

Planning and organising projects/ Formalising Economic Interrelationships

Learning- and Exercise Script for the
Selection Process at Universities



**Testvorbereitung für
Aufnahmeprüfungen an Hochschulen**

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We would not have been able to create this learning- and exercise script without the support and feedback of our seminar participants.
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Passing the entrance exam made easy

In this study and practice booklet, we have combined the two subtests "Planning and organising projects" and "Formalising Economic Interrelationships".

Our interactive and over the years proven script will help you to pass the required entrance examination. We constantly improve our scripts with learning material and updated exam lessons to secure highest standards for your success.

Originally we've developed our scripts and booklets for our popular seminars. However, as we've been asked by many of our participants to receive the scripts beforehand, we reworked and improved our scripts as preparation tool for our seminars. Simultaneously it helps and increases efficiency of our seminars but most important for you:

In our script and courses you'll find exercises and training tools which are close to the real test. Our booklets are carefully structured to guide and prepare you for the exam and are going along with our seminars; step by step to make it throw but easy.

Our scripts are a series of single booklets, each will handle one or two topics or subtests for the exam.

Having our proven script upfront before visiting our high standard seminars, work through the questions and exercises. When done and not before check the answers to see where you stand. This will allow you to focus on your individual strengths and weaknesses in our seminar and therefore make the seminar to your success.

No pain no gain, practice regular until realizing you feel comfortable to test yourself under time pressure. Dedicate at least half an hour daily practicing each subtest by using the specific technique described. Use our strongly recommended learning and practice scripts. This will be your path to success.

We constantly improve our scripts and seminars to be as close to the real examine as possible. Therefore we also need your help by giving us a feedback of the exam, hints will do, one piece of memory will lead to the next; we'll do the rest based on our decades of experiences.

Can you do something else?

Yes, you can. We highly recommend our seminars!

Our small groups and proven excellent seminars will guide and introduce you to our strategy and knowledge of each subtest, step by step. This will give you also a certain routine and therefore great preparation for the entrance test exam. After checking your current performance level with a mock-test we'll coach you to your specific needs. We also offer a one to one seminar. Feel free to take a closer look to our course structure or simply contact us for further information.

We want you to study!

Part 1: Planning and organising projects

1. Introduction

How well are you able to organise your daily work and study routine? We hope you will be better after you have worked through this script. At least in theory! This is exactly what is tested in this subtest, because you will be able to complete your studies (just like your time at school) more successfully and effectively if you organise your daily processes and exercises well. That's what the test operators are referring to!

Exercises like the ones presented here are also used in assessment centres to select applicants for companies, for example as "in-tray exercises", "project management" or "network planning technique". You will probably encounter this type of exercise more often in your professional life. In this type of exercise, a situation is designed in which you plan the best possible sequence of appointments in the shortest possible period of time, which is determined by various specifications. You have to find the fastest, cheapest or sometimes the only possible way to plan the optimal sequence, taking into account all constraints such as time, money or the exclusion of certain possible combinations.

In order to answer the questions, it makes sense to first plan the optimal procedure based on the text of the exercise. A matrix, table or timeline is usually useful to get an overview, from which the questions can then be answered. Sometimes these are already provided, for example in the form of a calendar or duty roster. If not, you have to find a suitable form yourself.

The first three to four questions of almost every exercise can be answered on the basis of this optimal schedule, while the last 1-2 of the exercises introduce changes in the initial situation and thus also require changes in the plan.

There are always guidelines that define the limits of the optimal plan: These are usually points in time between which the entire schedule can then be "stretched". It may well happen that you recognise aspects when answering the first or second question that you then have to add to or change in your schedule.

Logical combination, trial and error, estimation and sometimes exact calculation are required. And please do all this at a fast pace, because in the exam you will be given 3 or 4 situations with a total of 15-20 exercises that have to be answered in the limited time provided by the test provider. This means that you have about 15 minutes per exercise, of which you should spend about half (6-8 minutes) on understanding the text and creating the flowchart, leaving you only 1 to 2 minutes per question. Of course, it is clear that the schedule must be correct, otherwise you will not be able to answer the questions correctly. So develop it carefully and check its plausibility with the first exercises! If the plan is correct, you can usually answer the questions quickly. Develop the schedule from the text. Mark important instructions with bright highlighters and coloured pens, because the most important thing is a good overview!

