

## CHAPTER – 11

# DECISION MAKING

### Introduction

Decision-Making is a process in which a final outcome is derived by evaluating and analysing the given data.

The objective of "Decision-Making" is to reach a certain conclusion from the given information or a given set of conditions.

In the examples and the questions that follow, a set of rules/conditions is specified as a selection criteria. This is followed by some cases, each comprising of qualifications/details of a candidate. Based on the given criteria, each case is evaluated and a specified decision is taken. For example, an applicant may have to comply with the selection criteria for the requirement of a Sales Representative in a company. His details given in the case are matched with the given criteria.

In the selection criteria, we can divide the given conditions into two parts –

- (i) Basic conditions, and
- (ii) Alternate conditions.

These can be explained with the help of following example.

Let us say there is a requirement for Sales Representatives in a company, and Mr. XYZ applies to this company, submitting the required details. There is a criteria specifying that the age of the applicant should not exceed 25 years, whereas Mr. XYZ is 28 years old. So, clearly this Basic condition is violated, but then, there is an alternate condition specified, which says that, "In case the applicant's age is above 25 years, but has a relevant experience of at least 3 years in Sales of Consumer Goods, then his case may be referred to the Director-Marketing". Now, if Mr. XYZ has the experience specified in this "Alternate Condition", then he may be referred to the Director-Marketing. The choice corresponding to this decision shall be marked as answer.

Hence, for any case, a person/candidate/applicant is selected only when his or her details (given) comply with the basic conditions. If any basic condition is violated or not satisfied, its respective alternate condition (if available) is applied. On the basis of compliance (or non-compliance) with this alternate condition, the specified decision is taken, and relevant answer is marked.

The decision about the selection of a candidate must be taken in strict adherence with the given conditions/criteria, and nothing should be presumed. In case, no data is provided by the applicant for a specified condition, which is mandatory in taking a decision for selection, then mark the choice containing "data inadequate", as your answer.

It is important to go through the following examples before attempting the exercise.

### Examples:

**Directions for questions 1 to 6:** Study the conditions given below carefully and answer the following questions, according to these conditions:

Following are the conditions specified for the recruitment of Directors in various management colleges:

1. The candidate should have a work experience of at least 20 years in the same institution and should have a minimum age of 55 years.
2. The candidate should have obtained at least 60% in XII standard and 65% in degree exams.
3. The candidate should be conversant with the local language.
4. The candidate should be elected by the faculty members of the college with a majority of at least 2 : 1.
5. The candidate should have a total work experience of at least 25 years.

In case a candidate satisfies all the conditions given above, EXCEPT

condition (4) alone, then refer the case to the Vice Chancellor of the University.

condition (1) alone, but has got a total experience of 30 years, then he should be selected.

condition (3) alone, refer the case to the Chancellor.

condition (2) alone, but has a Ph.D., then he can be selected.

On the basis of the above, for each of the questions that follow, mark your answers as

(A), If the candidate is chosen as the Director of the institute.

(B), If the case is referred to the Vice Chancellor.

(C), If the case is referred to the Chancellor.

(D), If a decision cannot be taken on the basis of the data available.

(E), If the person is not selected.

1. Mr. Jahangir has been working in the college for which he applied for the Director's post for the past 20 years. He does not know the local dialect. He has done his Ph.D. in Sociology and was elected by the college faculty lecturers with a majority of 5 : 1.

**Sol :** Since there is no mention of Mr. Jahangir's age, we cannot decide. Hence, answer choice (D) [Please note that we cannot eliminate him on any other grounds. If he is not eligible on the basis of any other condition, then we would have decided the answer as (E) even though we do not know his age].

2. Mrs. Sharma has 57% in her XII standard and has 79% in her degree exams. She joined the college, for which she applied for the Director's post, when she was 25 years old and now she is 55 years of age. She is a postgraduate. She knows the local language and has been elected unanimously by the college faculty members.

**Sol :** The academic record of Mrs. Sharma is not according to condition (2). The alternate condition for (2) is also not satisfied because she does not have Ph.D. Hence, she cannot be selected.

Choice (E)

3. Mr. Dixit started working at the age of 18 and has worked for IIM Calcutta for a period of 18 years and after that, joined the college 19 years ago, to which he has applied for the Director's post.

