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Section :- "A"

Subject :- Construction Management

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Isra National University

Peshawar:

Q No 1 :-

Given Data:

Number of Communication Channel = 6
Additional Stake holders = 2

Required Data:

Identify the number of Communication Channels after increasing the Scope of work = ?

Solution :-

As we know that

$$\text{Number of Communication Channel} = \frac{n(n-1)}{2}$$

The number of People involved in Six Communication Channel \Rightarrow

$$6 = \frac{n(n-1)}{2}$$

$$12 = n(n-1) = n^2 - n$$

$$n^2 - n - 12 = 0$$

$$n^2 - 4n + 3n - 12 = 0$$

$$n(n-4) + 3(n-4) = 0$$

$$(n-4)(n+3) = 0$$

$$(n-4) = 0$$

$$n = 4$$

$$n+3 = 0$$

$$n = -3$$

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So the number of People Involved = 4

As; there are additional stake holder's. So total number of People are;

$$n = 4 + 2$$

$$n = 6$$

Now, the required Communication

$$\text{Channel} = \frac{6(6-1)}{2}$$

$$= \frac{3 \cdot 6(6-1)}{2} = 3(5)$$

New Communication channel = 15

Answer

Work	BCWS	ACWP	Progress	BCWP	(CV)	CPI	SPI	SV
Package	Planned Value (PV)	Actual Cost (AC)	%	Earned Value (EV)	EV-AC	EV/AC	EV/PV	EV-PV
1	\$ 100,000.00	\$ 120,000.00	100%	\$ 100,000.00	\$ (20,000)	0.83	1.00	\$ -
2	\$ 100,000.00	\$ 110,000.00	100%	\$ 100,000.00	\$ (10,000)	0.91	1.00	\$ -
3	\$ 100,000.00	\$ 80,000.00	90%	\$ 90,000.00	\$ (10,000)	1.13	0.90	\$ (10,000)
4	\$ 100,000.00	\$ 125,000.00	80%	\$ 80,000.00	\$ (45,000)	0.64	0.80	\$ (20,000)
5	\$ 100,000.00	\$ 75,000.00	50%	\$ 50,000.00	\$ (25,000)	0.67	0.50	\$ (50,000)
6	\$ 100,000.00	\$ -	0%	\$ -	\$ -	0.00	0.00	\$ (100,000)
7	\$ 100,000.00	\$ -	0%	\$ -	\$ -	0.00	0.00	\$ (100,000)
8	\$ 100,000.00	\$ -	0%	\$ -	\$ -	0.00	0.00	\$ (100,000)
9	\$ 100,000.00	\$ -	0%	\$ -	\$ -	0.00	0.00	\$ (100,000)
10	\$ 100,000.00	\$ -	0%	\$ -	\$ -	0.00	0.00	\$ (100,000)
BAC								
Σ PV								

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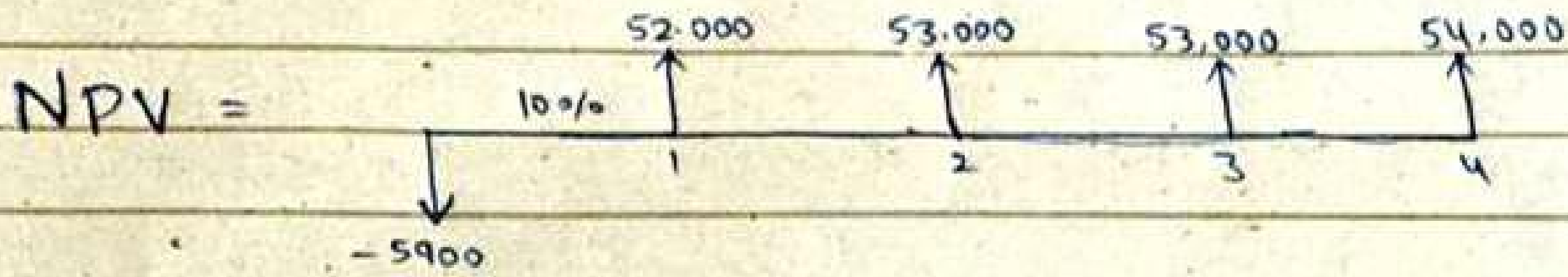
"Comment"

The Project is behind

Schedule and over
budget.

Q No 3

Given Data :-



Solution :-

$$NPV = -C_0 + \frac{C_1}{1+r} + \frac{C_2}{(1+r)^2} + \dots + \frac{C_T}{(1+r)^T}$$

$$PV_0 = -C_0$$

$$PV_0 = -9000$$

- C_0 = Initial Investment

C = Cash Flow

r = Discount Rate

T = Time

$$C_1 = 2000$$

$$C_2 = 3000$$

$$C_3 = 3000$$

$$C_4 = 4000$$

$$PV_1 = \frac{C_1}{1+r} = \left(\frac{2000}{1 + \frac{10}{100}} \right)$$

$$PV_1 = 1818.18$$

$$PV_2 = \frac{C_2}{(1+r)^2} = \frac{3000}{\left(1 + \frac{10}{100}\right)^2}$$

$$PV_2 = 2479.34$$

$$PV_3 = \frac{C_3}{(1+r)^3} = \frac{3000}{\left(1 + \frac{10}{100}\right)^3}$$

$$PV_3 = 2253.94$$

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$$PV_4 = \frac{C_4}{(1+r)^4}$$

$$= \frac{4000}{\left(1 + \frac{10}{100}\right)^4}$$

$$PV_4 = 2732.05$$

$$NPV = -C_0 + \frac{C_1}{1+r} + \frac{C_2}{(1+r)^2} + \frac{C_3}{(1+r)^3} + \frac{C_4}{(1+r)^4}$$

$$= -9000 + 1818.18 + 2479.34 + 2253.94 + 2732.05$$

$$NPV = \$ 283.51$$

Answer

Q No 4:-

Power / Interest Matrix

		level of Interest	
		low	High
Power	low	A Minimal effort	B Keep Information
	High	C Keep Satisfied	D key players

Power / Interest Matrix:

Stakeholder in group A:

Need only minimum effort
an monitoring

Stakeholder in group B.

Should be kept informed as
they may be able to
Influence more Powerful
Stakeholder

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Stakeholder In Group C:

Are Powerful but level of interest is low, generally expected to be positive, but may move into Group D on issue of particular interest.

Stakeholder In Group D:-

Are both Powerful & Interest their co-operation is of key importance for new strategies.

Q No 5 :-

Sol:- Check list for Risk Management.

⇒ Stage 1 Initiation

- Assemble risk management resources
- Appoint the team leader and ensure breadth of skill/experience within the team
- Assign risk Management responsibilities appropriate to task.

⇒ Stage 2 Proposal Familiarization.

- Specify objectives and criteria
- Familiarise the team with the Proposal assemble documentation and define the key objectives.
- Assess the Proposal in relation to the agency objectives and strategies
- Determine assessment criteria for Proposal
- Define key elements (target 20-50 elements, items) to structure risk analysis.

→ Stage 3 Risk Analysis

→ Identify Risks

→ Prepare a Comprehensive Schedule of risks for each elements.

→ Describe each risk and list the main assumptions

→ Assess risk likelihood and Consequences.

→ Assemble data on risk and their consequence.

→ Assess risk likelihoods

→ Assess risk impacts

→ Identify Significant risks

→ Rank risk to reflect impact and likelihood

→ Where applicable, estimate risk factor

→ Discard / accept minor risks

→ Identify moderate risks for management measures.

→ Identify major risk for detailed risk action planning.