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Number the requirements according to the required order or develop a table in which you arrange the elements that you have to integrate into the schedule according to the requirements.

Test traps are usually additional restrictions that you should mark with a separate colour so that you do not forget them. You will often find them at the end of the text, but they must be included in the schedule. Therefore, it is very useful to read the whole text and mark important guidelines and restrictions before you create the flowchart. The exercises usually use 4 standardised answers with the repetitive options familiar from many multiple choice questions:

- A) Only statement I is true - or
- B) Only statement II is true - or
- C) Both statements are true - or
- D) Neither of the two statements is true.

2. Learning and practice exercises

2.1 Assignments

Exercise „Graduation party“:

The timing of the catering at a graduation party is complicated because the suppliers involved can only set up their stands at certain times and the team of helpers, which consists of your classmates, naturally wants to set up everything in as short a time as possible. You are responsible for making sure that everything is set up on time, but that no one has to wait for anyone else and that there are no forced breaks.

There is a data table, but you have to plan the best course of action on the basis of a timeline and then answer the questions given.

Exercise "Dog school":

You own a dog school and have many clients and 5 trainers, but they only have time to supervise the courses on more or less certain days of the week. In addition, some trainers have specialties like protection dogs or agility dogs and it is cheaper anyway if 2 trainers supervise a course together. So it is up to you how many courses you can run per week.

All specifications are explained in the text. You have to create a table yourself to get an overview of the weekly course offer and thus answer the questions asked.

Exercise "Evening delivery":

Your job is to deliver repaired PC printers to your customers and reconnect them there, but only for private customers between 6pm and 10pm. Tonight you have 5 customers who have told you in advance when they will be home within these 4 hours. You now have to plan how best to arrange your tour so that you can not only deliver and connect all the printers, but perhaps also finish work a little earlier yourself.

You will be given these guidelines by means of a text and a special matrix. You have to develop your own "route plan" in order to be able to answer the questions with it.

Exercise "Pill project":

You run a drugstore products company and want to introduce a new product. This has to be done as quickly as possible, because you only earn money when the product is on the shelves. But before that, there is still a lot to do, you have to delegate various individual projects within your company and use your resources optimally. Of course, the day-to-day business has to continue.

The exercise definition contains your agenda, but you have to design the schedule. Problematic: Some individual projects can only start when the results of other projects are available.

Exercise "Flat renovation":

An exercise from the private sector: you have finally found your dream flat and you want to move in within the next month. But before that, there is a lot to renovate, you have to plan, distribute and control craftsmen's tasks. And the craftsmen have restrictions of their own and should not hinder each other. Actually, this is an exercise for architects, but here you are in demand.

You get a list of who could do what in which period of time. You have to plan for a whole month in advance. You have to start immediately after handing over the keys, otherwise you won't make it in a month!

Exercise "Incentive car race":

You are the sales manager of a nationally active used car dealer and want to organise an incentive for your employees. It makes sense to organise a weekend as a car race with training, coaching, racing and a victory celebration. This is a costly event, because renting the cars, the race track and the accommodation for all participants is expensive. Therefore, you want to save money at least on the coaches to stay within your budget.

You are lucky: The possible trainers charge very different fees. But they do not have unlimited time. So again, your planning skills are required.

How do you approach such exercises? All theory is grey, which is why we show you here the solutions to these 6 different types of exercises as examples.

2.2 Exercises

2.2.1 The graduation party

A graduating class organises their graduation party under the motto "Non scholae sed magistris". But the budget is tight and the helpers want to sacrifice as little time as possible. Therefore, they have agreed to take care of the organisation of the set-up of food and drink stands as well as the music system.

Two beverage publishers and a mobile kebab stand have made favourable offers and are also bringing stalls: "Cheers" beer trade, "Rumba" cocktail mixer and "Nice kebab". However, they all set conditions for the delivery time. They have ten helpers at their disposal for transporting and setting up the stalls.