While working at IIM, Calcutta, he did his Ph.D. in Public Systems Management. However, he has a bad academic record with only 50% in his intermediate. He knows the local language and has been elected by the faculty members of his college with a 5 : 2 majority.

**Sol :** Although Mr. Dixit does not satisfy condition (2), he has a Ph.D., hence the alternate condition is satisfied. As far as his age is concerned, it appears that we do not have information, but we can find out his age as  $18 + 18 + 19$ , i.e. 55 years (he joined IIM Calcutta at the age of 18, worked for 18 years and then worked for another college for 19 years). Even though he has not worked for 20 years in this college, he has 37 years of experience and, hence, he can be selected.

Choice (A)

4. Mr. Ronaldo, who is 58 years old, is from the neighbouring state of Maharashtra and has been working in this college for the past 22 years. He had also worked in Maharashtra for a period of 10 years. He is a relative of Mr. Chocho, the governor of the state. He scored 70% in his degree and 60% in Standard XII. He was elected with a majority of 10 : 1 by the faculty members of the college. Apart from English, the only other language he knows is the language of his native state.

**Sol :** Mr. Ronaldo satisfies all the conditions except (3). Hence, his case has to be referred to the Chancellor.

Choice (C)

5. Mrs. Sheila has been in her post as a senior lecturer for the past 15 years. As a rule, in the entire state, any person should work for at least 15 years as a junior lecturer in any college in the state to become a senior lecturer in any college in the state. She has a Ph. D. and is in her late 50s and is thus respected by one and all. She was elected by the faculty members of the college as the candidate for the post of the Director with a majority of 3 : 2. She knows many languages including the local language. It is known that the only way of entering this particular college is as a junior lecturer. It is also known that she has scored 80% in both her XII standard and degree exams.

**Sol :** Miss Sheila satisfies all the conditions except the majority of 2 : 1. Hence, the case should be referred to the Vice Chancellor. Choice (B) [Please note that since this college requires a person to work as a junior lecturer in the same college, she worked for 30 years in the same college.]

6. Mr. Kiran has a record of more than 80% throughout his academic career. He has been working in the present institution for 20 years. After working elsewhere for 5 years, he joined the present institution. He does not know the local language. However, he has done his post graduation in English and got a majority of 6 : 1 from the faculty members of his college. He had started working since he was 25 years.

**Sol :** Mr. Kiran does not satisfy the minimum age criterion (because, he started working at the age of 25, worked elsewhere for 5 years and then in the present institution for 20 years which means he is now 50 years old). He does not have 30 years of experience to make up for the above. Hence, he cannot be selected. Choice (E)

**Directions for questions 7 to 11:** Study the conditions given below carefully and answer the questions that follow, according to these conditions:

Following are the conditions, laid down for a group of six friends, to choose a picnic spot. If they cannot go to Kashmir or Ooty or Matheran, then they stay at home.

1. The average age of the group should be more than 21 years to go to Kashmir.
2. If there are exactly 3 boys and 3 girls within the group, then they must go to Kashmir.
3. If the total cash with the group is less than ₹5,000, they stay at home and do not go anywhere.
4. They go to Ooty only if there are exactly 2 boys and 4 girls in the group.
5. Each of them should have finished his/her final exams before going on a picnic.

In case,

- condition 3 alone is violated, but one of them has a car or they can get free hotel accommodation, then ₹1,000 out of the total expenses can be saved in each of the two cases.
- condition 5 alone is violated, but none of them have final exams in the next two months, they go to Matheran, which is closer.

On the basis of the above, for each question that follow, mark your answer as:

- (A), if the friends can go to Ooty.
- (B), if the friends can go to Kashmir.
- (C), if the friends can go to Matheran.
- (D), if the friends stay at home.
- (E), If a decision cannot be taken on the basis of the data available.

7. Six friends decide to go on a picnic and their average age is 20. They have a car and cash amounting to ₹4,000. All of them have finished their exams. There are 2 boys and 4 girls in the group.

**Sol :** Neither condition (1) nor (2) is satisfied, hence they cannot go to Kashmir. Though condition (3) is not satisfied, alternate condition for (3) is satisfied. Since they have a car, conditions (4) and (5) are satisfied. Hence, they can go to Ooty. Choice (A)

8. Two boys and four girls, having an average age of less than 21 years, decide to go out and they have ₹4,500 with them. They have a car as well as free hotel accommodation. Three of them have not finished all their exams.

