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Paper

Construction
Management

Exam

Final Term

SEC

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Submitted
to

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Ahad

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(Question - 1)

Given data:

number of communication channels = 6

Additional stake holders = 2

Sol:

we know that:

$$\text{number of communication channel} = \frac{n(n-1)}{2}$$

The number of people involved in six communication channels \Rightarrow

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

$$6 \times 2 = n(n-1)$$

$$12 = n^2 - n$$

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

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

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

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

$$(n-4) = 0$$

$$n-4 = 0$$

$$n = 4$$

$$(n+3) = 0$$

$$n+3 = 0$$

$$n = -3$$

So the number of people involved = 4 + 2

As; there are additional stake holders, so the total number of people are;

$$n = 4 + 2$$

$$n = 6$$

now, the required communication channel = $\frac{6(6-1)}{2}$

$$= 3(5)$$

$$= 15$$

new communication channel = 15

Question-2

Work Package	BCWS	ACWP	Progress	BCWP	(CV)	(CPD)	(SPI)	(SV)
	Planned value (PV)	Actual cost (AC)	%	Earned value (EV)	EV - AC	EV/AC	EV/PV	EV - PV
1	\$100000.00	\$120000.00	100%	\$100000.00	\$-20,000.00	0.83	1.00	-
2	\$100000.00	\$110000.00	100%	\$100000.00	\$10,000.00	0.91	1.00	-
3	\$100000.00	\$80,000.00	90%	\$90000.00	\$10,000.00	1.13	0.90	-\$10000.00
4	\$100000.00	\$125000.00	80%	\$80000.00	\$45000.00	0.64	0.80	-\$20000.00
5	\$100000.00	\$75000.00	50%	\$50000.00	\$25000.00	0.67	0.50	-\$50000.00
6	\$100000.00	-	0%	-	-	0.00	0.00	-\$100,000.00
7	\$100000.00	-	0%	-	-	0.00	0.00	-\$100,000.00
8	\$100000.00	-	0%	-	-	0.00	0.00	-\$100,000.00
9	\$100000.00	-	0%	-	-	0.00	0.00	-\$100000.00
10	\$100000.00	-	0%	-	-	0.00	0.00	-\$100000.00
BAC								

Comment :

The project is behind of the schedule and also over budget.

(Question - 3)

Given data:

Year	Cash flow
0	-9000
1	2000
2	3000
3	3000
4	4000

$$\text{Discount rate} = r = 10\% = \frac{10}{100} = 0.1$$

Required:
NPV = ?

Sol:

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

$$PV_0 = C_0$$
$$PV_0 = -9000$$

$$PV_1 = \frac{C_1}{(1+r)^1}$$

$$= \frac{2000}{\left(1 + \frac{10}{100}\right)^1}$$

$$PV_1 = 1818.18$$

$$PV_2 = \frac{C_2}{(1+r)^2} \quad (\text{QUESTION 3})$$

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

$$PV_2 = 2479.34$$

$$PV_3 = \frac{C_3}{(1+r)^3}$$

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

$$PV_3 = 2253.94$$

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

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

$$PV_4 = 2732.05$$

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

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

$$NPV = \$283.51$$

- * The value comes in positive.
- * positive NPV indicates that the projected earnings generated by a project or investment exceeds the anticipated costs.
- It assume that investment with positive NPV is profitable.
- * so the project is in profit.

(Question -4:)

Stakeholders can be identify by; that there are four types of stakeholders are classify on basis of power/interest matrix:

1. Minimal effort:

- * They have low power and low level of interest.
- * They need only minimum effort and monitoring.

2. Keep informed:

- * They have low power but high interest.
- * They should be kept informed as they may be able to influence more powerful stakeholders.

3. Keep satisfied:

- * They have high power but low interest.
- * They are powerful, but level of interest is low, (generally) are positive but move into other on issue of particular interest.

4. key players: (Question)

* They have high power and high interest.

* They are both powerful and interested.

* Their cooperation is of key importance for new strategies.

Keep informed.

Question: - 5. What are the stages considered in the risk management checklist for a residential house?

- * These are the following stages considered in the risk management checklist for a residential house.

Initiation:

- * Assemble risk management resources
- * Appoint the team leader and ensure a breadth of skills/experience within the team.
- * Assign Risk management responsibilities.

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's objectives and strategies.
- * Determine assessment criteria for proposal.
- * Define key elements to structure risk analysis.

3. Risk Analysis:

* Identify risk:

→ prepare a comprehensive schedule of risks for each element

→ Describe each risk and link the main assumptions

* Assess risk likelihood and consequences

→ assemble data on risk and their consequences

→ assess risk likelihoods

→ assess risk impacts

* Identify significant risk.

→ rank risk to reflect impacts and likelihoods

→ where applicable, estimate risk factor

→ Discard / accept - minor risks

→ Identify moderate risk for management measure.

* Identify major risks for detailed risk action planning.

4. Risk Response planning

* Identify feasible response

→ For each moderate and major risk, identify the feasible responses

→ Response may include

i) risk prevention

ii) impact mitigation

iii) risk transfer and insurance

iv) risk acceptance

* Describe each feasible response and list main assumptions

* select the best response

→ evaluate the benefits and costs for each response

→ select the preferred response.