The following should be taken into account when setting up the stalls:

1. The fete starts at 7 pm. The set-up must be completely finished by 6.30 pm.
2. The ten helpers have time from 3 pm. They get 6 drink vouchers per hour and after every single set-up they are entitled to a 5 min (paid) break (unless it is the last set-up for the complete event).
3. Beer trade "Cheers" can only be on site from 6 pm on the day of the party and the cocktail mixer from 5pm. The supplier "Nice kebab" can leave at 3 p.m. at the earliest, but must be back in his restaurant at 5 pm at the latest.
4. The helpers have to set up benches (35 minutes) and the music system (45 minutes) in between. However, the benches will not be delivered until 5.15 pm.
5. Each of the five tasks (3 stands, the benches and the music system) must be done in one go.
6. You must make the set-up as cost-effective as possible. It is therefore best to plan the entire set-up process in the shortest possible time and without unnecessary breaks, while adhering to all the specifications.
7. In the following table you can see, for one thing, how long it takes the respective supplier to get to your venue and back again. This is also important because, to be on the safe side, you need to call and confirm the order 15 minutes before you arrive. Secondly, you can see the set-up time in the table, which indicates how long it takes the helpers to set up the respective sales stand.

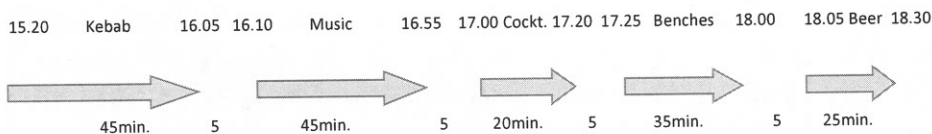
	Beer Cheers	Cocktails Rumba	Nice kebab
Duration of the journey	20 min	20 min	15 min
Set-up time	25 min	20 min	45 min

Your task is to use a timeline to sketch out the optimal sequence of events on the basis of which you can answer the questions. There are 3 phases: First you have to consider the 3 time slots of the suppliers (point 3 and table), as well as reconcile them with the 2 times for music and benches (point 4). The whole timeline is defined by point 1 and 2.

Phase 2: Points 2 and 5 concern generally applicable guidelines. Point 6 defines a further guideline, namely to keep the total time of the helpers as short as possible because they are paid with drink vouchers. Since the helpers are, of course, also taking part in the celebration and therefore want to finish as late as possible in order to keep the waiting time short, the most sensible thing to do is to deploy them as late as possible, i.e. to have the timeline start as late as possible. This in turn means that you define the latest end (18.30) as a fixed point from which you develop the entire timeline.

Phase 3 involves the typical "test trap" that you first recognise in point 7 and the table, namely the arrival times and the confirmation call that must be made 15 min. before the start of the journey.

This is the optimal procedure to keep the helpers busy for as short a time as possible. All time constraints are taken into account. The helpers only start at 15.20, only have the necessary breaks of 5 minutes and are finished at 18.30 exactly on time.



Now the questions: (You won't find the solutions until page 30, so you can try to solve the exercises first and then check yourself!)

Exercise 1

Which of the following statements about the beginning and end of the reconstruction measures is or are true?

- I. The helpers can start the third of the five set-up activities before 4.30 pm.
 - II. In any case, the complete set-up is not finished until more than three hours after it has started.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 2

Which of the following statements about the schedule is/are true?

- I. It is most efficient if the helpers start setting up at 3.00 pm.
 - II. It is possible to plan the schedule in such a way that the helpers only have to take the scheduled 5-minute breaks.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 3

Which of the following statements about the order of construction is/are true?

- I. The set-up of the kebab stall can be placed before that of the other stalls in the sequence - if the time constraints are respected.
 - II. The sequence is most effective only if the kebab stand and the cocktail stand are set up before all the other set-up measures.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 4

Which of the following statements about the calls you have to make is or are true?

- I. You must call the beer trader Cheers by 5.30 pm if everything is to be ready by 6.30 pm.
- II. In order to keep to the most effective set-up plan, you must call "Nice kebab" by 3.00 p.m. at the latest.

- (A) Only statement I is true.
- (B) Only statement II is true.
- (C) Both statements are true.
- (D) None of the statements is true.

Exercise 5

Which of the following statements about payment of helpers is/are true?

- I. If the most efficient schedule is followed, 19 drink vouchers will be issued per helper.
- II. If the helpers gave up their breaks, a total of 18 vouchers could be saved.

- (A) Only statement I is true.
- (B) Only statement II is true.
- (C) Both statements are true.
- (D) None of the statements is true.

Exercise 6

Suppose - for this exercise only - that you have an additional team of ten helpers working in parallel with the first team. Which of the following statements is or are then true?