**Sol :** They cannot go to Ooty or Kashmir because some of them have not completed their exams. However, whether they can go to Matheran or not cannot be concluded from the data given to us, since we do not know as to when their exams will be conducted. Hence, we cannot conclude on the basis of the data given to us. Choice (E)

9. Six friends (3 boys and 3 girls), with an average age of 22 years, have decided to go on a picnic, having finished their final exams, and they have ₹10,000 among them.

**Sol :** Conditions (1), (2), (3) and (5) are satisfied. Hence, they can go to Kashmir. Choice (B)

10. Two boys and four girls have only ₹3,000 between them. The parent of one of the friends is arranging accommodation for them and another parent is providing a car. All the friends have finished their exams and the average age of the friends is 20 years.

**Sol :** Conditions (1) and (2) are not satisfied. Hence, they cannot go to Kashmir. Though condition (3) is not satisfied, the alternate condition is satisfied.

Their expenses have reduced to ₹3,000 owing to free accommodation and car, hence condition (4) and (5) are satisfied. Hence, they can go to Ooty. Choice (A)

11. Two boys and four girls, having an average age of 19 years and ₹5,800 cash, decide to go on a picnic. Only two of them have finished their exams and the rest have their exams four months from now.

**Sol :** Conditions (1) and (2) are not satisfied. Conditions (3) and (4) are satisfied. Though condition (5) is not satisfied, the alternate condition for (5) is satisfied. Hence, they can go to Matheran. Choice (C)

## Exercise – 11

**Directions for question 1 to 10:** These questions are based on the following information.

A device classifies numbers according to the following criteria. The number must have

- (A) seven digits.
  - (B) at least two prime digits.
  - (C) perfect squares as the first and the last digits.
  - (D) an even digit as the middle digit.
- If the number satisfies criteria (A), (B), (C) and (D) then the number is classified as a Superior number.
- (E) If the number is a superior number and the digits are in increasing order from left to right according to the value, then the number is classified as an Impressive number.
  - (F) If the number satisfies criteria (A), (B) and (D) but not (C), but the first and last digits are even, then the number is classified as a Mutual number.
  - (G) If the number satisfies criteria (A) (B) and (C) but not (D) but all the digits are odd, then the number is classified as a Classic number.
  - (H) If the number does not fall under any of the above mentioned classification, then the number is classified as a Garbage number.

Based on the above criteria, decide which number should be classified in which of the above mentioned classification. Mark your answer choice as

- (A), if the number is classified as Superior number.
- (B), if the number is classified as Impressive number.
- (C), if the number is classified as Mutual number.
- (D), if the number is classified as Classic number.
- (E), if the number is classified as Garbage number.

Classify the following number as mentioned above.

1. 1778459
2. 4276891
3. 1367574
4. 9632578
5. 4556666
6. 4368579
7. 1366789
8. 9517531
9. 1573934
10. 964374

**Directions for questions 11 to 16:** Study the following information carefully and answer the questions given below:

Following are the criteria required to be fulfilled, to gain admission into any intermediate college in Andhra Pradesh (A.P.):

- (a) The candidate should have scored at least 80% marks in SSC or 70% marks in CBSE.
- (b) The candidate should have scored at least 60% marks in the entrance exam.
- (c) The candidate should be a male and be at least 16 years old, as on 1<sup>st</sup> June, 2000.

- (d) The candidate should be a resident of Andhra Pradesh (A.P.), i.e. should have been born and brought up in A.P.

In case a condition given above is not satisfied, an alternate condition for the same is given as below:

- (e) If condition (d) is violated, but at least one relative of the candidate is presently staying in Andhra Pradesh, for the last 5 years, then the candidate can be admitted.
- (f) If condition (b) or (c) is violated, but not both, and the student has a good sports record, then he/she should be advised to approach the Principal.
- (g) If both conditions (a) and (b) are violated, but the candidate is ready to donate ₹1,00,000 to the college, then he is advised to approach the Secretary.

