DILR Practice Questions for CAT

Instructions

DIRECTIONS for the following four questions:

The Table I shows the comparative costs, in US Dollars, of major surgeries in USA and a select few Asian countries.

Procedure	Comparative Costs in USA and some Asian Countries (in US Dollars)				
	USA	India	Thailand	Singapore	Malaysia
Heart Bypass	130000	10000	11000	18500	9000
Heart Valve Replacement	160000	9000	10000	12500	9000
Angioplasty	57000	11000	13000	13000	11000
Hip Replacement	43000	9000	12000	12000	10000
Hysterectomy	20000	3000	4500	6000	3000
Knee Replacement	40000	8500	10000	13000	8000
Spinal Fusion	62000	5500	7000	9000	6000

The equivalent of US Dollar in the local currencies is given in Table II.

	1 US Dollar Equivalent	
India	40.928	Rupees
Malaysia	3.51	Ringits
Thailand	32.89	Bahts
Singapore	1.53	$ Dollars

A consulting firm found that the quality of the health services were not the same in all the countries above. A poor quality of a surgery may have significant repercussions in future, resulting in more cost in correcting mistakes. The cost of poor quality of surgery is given in Table III

Procedure	Comparative Costs in USA and some Asian Countries (in US Dollars '000)				
	USA	India	Thailand	Singapore	Malaysia
Heart Bypass	0	3	3	2	4
Heart Valve Replacement	0	5	4	5	5
Angioplasty	0	5	5	4	6
Hip Replacement	0	7	5	5	8
Hysterectomy	0	5	6	5	4
Knee Replacement	0	9	6	4	4
Spinal Fusion	0	5	6	5	6

Question 1

A US citizen is hurt in an accident and requires an angioplasty, hip replacement and a knee replacement. Cost of foreign travel and stay is not a consideration since the government will take care of it. Which country will result in the cheapest package, taking cost of poor quality into account?

A India

B Thailand

C Malaysia

D Singapore

E USA

Answer: C

Explanation:

Total cost incurred by the american citizen in various countries after taking cost of poor quality into account is (in '000 USD)

America - 57 + 43 + 40 = 140

India - 11 + 9 + 8.5 + 5 + 7 + 9 = 49.5

Thailand - 13 + 12 + 10 + 5 + 5 + 6 = 51

Singapore - 13 + 12 + 13 + 4 + 5 + 4 = 51

Malaysia - 11 + 10 + 8 + 6 + 8 + 4 = 47

Hence the cheapest country is Malaysia.

Question 2

Approximately, what difference in amount in Bahts will it make to a Thai citizen if she were to get a hysterectomy done in India instead of in her native country, taking into account the cost of poor quality? It costs 7500 Bahts for oneway travel between Thailand and India.

A 23500

B 40500

C 57500

D 67500

E 75000

Answer: D

Explanation:
Cost of treatment in India in USD ('000) 8 and in Thailand 10.5.

So she pays 2.5 more in Thailand.

Converting in Bahts we get 82500.

Subtracting the total travelling cost of 15000 Baht from the above.

So difference is 67500 Bahts.

Question 3

The rupee value increases to Rs.35 for a US Dollar, and all other things including quality, remain the same. What is the approximate difference in cost, in US Dollars, between Singapore and India for a Spinal Fusion, taking this change into account?

A 700

B 2500

C 4500

D 8000

E No difference

Answer: B

Explanation:
Cost for operation in India is around = 5500*41.

After Rupee value increases, increased cost in USD = 5500*41/35 which is arount 6500 USD.

Thus the requires difference in price is 9000(for singapore) - 6500 = 2500 USD.

Instructions

DIRECTIONS for the following three questions: In each question, there are two statements: A and B, either of which can

be true or false on the basis of the information given below.

A research agency collected the following data regarding the admission process of a reputed management school in India.

Year	Gender	Number of Applications	Number of students who appeared for written test	Number of students who were called for interview	Number of students who were finally selected
2002	Male	61205	59981	684	171
	Female	19236	15389	138	48
2003	Male	63298	60133	637	115
	Female	45292	40763	399	84

Question 4

Statement A: The success rate of moving from written test to interview stage for males was worse than for females in 2003.

Statement B: The success rate of moving from written test to interview stage for females was better in 2002 than in 2003.

A Only Statement A is true.

B Only Statement B is true.

C Both the Statements are true.

D Neither of the two Statements is true.

Answer: D

Explanation:
The success rate of moving from written test to interview stage for males in 2003 can be given by 637/60133 and for females in the same year can be given by 399/40763 . We can see that the rate of males is clearly more that that of females. hence statement A is false.