- I. If you want to avoid unnecessary breaks in the workflow when using two teams, the first team must start work at 4 pm and the second team exactly 1.5 hours later.
- II. There is no change in the time required when using two teams of helpers compared to only one team.

- (A) Only statement I is true.
- (B) Only statement II is true.
- (C) Both statements are true.
- (D) None of the statements is true.

Exercise 7

Suppose - for this exercise only - you have an additional team of ten helpers available to work in parallel with your first team. Which of the following statements is or are then true?

- I. Compared to your previous most efficient schedule with one team of helpers, you can save more than a quarter of the time needed for the complete set-up with the help of the second team.
 - II. If both teams are not to have any unnecessary breaks in the workflow, they work in parallel for a maximum of 30 minutes.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

2.2.2 The dog school

The dog school "Wuff und Schnupper" offers classes every day of the week, as five trainers can share the work. Now the school has rented a new grass field which is available all the time. However, the coaches can only work at different times.

- Mr Knurr (K_P):
Thursday afternoon, Saturday afternoon and Sunday morning.
- Mrs Winsel-Knurr (WK_A):
Monday morning and afternoon or Friday afternoon and Saturday morning.
- Mr Bello (MB):
Monday morning and Tuesday, Thursday, Saturday and Sunday afternoons respectively
- Mr Fass (F_{AP}):
Tuesday and Wednesday afternoons or Saturday morning and afternoon
- Ms Streichel (S):
4 fixed afternoons per week. She doesn't care which ones, but then she can't change them.

All trainers enjoy working with the dogs and want to supervise as many courses as they can. All courses should be supervised with as many trainers as possible. Mr Knurr can also train protection dogs, Mrs Winsel-Knurr is particularly familiar with the needs of agility dogs. Mr Fass is an all-rounder, he can look after both protection dogs and agility dogs in his courses.

So much for the specifications. Your exercise now is to draw up a weekly schedule. Abbreviations have already been suggested for the names of the trainers. That's good, abbreviations are useful for working through each exercise!

First, enter the trainers whose times are fixed: Mr Knurr and Mr Bello. In the case of Mr Knurr, immediately add a small "P" for protection dogs so that you don't forget this "test trap" later.

Then enter the trainers who have defined alternatives for your use: Mrs Winsel-Knurr and Mr Fass. Put the alternatives in brackets. The small letters "A" stand for "Agility Dogs" for Mrs Winsel-Knurr and "AP" for both specialities for Mr Fass.

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Finally, enter Ms Streichel, whose appointments are defined by the plan as it stands up to this point. After all, with this you can offer a course with 2 trainers 7 times a week. This is how this optimal weekly schedule looks, from which you can answer the questions:

	Mo	Tue	Wed	Thu	Fri	Sat	Sun
Morning	WK _A MB					(WK _A) K _P (F _{AP})	
Afternoon	WK _A S	MB F _{AP}	F _{AP} S	K _P MB	(WK _A) S	K _P MB (F _{AP})	MB S () = alternative use

Exercise 8

Which of the following statements is/are true?

- I. Each of the 5 dog trainers can supervise a course at least once on the weekend.
 - II. 3 trainers can run a course on more than 3 days.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 9

Which of the following statements is/are true?

- I. On Monday and Friday afternoons the courses can be run with the same two trainers.
 - II. On Saturday afternoons Mr Knurr takes care of the protection dogs alone.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

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Exercise 10

Which of the following statements is/are true?

- I. If Mrs Winsel-Knurr is not available on Monday, a trainer can take care of protection dogs or agility dogs from Tuesday to Friday.
 - II. At least one course for protection dogs or agility dogs can be offered every day of the week.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 11

Which of the following statements is/are true?

- I. On 2 dates per week a course can be supervised by 2 trainers who both have special knowledge about agility dogs.
 - II. On 2 dates per week a course can be supervised by 2 trainers who both have special knowledge about protection dogs.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 12

Which of the following statements is/are true?

- I. If an additional group of 5 owners and their dogs sign up 14 days before the date for a one-time class on Saturday afternoon, can an additional trainer be assigned?
 - II. If an additional group of 5 owners and their dogs register for a one-time class on Sunday morning 14 days prior to the class, can an additional trainer be assigned?
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 13

Suppose Mr Bello has to go to Paris urgently and is absent for a week. Which of the following statements is or are true for that week?