Now mark your answer as

- (A), if admission can be granted.
- (B), if admission cannot be granted.
- (C), if the Principal is to be approached.
- (D), if the Secretary of the school is to be approached.
- (E), if data is inadequate.

The following cases are given to you as on 1<sup>st</sup> June, 2000.

11. Jahangir has applied for a college in A.P. He was born and brought up in Kerala. He was born in 1980 and has an excellent percentage of 95 in his SSC. He has done pretty well in the entrance test scoring 65%, and has a close relative working in A.P. for the past 10 years.
12. Rita was born in 1981 and has a very good academic record, with 90% in her CBSE. She has done her entrance test well by scoring 80%, and she is a resident of AP, where the college is also situated. She is a very good sports person and has represented the state for basketball.
13. Prakash is 17 years old and is a resident of A.P. where the college is located. He has scored 90% in the entrance test and 69% in SSC.
14. Ranga, a resident of state of A.P, is a gold medallist in swimming at National games in the juniors category. He has applied with a percentage of 75% in the SSC, and a score of 55% in the entrance exam. The college is in the same locality as his residence is. He was born on 16<sup>th</sup> July, 1981. He is ready to give a donation of ₹1,00,000.
15. Ram was born in 1980 and is a resident of A.P. He is the present TT Champion of India. He was presented a gold medal by the President of India in the National Games. He scored below 40% of marks in both SSC and the entrance exam. He is ready to give a donation upto ₹2 lakhs.
16. Rahim, applying for a college in the same state as he is in, has a bad academic record of 40% and 35% in CBSE and entrance exam respectively. He is able to pay a donation of ₹1,00,000 to the college.

**Directions for questions 17 to 22:** Study the following information carefully. Answer the questions given below:

Following conditions are to be fulfilled in order to become the hero of a film:

- The person should have a good track record, i.e. the rate of success of that particular person as a hero should be at least 70%.
- The person should have been in the industry for at least 5 years.
- The person should ask for a remuneration of less than ₹10,00,000 per film.
- The person should be able to give dates continuously for at least one week.

In case a condition given above is not satisfied, the following alternate condition should be applied:

- If condition (a) is violated, and the hero has a success rate of greater than 50% in films, but a good success rate with the heroine he is going to work with in the film, then take the suggestion of the heroine; OR  
If condition (a) is violated, but the hero is successful in the type of films the Producer is making, then take the advice of the Producer.
- If condition (c) is violated, but the hero demands a remuneration of less than ₹50 lakhs, then he can be selected.
- If condition (d) is violated, but the hero can work for at least 15 days in a month, may not be continuous, then the hero can be selected.

Now mark your answers as

- if the person is to be selected as a hero.
- if the person is not to be selected as a hero.
- if the heroine is to be consulted regarding the decision.
- if the Producer is to be consulted regarding the decision.
- if the data is insufficient.

**17.** Romeo has been in the film industry for the past 7 years and asks for a remuneration of ₹7,00,000. He is ready to give dates continuously for 10 days. He also has 30 hits out of the 40 films that he has acted in, for the last 7 years.

**18.** Chris has a very good reputation as an actor and has 80% hits in his career. He is famous for the kind of films the producer of this film is presently making and is considered as an ideal combination with the heroine of the film. However, he charges ₹40,00,000 per film.

**19.** Ritesh is a hero, who has 65% hits in his career, and charges ₹8,00,000 per film. He has been in the film industry for the past 7 years and has 90% hits in the type of the films the Producer is making. He is ready to abide by condition (d).

**20.** Rajesh is a hero in the film industry for the past 10 years, having 85% hits and demands a remuneration of ₹9,00,000. He is noted for the kind of films the producer is making and is also very successful with the heroine of the film. He can give dates for 18 days in a month, but continuously for only 6 days, at a stretch.

**21.** Hasmukh has been in the industry for the past 6 years and has 68% hits in his career. He demands a remuneration of ₹8,00,000 and is ready to give dates continuously for at least one week. He is also very successful with the heroine of the film.

**22.** Roopesh is a successful hero for the last 8 years in action films, delivering around 85% in that line. But the trend has changed for the past 5 years. Therefore, Roopesh had to act in romantic films, where he was a misfit. Because of his failure as a romantic hero, he reduced his remuneration to ₹5,00,000. The producer now wants to make an action movie.