Now the success rate of moving from written test to interview stage for females in 2002 was 138/15389 and for females in the year 2003 was 399/40763.So the rate in 2002 is less than that in 2003. . Hence both statements are false.

Question 5

Statement A: In 2002, the number of females selected for the course as a proportion of the number of females who bought application forms, was higher than the corresponding proportion for males.

Statement B: In 2002, among those called for interview, males had a greater success rate than females.

A Only Statement A is true.

B Only Statement B is true.

C Both the Statements are true.

D Neither of the two Statements is true.

Answer: D

Explanation:
In 2002, the number of females selected for the course as a proportion of the number of females who bought application forms was 48/19236 and for males was 171/61205. So rate for males was higher than that of female. Hence option A is false.

In 2002, among those called for interview, the success rate for females was 48/138 and for males 171/684. So the rate was higher for females .Both are false. Hence option D.

Question 6

Statement A: The percentage of absentees in the written test among females decreased from 2002 to 2003.

Statement B: The percentage of absentees in the written test among males was larger than among females in 2003.

A Only Statement A is true.

B Only Statement B is true.

C Both the Statements are true.

D Neither of the two Statements is true.

Answer: A

Explanation:
The percentage of absentees in the written test among females in 2002 was 3847/19236 and in 2003 was 4529/45292. Thus percentage of absentees decreased from 02 to 03. Hence statement A is true.

The percentage of absentees in the written test among males in 2003 is 3065/63298 which is clearly less than that of female in 2003. Hence statement b is false . Hence option A.

Instructions

Answer the following questions based on the information given below:

In a sports event, six teams (A, B, C, D, E and F) are competing against each other Matches are scheduled in two stages. Each team plays three matches in Stage – I and two matches in Stage – II. No team plays against the same team more than once in the event. No ties are permitted in any of the matches. The observations after the completion of Stage – I and Stage – II are as given below.

Stage-I:

• One team won all the three matches.

• Two teams lost all the matches.

• D lost to A but won against C and F.

• E lost to B but won against C and F.

• B lost at least one match.

• F did not play against the top team of Stage-I.

Stage-II:

• The leader of Stage-I lost the next two matches

• Of the two teams at the bottom after Stage-I, one team won both matches, while the other lost both matches.

• One more team lost both matches in Stage-II.

Question 7

The two teams that defeated the leader of Stage-I are:

A B & F

B E & F

C B & D

D E & D

E F & D

Answer: B

Explanation:
There are a total of ${}^6C_2$ matches => 15 matches. The first 9 matches are held in the first stage and remaining 6 in the second stage.

From the information given, we can conclude that the following matches were held in first stage:

Stage 1: D-A (A won), D-C (D won), D-F (D won), E-B (B won), E-C (E won), E-F (E won)

One team won all matches. As B, C, D E and F have lost at least one match each, A won all three matches. As A, B, D, E have won at least one match, C and F lost both matches.

From the matches already deduced, we can see that A needs to play 2 more matches, B two more matches and C and F one match each. As C and F lose all matches in stage 1, they cannot play against each other. F did not play against the leader i.e. A. Hence, the remaining matches are A-B (A won), A-C (A won), B-F (B won).

Thus, the stage 1 matches are

Stage 1: D-A (A won), D-C (D won), D-F (D won), E-B (B won), E-C (E won), E-F (E won), A-B (A won), A-C (A won), B-F (B won)

Thus Stage 2 matches are D-B, D-E, E-A, F-A, B-C and C-F (all matches - stage 1 matches)

As A lost both matches, F and E must have won the match vs A. As F won against A, F won both its matches and C lost both its matches. One more team lost both its matches. As B, E and F have won at least one match and A and C have been discussed previously, D must have lost both matches. Hence, stage 2 results are:

Stage 2: D-B (B won), D-E (E won), E-A (E won), F-A (F won), B-C (B won) and C-F (F won)

Hence, the two teams that won against stage 1 leader A are E and F.

Question 8

The only team(s) that won both matches in Stage-II is (are):

A B

B E & F

C A, E & F

D B, E & F

E B & F

Answer: D

Explanation:
There are a total of ${}^6C_2$ matches => 15 matches. The first 9 matches are held in the first stage and remaining 6 in the second stage.

From the information given, we can conclude that the following matches were held in first stage:

Stage 1: D-A (A won), D-C (D won), D-F (D won), E-B (B won), E-C (E won), E-F (E won)

One team won all matches. As B, C, D E and F have lost at least one match each, A won all three matches. As A, B, D, E have won at least one match, C and F lost both matches.