- I. No course has to be cancelled completely.
 - II. If no course is to be cancelled, Mr Knurr must run all his courses alone.
-
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

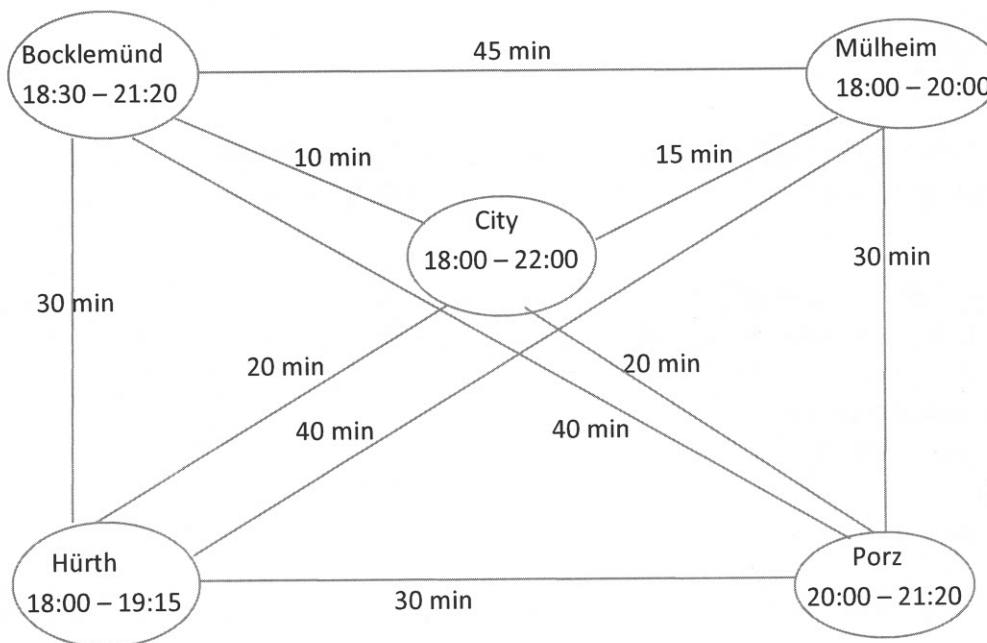
Exercise 14

Let's assume that Mr Wuff, one of the founders of the dog school, would also like to do a stint as a trainer on Sundays. Mr Bello is back from Paris. Which of the following statements is or are true for this week?

- I. If Mr Wuff joins in the mornings, there will be 3 trainers working.
 - II. If Mr Wuff joins in the afternoon, there will be 2 trainers available.
-
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

2.2.3 The evening delivery

A company that repairs PC printers within 24 hours has a special evening delivery between 6 pm and 10 pm for residential customers. Since each printer is also reconnected to the PC and a test run is carried out, 20 minutes must be scheduled for each delivery point. Each customer sets a time for the evening delivery when they are ready to receive the printer again. You are the driver and have just received the addresses and specified reception times of the customers for this evening. You know your way around the city well and can therefore estimate the driving times yourself very well. Now you have to work out a schedule in which you can properly handle all 5 deliveries between 6 and 10 pm. But you will only be satisfied if you don't have to take any compulsory breaks!



To solve the tasks, you have to work out a personal route plan that takes all the specifications into account.

The optimal route starts with the customer who is out of reception the earliest, i.e. in the Hürth district. If you were to start in Mülheim, you could only be in Hürth after 20 minutes + 40 minutes of walking, i.e. at 19:00, and would only have 15 minutes instead of 20 minutes there.

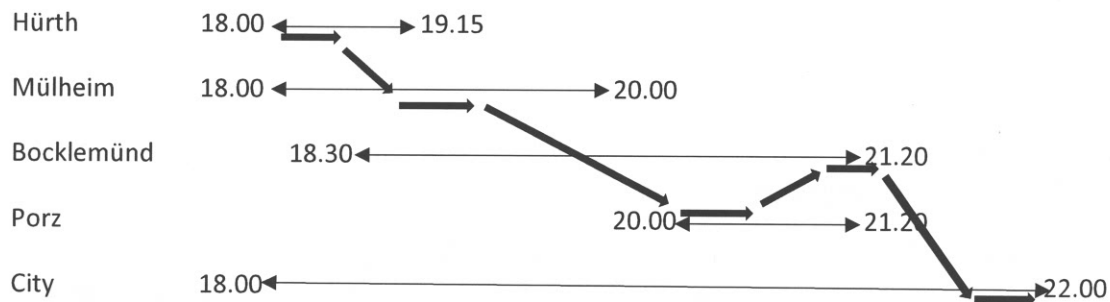
If you start at 18:00 in Hürth, you will be finished there at 18:20 and drive to the customer who is not ready to receive next, in the district of Mülheim. You need 40 minutes to get there, so you are there at 19:00 and work until 19:20.