**Directions for questions 23 to 28:** Study the following information carefully and answer the questions which follow:

The following are the conditions/criteria for a group of college students to watch a movie at a theatre.

- Every student in the group should have attended all their lectures, i.e. no student should miss any lecture for watching the movie.
- No student in the group should have watched the movie earlier.
- The movie should be screened at a theatre, which is not more than 3 kms away from their college.
- Every student of the group should agree to watch the same movie.

In case a condition given above is not satisfied, an alternate condition for the same is given below:

- If condition (a) alone is violated, and less than half of the total number of students have to miss their lectures, then these students attend their lectures and others can proceed to watch the movie.
- If condition (b) alone is violated but the movie is a hit, and more than half of the total number of students of the group have not watched the movie before, then all of them go to watch the movie.
- If condition (c) alone is violated but at least two seniors are accompanying them to watch the movie, then all of them go to watch the movie.
- If condition (d) alone is violated and more than one-fourth of the total number of students in the group are not willing to watch the movie, then all the members of the group should meet and take a decision.

Based on the above criteria and the information given in each of the following questions, you have to take decision in regard to each case. You should not assume anything beyond what is given in the question.

Now mark your answer as

- if the group decides to watch the movie.
- if the decision is not to watch the movie.
- if the data is inadequate.
- if a meeting is to be held to take a decision.
- if only few attend the classes and remaining go to watch the movie.

**23.** A group of students, having attended all of their lectures, plan to watch a particular movie. The movie has been released for the first time in the city and is being screened in a theatre, which is 2 kms away from their college. None of them has watched the movie earlier. All of them agree to watch the movie.

24. A group of 10 students plans to watch a particular movie in a theatre, which is 3 kms away from their college. None of them has watched the movie earlier. Everybody agrees to watch this movie. Only 3 students out of the group have not attended their classes.
25. A group of students has plans to watch a particular movie, along with three senior students. The movie is being screened in a theatre, which is 5 kms away from their college. None of them has seen this movie earlier. Everyone in the group has attended all their lectures. All of them agree to watch this movie.
26. A group of students has planned to watch a particular movie. They attended all the lectures but only 8 out of 10 students in the group have not watched this movie earlier. The movie is being screened in a theatre, which is just 1 km away from their college. The movie is a hit. All of them agree to watch this movie.
27. A group of students plans to watch a particular movie, which has been watched before by less than half of the group. The movie is a hit. The movie is running in a theatre, which is 2 kms away from their college. All of the students in the group have attended all their lectures. All of them agree to watch this movie.
28. A group of students having attended all of their lectures, plan to watch a particular movie. The theatre in which the movie is being screened is just 2.5 km away from their college. Less than 20% of students of the group have already watched the movie and every one in the group wants to see the movie as it was a big hit.

**Directions for questions 29 to 35:** Study the following information and answer the questions that follow:

The following are the conditions for constructing a house.

- The cost of land should be less than ₹20,00,000.
- The estimated cost of construction should be less than ₹30,00,000.
- The land/house to be bought should be in a posh locality.
- A loan worth at least ₹20,00,000 should be available at an interest rate of 18% per annum.

If a condition given above is not satisfied, an alternate condition for the same is given below.

- If condition (d) is violated, but the interest rate is less than 12% per annum, and the amount of loan that can be availed is at least ₹10,00,000, then the matter should be discussed with the family members.
- If condition (b) is violated, then a decision is made to buy a flat on the ground floor in that location, subject to availability.
- If condition (c) is violated, but all the basic amenities are available in the vicinity nearby, then the matter should be discussed with the family members.

Now mark your answer as

- if the decision is to buy a flat.
- if it is decided to construct a house.

- if the data is inadequate.
- if a discussion is to be held with the family members.
- if the house cannot be constructed.

