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Subject # Construction management

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Question # 1

①

## Arbitration in the Construction Industry

Many of these construction disputes are resolved through arbitration, which is a process by which the parties in dispute, instead of going to court to resolve the matter, agree to submit their case to third-party neutral, known as the arbitrator, who act as a judge and jury.

### Negotiations.

It is a process that involves activities needed to resolve different kinds of disputes by conducting consultations between the involved parties to reach a consensus.

Negotiations can happen at any time within the project management life cycle and it can be either formal or non-formal.

### Mediation:

It is a consensual process of dispute resolution in which a third party mediator, appointed by the parties to the dispute, assists in the negotiated resolution of the dispute.

Advantages: It is an informal process, it can be initiated at any time agreed between the parties.

## Collaboration In Construction: (2)

Simply means that teams are working together towards one project goal... Everyone can access the main plans and goals of a project at any time, without having to rely on gatekeepers or slug to faraway officers in order to get the information they need.

Assignment #2 (a) (3)  
The Power/Interest Matrix.

Classify stakeholders in relation to their power and the extent to which they are likely to show interest in the actions of the organisation.

Can be used to indicate the nature of the relationships which should be adopted with each group.

Power/Interest Matrix  
(Gardner et al. (1986))

		Level of Interest.	
		Low	High
Power	Low	A minimal Effort	B Keep Informed
	High	C Keep Satisfied	D Key players

Power/Interest Matrix.

- Stakeholders in group A: Need only minimum effort on monitoring.
- Stakeholders in group B: Should be kept informed as they may be able to influence more powerful stakeholders.
- Stakeholders in group C: Are powerful but level of interest is low. Generally expected to be passive, but may move into group D on an issue of particular interest.
- Stakeholders in group D: Are both powerful and interested. Their cooperation is of key importance for new strategies.



Sol.

2#b

(4)

formula

$$\text{Present value} = \frac{FV}{(1+R)^n}$$

FV = Future Value.

R = Discount Rate.

n = Period.

$$P_{V_0} = -9000.$$

$$P_{V_1} = \frac{2000}{(1+0.08)^1}$$

$$n = 1$$

$$R = 8\%$$

$$P_{V_1} = 1856.79.$$

$$P_{V_2} = \frac{3000}{(1+0.08)^2}$$
$$= 2669.98$$

$$\therefore n = 2$$

$$P_{V_3} = \frac{3000}{(1+0.08)^2}$$
$$= 2669.98$$

$$P_{V_3} = \frac{3000}{(1+0.08)^3}$$

$$\therefore n = 3$$

$$= 2518.85$$

$$P_{V_4} = \frac{4000}{(1+0.08)^4}$$

$$\therefore n = 4$$

$$= 3168.37$$

5

Q/No # 4

$$NPV = PV_0 + PV_1 + PV_2 + PV_3$$

$$= -9000 + 1886.79 + 2669.98 + 2518.85$$
$$+ 3168.37$$

$$= 843.99$$

Comments.

The NPV of \$843.99 suggest that the combine PV of all cash inflows exceeds the PV of cash out flows by 843

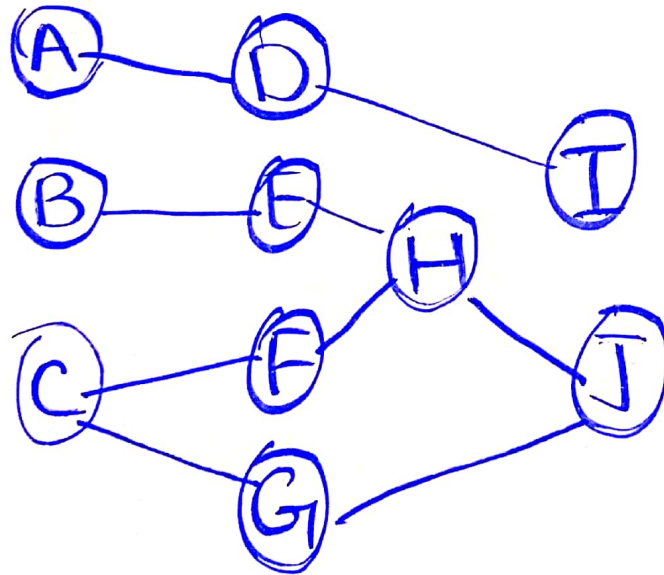
Question #3

(6)

	PU	UC	%	E.U	$\frac{EU}{PU}$ SPI	(EU-PU) SU	$\frac{(EU)}{AC}$ SPI	(EU-AC) CU
1	10,000	120,000	100	120,000	1.2	20,000	1	0
2	100,000	110,000	100	110,000	1.1	10,000	1	0
3	100,000	89,000	90	99,000	0.98	1000	1.23	19000
4	100,000	125,000	80	64,000	0.64	36000	0.512	-61,000
5	100,000	85,000	50	67,500	0.675	37500	0.735	-22500
6	100,000	0.00	0%	0.00	0.00	0.00	0.00	0.000
7	100,000	0.00	0%/0	0.00	0.00	0.00	0.00	0.00
8	100,000	0.00	0%	0.00	0.00	0.00	0.00	0.00
9	100,000	0.00	0%	0.00	0.00	0.00	0.00	0.00
10	100,000	0.00	0%	0.00	0.00	0.00	0.00	0.00
Cumulative					4.555		4.477	

Question # 4 <sup>Q</sup> part (a)

Network diagram





Q4 Expected time =? Variance =?

Activity	Procedure	Optimistic	max likely	probable $t = \frac{a(4x)m}{6}$		$V = \left(\frac{b-a}{6}\right)^2$
A	-	5	6	7	6	0.11
B	-	1	3	5	3	0.44
C	-	1	4	7	4	1
D	A	1	2	3	2	0.181
E	B	1	2	9	3	1.78
F	C	1	5	9	5	1.78
G	C	2	2	8	3	1
H	E, F	4	4	10	5	1
I	D	2	5	6	4.67	0.44
J	H, G	2	2	8	3	1