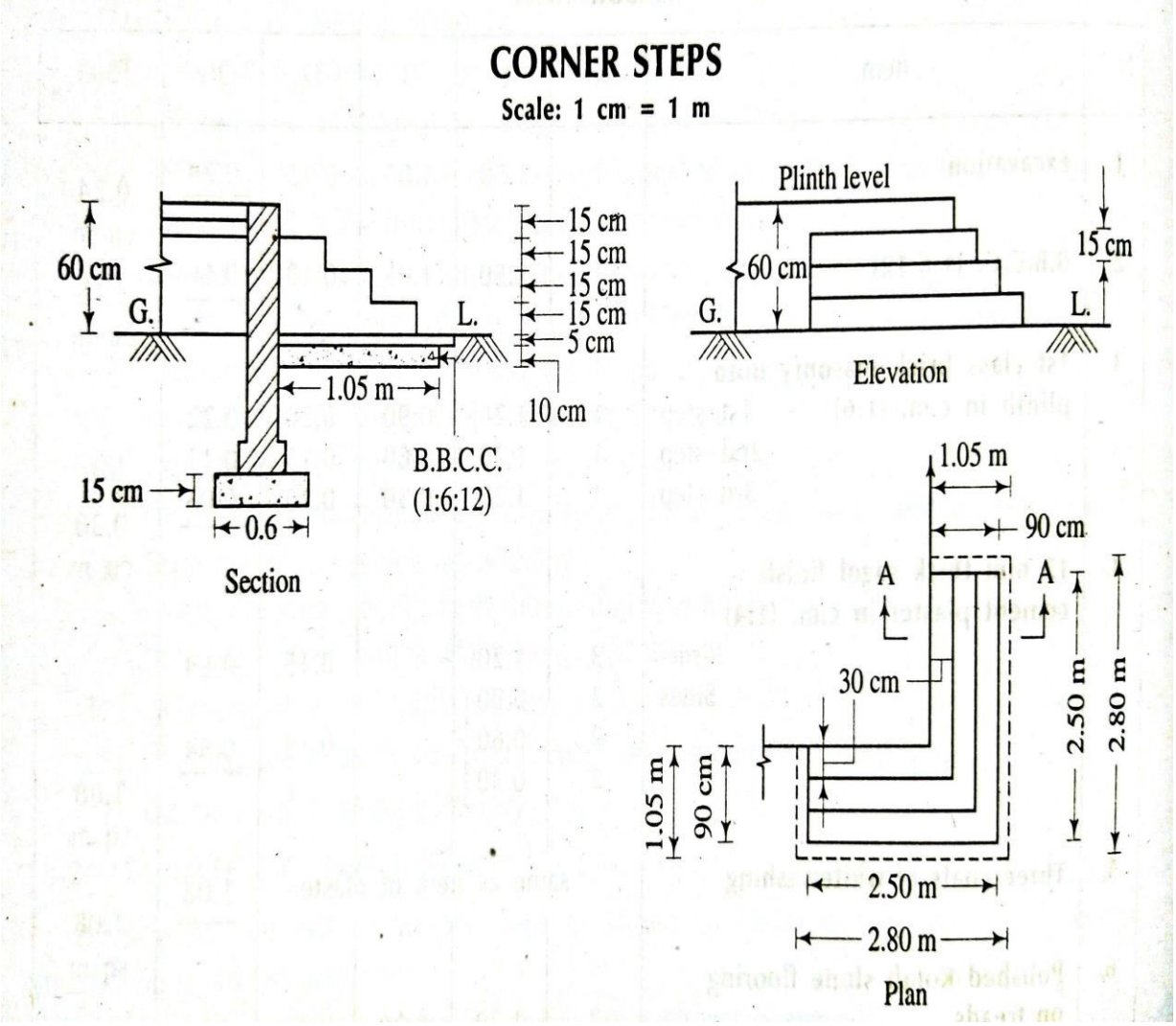

Figure 1: Section, Elevation and Plan view of Corner step

Table 1: Data for Network diagram and Bar Chart

Activity	Duration in days	Preceding activity	Following activity
A	3	None	B, C
B	2	A	D, E
C	3	A	E
D	5	B	F
E	6	B, C	F, G
F	5	D, E	None
G	4	E	None

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Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI(NEW) EXAMINATION – WINTER 2022

