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Subject: Construction Management

Q: 1:

Ans: Main types of (ADR) are following.

(i): Negotiations: is a process that involves activities need to resolve different kinds of disputes by conducting consultation between the involved parties to reach consensus negotiator can happen at any time within the project management life cycle and it can be either formal or non formal

(ii): Mediation: is a consensual process of disputes resolution in which a third party mediator appointed by the parties to the disputes, assists in the negotiated resolution of the disputes. ~~or advantages~~

(iii): Collaborative: it is its core whoever collaborate in construction simply means that teams are working together toward one project goal. every one can access the main plan and goal of the project at any time without having to rely on gatekeeper or loge to faraway office in order to get the information they need.

(iv) Arbitration: Arbitration which is the process by the parties and disputes and instead of going to court to resolve the matter agree to submit their case to a third party neutral mutual known as known Arbitration.

Advantages of ADR.

- (1) it is usually faster and less costly.
- (2) ~~People~~ ^{people} have a chance to tell their story as they see it.
- (3) it is more flexible and response to the individual needs of the involve.
- (4) it is more informal
- (5) the parties involvement in the process of create greater commitment to the results.

Disadvantage of ADR

- (1) Arbitration decision is final.
- (2) limit arbitration awards.
- (3) discovery limitation.
- (4) free for the natural.
- (5) no bonding arbitration.

Q2. (ii)

Solution:

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

$$NPV = -9000 + \frac{2000}{(1+0.06)^1} + \frac{3000}{(1+0.06)^2} + \frac{3000}{(1+0.06)^3} + \frac{4000}{(1+0.06)^4}$$

$$\begin{aligned} NPV &= PV_0 + PV_1 + PV_2 + PV_3 + PV_4 \\ &= -9000 + 1886.79 + 2689.98 + 2518.85 + 3168.37 \end{aligned}$$

$$NPV = 843.99$$

Comments:

The NPV of ~~cost~~ 8 843.99 suggest that the combine PV of inflow exceed that PV of outflow by 843.

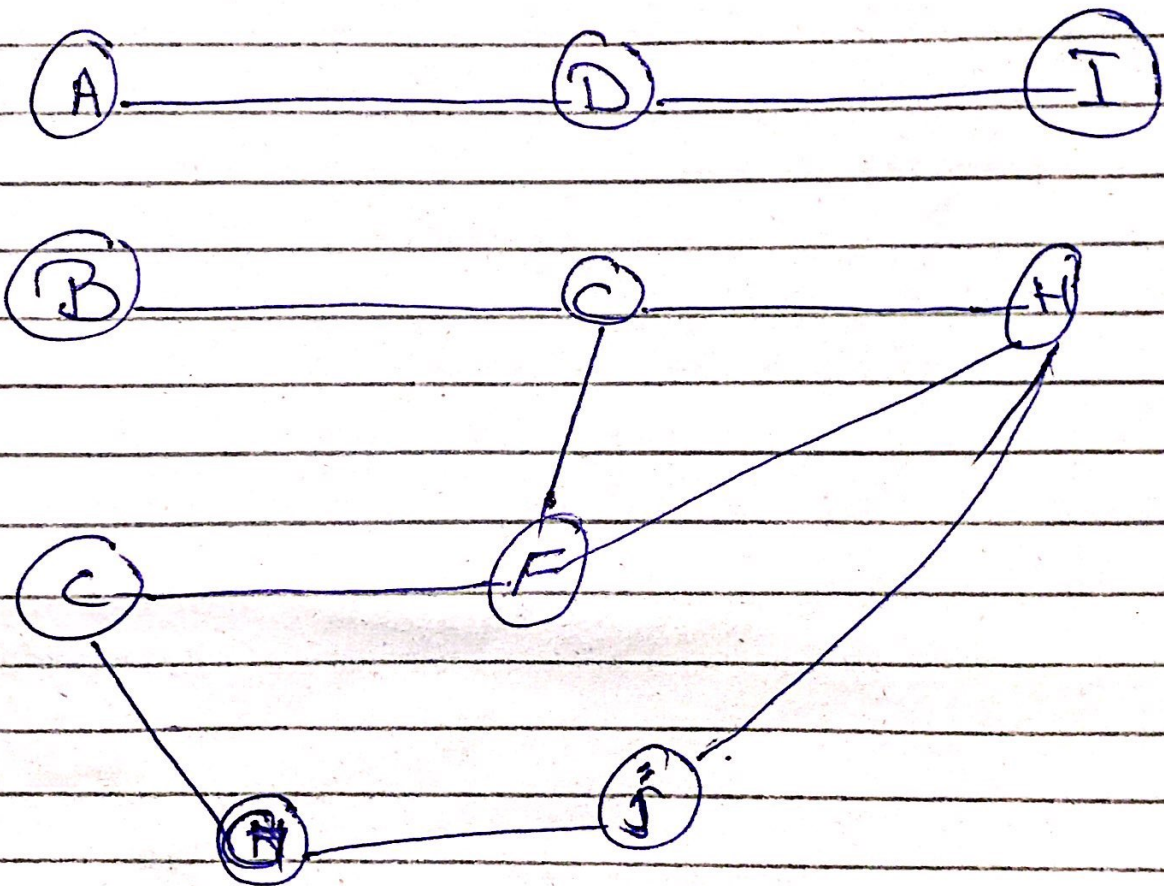
	PV	AC	%	EV	$\frac{EV}{PV}$ SPI	$(EV - PV)$ SV	$\frac{EV}{AC}$ SPI	EV - AC CV
(1)	100,000	120,000	100	120,000	1.2	20,000	1	0
(2)	100,000	110,000	100	110,000	1.1	10,000	1	0
(3)	100,000	80,000	90	99,000	0.98	10,000	1.23	19,000
(4)	100,000	125,000	80	64,000	0.64	36,000	0.512	-61,000
(5)	100,000	85,000	50	62,500	0.625	37,500	0.735	-22,500
(6)	100,000	0.00	0%	0.00	0.00	0.00	0.00	0.00
(7)	100,000	0.00	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
					4.535		4.477	

Comments: ~~CPI is great~~ CPI is 71 over project has over the schedule under the budget.

(4)

Q4ii Part (A)

Network diagram.



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Part - (B)

Activity	Precedence	Optimistic	most likely	Pessimistic	$t = \frac{a+4m+b}{6}$	$\frac{b-a}{6}$
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	0.167
E	B	1	2	9	3	1.78
F	C	1	5	9	5	1.78
G	E, C	2	2	8	3	1
H	F	4	4	10	5	1
I	D	2	5	6	4.87	0.44
J	H, G	2	2	8	3	1

Network diagram