- The cost of a piece of land is ₹12,00,000 and the cost of construction is ₹38,00,000. The land is located in a posh locality. A loan of ₹30,00,000 can be availed at an interest rate of 15% per annum. There are flats available in that locality on the ground floor.
- The cost of a piece of land would be around ₹15,00,000 and the cost of construction of a house would be around ₹20,00,000. Loan can be availed at a rate of 15% per annum. The land is located in a posh locality where every facility is available.
- Land is available for ₹30,00,000 and the cost of construction is ₹20,00,000. Land is available in a very posh locality and a loan worth ₹20,00,000 can be availed at an interest rate of 16% per annum.
- Land is available in a posh locality at ₹20,00,000 and the cost of construction is around ₹25,00,000. A loan worth ₹15,00,000 can be availed at an interest rate of 10% per annum.
- Cost of a land in a locality is ₹10,00,000 and the cost of construction is ₹20,00,000. A loan can be availed at an interest rate of 20%.
- Land is available in a posh locality of the city at ₹19,00,000 and the cost of construction is around ₹28,00,000. A loan of ₹15,00,000 can be availed at the rate of 10% per annum.
- Mr. Ravi has seen a piece of land costing ₹14,00,000 and the cost of construction of house is ₹28,00,000. A loan of ₹20,00,000 can be availed at the annual interest rate of a maximum of 18% per annum. The land is not located in a posh locality, but has all basic amenities available in the vicinity.

**Directions for questions 36 to 40:** These questions are based on the following information.

A refrigerator company, MPL wants to launch different models in different cities of India depending upon the following criteria. The city must

- have a population of more than 20 lakhs.
- have at least 50% of the population with an annual income of 2 lakhs per annum or more.
- be well connected with the major cities of the world.
- have the average temperature more than 20°C during summer.

If the city satisfies all the above criteria, then the company will launch all the models numbered 518JTX, 486ZMQ and 446ZMQ. But if the city satisfies all the conditions except

- condition (i) alone but has less than 10% of the people in the city whose annual income is less than 1.5 lakhs per annum, then the company will not launch model numbered 518JTX but launches the other two.
- condition (ii) alone but the total sales of the refrigerators in the previous year in that city is more than 5000, then the company will launch the model numbered 446ZMQ only.

Based on the above criteria, decide the course of action for each of the following cases. Do not assume anything

about information not given. If the data is not sufficient for taking any decision, mark your answer as data inadequate. For each of the following questions choose your answer as

- (A), if the company is going to launch all the models numbered 518JTX, 486ZMQ and 446ZMQ.  
 (B), if the company is going to launch model numbered 486ZMQ and 446ZMQ only.  
 (C), if the company is going to launch only model numbered 446ZMQ.  
 (D), if the company is not going to launch any model.  
 (E), if the data is in adequate.

36. Kolkata, which has a population of 1.32 crore, has an international airport which connects the city with the major cities of the world. 35% of the population has an annual income less than 2.5 lakh. The average temperature during summer is 30°C.  
 37. Nagpur has a population of 21 lakh. It does not have any international airport but it is well connected with the major cities of the world through water. Average temperature during summer is more than 37°C. 35% of the city's population has an annual income more than 1.9 lakh. The total sales of the refrigerator in the city in the previous year was ₹7523.

38. Bhopal has fine transportation facilities that connect it to the major cities of the world. The total sales of refrigerators in the city was ₹4923 last year. The average temperature of the city during summer is 40°C. The population of the city is 50,000 and among them 24,500 people has an annual income not more than 2lpa.

39. Delhi, the capital of the country, has a population of 1.28 crore where more than 0.5 crore people have an annual income less than 2 lpa. In the previous year, the total sales of refrigerators was ₹2.3 lakh. The city is well connected with the other cities of the world and the average temperature during summer is 42°C.

40. Lucknow, has an international airport which connects the major cities of the world. The city has a population of 19.3 lakh. In the previous year the total sales of refrigerators was ₹5239 and the average temperature during summer was 31°C. More than 60% of the population has an annual income of 2.5 lakh. Only 8% of the population has an annual income of less than 2 lakhs.

### Key

- |      |       |       |       |       |
|------|-------|-------|-------|-------|
| 1. A | 9. E  | 17. A | 25. A | 33. C |
| 2. A | 10. E | 18. E | 26. A | 34. D |
| 3. E | 11. A | 19. D | 27. A | 35. D |
| 4. E | 12. C | 20. A | 28. A | 36. A |
| 5. C | 13. B | 21. C | 29. A | 37. C |
| 6. A | 14. D | 22. E | 30. C | 38. E |
| 7. B | 15. D | 23. A | 31. E | 39. E |
| 8. D | 16. E | 24. E | 32. E | 40. B |