Subject Code:3161303 Date:15-12-2022

Subject Name:Estimation , Specifications and Project Management

Time:02:30 PM TO 05:00 PM Total Marks:70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	**(a)**	Estimate the quantity for Excavation from Figure 1.	**03**
	(b)	Estimate the quantity for RCC from Figure 1.	**04**
	(c)	Estimate the quantity for Brick work and Plaster work from Figure 1.	**07**
Q.2	**(a)**	Estimate the quantity for PCC from Figure 1.	**03**
	(b)	What is Estimation? What is importance of the Estimation?	**04**
	(c)	Write Specifications of Brick work I Class in cm (1:6).	**07**
		OR	
	(c)	Write Specifications of excavation.	**07**
Q.3	**(a)**	What is Tender? What is importance of the Tender?	**03**
	(b)	Enlist various type of foundation and explain any one with neat sketch.	**04**
	(c)	Explain various types of contract.	**07**
		OR	
Q.3	**(a)**	What is contract? What is importance of the contract?	**03**
	(b)	Explain rubble masonry with neat sketch.	**04**
	(c)	Explain various types of Tender.	**07**
Q.4	**(a)**	What do you mean by Activity and Event in the project management?	**03**
	(b)	Write Rate analysis for the Sand filling in plinth.	**04**
	(c)	Write Rate analysis for the BBCC (1:6:12).	**07**
		OR	
Q.4	**(a)**	What do you mean by dummy activity in the project management?	**03**
	(b)	Write Rate analysis for the Excavation for foundation in ordinary soft soil.	**04**
	(c)	Write Rate analysis for the 12 cm RCC slab (1:2:4) with steel reinforcement.	**07**
Q.5	**(a)**	Explain factors affecting Project planning.	**03**
	(b)	Difference between PERT and CPM.	**04**
	(c)	From the data of table 1, create critical path bar chart.	**07**
		OR	
Q.5	**(a)**	Explain four methods of project planning.	**03**
	(b)	Differentiate between Milestone chart & Bar chart.	**04**
	(c)	From the data of table 1, prepare the network diagram and create critical path.	**07**

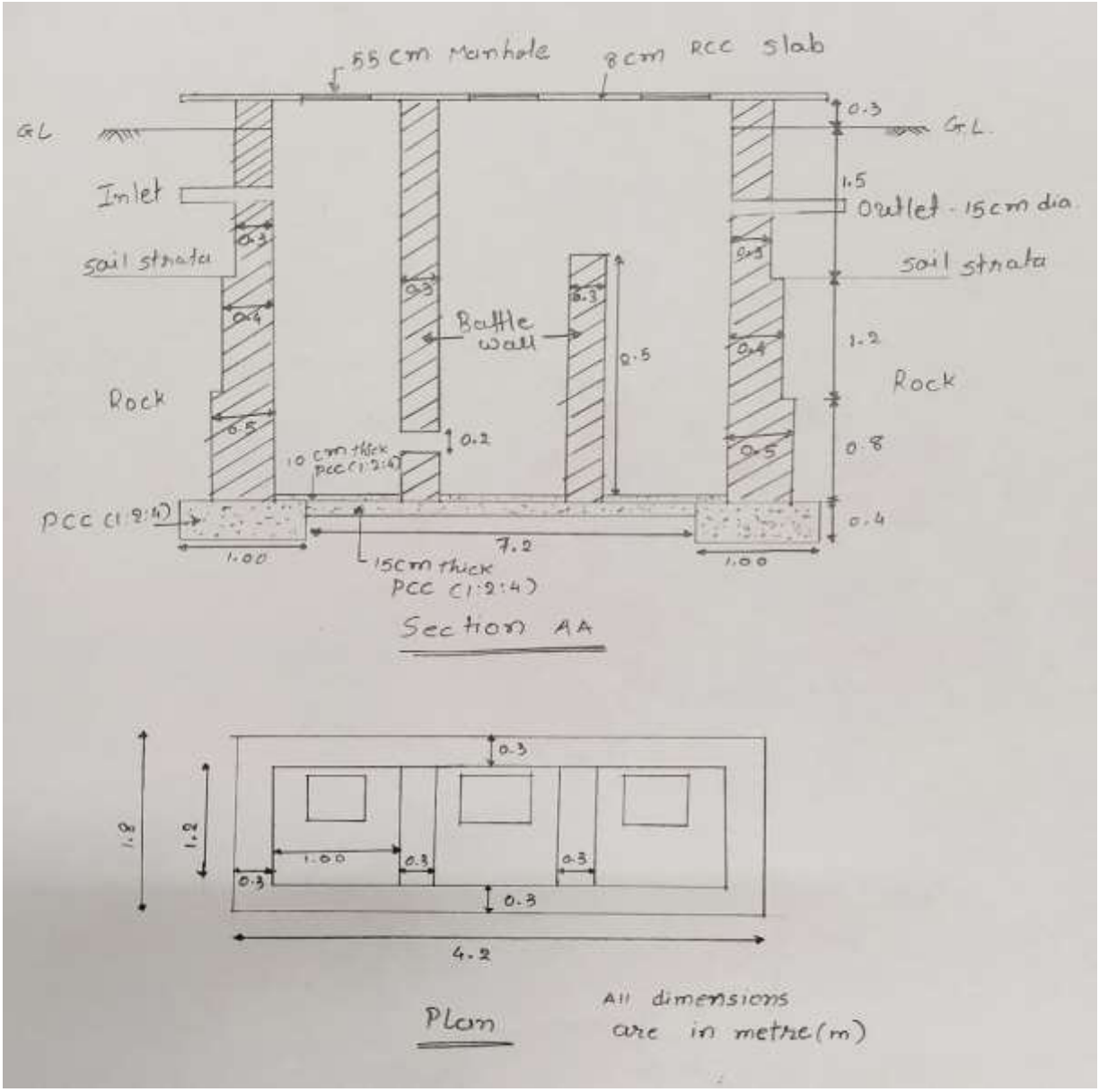

Figure 1: Section and Plan view of Septic tank with three compartments

Table 1: Data for Network diagram and Bar Chart

Activity	Duration in days	Preceding activity	Following activity
A	4	None	C, D
B	5	None	D
C	7	A	E, F
D	6	A, B	G
E	8	C	None
F	5	C	None
G	6	D	None

********All the Best*********