From the matches already deduced, we can see that A needs to play 2 more matches, B two more matches and C and F one match each. As C and F lose all matches in stage 1, they cannot play against each other. F did not play against the leader i.e. A. Hence, the remaining matches are A-B (A won), A-C (A won), B-F (B won).

Thus, the stage 1 matches are

Stage 1: D-A (A won), D-C (D won), D-F (D won), E-B (B won), E-C (E won), E-F (E won), A-B (A won), A-C (A won), B-F (B won)

Thus Stage 2 matches are D-B, D-E, E-A, F-A, B-C and C-F (all matches - stage 1 matches)

As A lost both matches, F and E must have won the match vs A. As F won against A, F won both its matches and C lost both its matches. One more team lost both its matches. As B, E and F have won at least one match and A and C have been discussed previously, D must have lost both matches. Hence, stage 2 results are:

Stage 2: D-B (B won), D-E (E won), E-A (E won), F-A (F won), B-C (B won) and C-F (F won)

Hence, the teams that won both of their stage 2 matches are B, E and F.

Question 9

The teams that won exactly two matches in the event are:

A A, D & F

B D & E

C E & F

D D, E & F

E D & F

Answer: E

Explanation:

There are a total of ${}^6C_2$ matches => 15 matches. The first 9 matches are held in the first stage and remaining 6 in the second stage.

From the information given, we can conclude that the following matches were held in first stage:

Stage 1: D-A (A won), D-C (D won), D-F (D won), E-B (B won), E-C (E won), E-F (E won)

One team won all matches. As B, C, D E and F have lost at least one match each, A won all three matches. As A, B, D, E have won at least one match, C and F lost both matches.

From the matches already deduced, we can see that A needs to play 2 more matches, B two more matches and C and F one match each. As C and F lose all matches in stage 1, they cannot play against each other. F did not play against the leader i.e. A. Hence, the remaining matches are A-B (A won), A-C (A won), B-F (B won).

Thus, the stage 1 matches are

Stage 1: D-A (A won), D-C (D won), D-F (D won), E-B (B won), E-C (E won), E-F (E won), A-B (A won), A-C (A won), B-F (B won)

Thus Stage 2 matches are D-B, D-E, E-A, F-A, B-C and C-F (all matches - stage 1 matches)

As A lost both matches, F and E must have won the match vs A. As F won against A, F won both its matches and C lost both its matches. One more team lost both its matches. As B, E and F have won at least one match and A and C have been discussed previously, D must have lost both matches. Hence, stage 2 results are:

Stage 2: D-B (B won), D-E (E won), E-A (E won), F-A (F won), B-C (B won) and C-F (F won)

Hence, the wins by each team are A (3), B(4), C(0), D(2), E(4), F(2). Hence, D and F won exactly 2 matches.

Instructions

DIRECTIONS for the following three questions: Answer the questions on the basis of the information given below.

A, B, C, D, E, and F are a group of friends. There are two housewives, one professor, one engineer, one accountant and one lawyer in the group. There are only two married couples in the group. The lawyer is married to D, who is a housewife. No woman in the group is either an engineer or an accountant. C, the accountant, is married to F, who is a professor. A is married to a housewife. E is not a housewife.

Question 10

Which of the following is one of the married couples?

A A & B

B B & E

C D & E

D A & D

Answer: D

Explanation:
According to given conditions, we are able to infer following relations

A	B	C	D	E	F
MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
LAWYER	HOUSEWIFE	ACCOUNTANT	HOUSEWIFE	ENGINEER	PROFESSOR
MARRIED TO D		MARRIED TO F	MARRIED TO A		MARRIED TO C

So A and D are married couple.

Question 11

What is E's profession?

A Engineer

B Lawyer

C Professor

D Accountant

Answer: A

Explanation:
According to given conditions we are able to infer,

A	B	C	D	E	F
MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
LAWYER	HOUSEWIFE	ACCOUNTANT	HOUSEWIFE	ENGINEER	PROFESSOR
MARRIED TO D		MARRIED TO F	MARRIED TO A		MARRIED TO C

Hence E is an engineer.

Question 12

How many members of the group are males?

A 2

B 3

C 4

D Cannot be determined

Answer: B

Explanation:
According to given conditions we are able to infer,

A	B	C	D	E	F
MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
LAWYER	HOUSEWIFE	ACCOUNTANT	HOUSEWIFE	ENGINEER	PROFESSOR
MARRIED TO D		MARRIED TO F	MARRIED TO A		MARRIED TO C

Thus, there are 3 males.