If you were to go to Bocklemünd now, you would be there at 20:05 and could continue to Porz at 20:25. But you wouldn't arrive there until 21:05 and couldn't finish until 21:20.

So instead you drive from Mülheim to Porz at 19:20, arrive there at 19:50 and have to wait 10 minutes for your customer, which you don't want. The solution: You don't start at 18:00, but at 18:10 in Hürth. Then you are exactly at 20:00 at your customer in Porz, do not have to wait for him and have thus saved 10 minutes for your route.

You finish in Porz at 20:20, drive to Bocklemünd by 21:00 and complete your task here by 21:20. Then another 10 minutes' drive to the city centre and you have properly completed all your tasks by 21:50. Your working time lasted from 18:10 to 21:50, i.e. 3 h 40 min. Your pure driving time was $40 + 30 + 40 + 10 = 120$ minutes, not counting the journey to and from the first and last customer.

This planning is also clearly shown in this graph, which you should also record in the test:



Here are all 5 time slots as well as the duration for the routes. So you are well prepared for the questions.

Exercise 15

Which of the following statements is/are true?

- I. If it were simply a matter of supplying only 4 of the 5 customers without all the restrictions listed, there would already be over 20 possibilities.
 - II. If all restrictions are taken into account, in the best case you would only need 2 hours of pure driving time, not counting the driving time to the first customer and away from the last customer.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 16

Which of the following statements is/are true?

- I. In order to be able to take all restrictions into account, you start in Mülheim.
 - II. You will achieve the shortest time schedule if you are not at the first customer immediately at 18:00.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 17

Which of the following statements is/are true?

- I. If there is a surprise delay of 10 minutes at the very first customer appointment, i.e. the appointment is not finished after 20 minutes but after 30 minutes, you will not be able to keep to your schedule, but you will still be able to process all the orders that evening in the time periods specified by the customers.
 - II. If everything runs optimally, you will even be finished with your last customer at 21:50.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 18

10 minutes before you are about to leave to make your fastest possible plan, the radio reports a traffic jam between Mülheim and Porz, causing a delay of 10 minutes. Which of the following statements is or are true?

- I. You leave immediately and justifiably hope that you will still be able to deliver to all your customers properly.
 - II. You use the next 5 minutes for an alternative schedule, then drive off and still manage to deliver to all customers properly.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

2.2.4 The pill project

The drugstore company Pillenpall is planning to introduce a new product. Now it is necessary to plan various individual projects in preparation. Some of these must be done in sequence, but others can be done in parallel. The plan you have to draw up is about getting the new product onto the market as quickly as possible and making the best possible use of the available resources to do so.

Individual project	Time required	Results must be available from . . .
➤ Test series	8 months	no others
➤ Evaluation of results	2,8 months	Test series
➤ Evaluation of side effects	3,2 months	Test series
➤ Competitor monitoring	1,6 months	Test series
➤ Communication concept	1,6 months	Test series
➤ Scientific publication	5,2 months	Evaluation of results
➤ Error analysis	1,8 months	Evaluation of side effects
➤ Advertising measures	2 months	Communication concept
➤ Pricing	1 months	Competitor observation, advertising
➤ Sales training	4 months	Error analysis, scientific publication, advertising

A total of 3 individual projects can be worked on side by side. The company can afford compulsory breaks (as all employees involved also have other areas of responsibility) as long as there is no overall time delay for the new product launch.

Exercise 19

Which of the following statements is/are true?

- I. You can clearly say which project must be completed first and which last.
 - II. 3 of the 10 individual projects must not overlap with another in the processing.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 20

Which of the following statements is/are true?

- I. The 3 individual projects Evaluation of Results, Evaluation of Side Effects, and Communication Concept can be worked on simultaneously without delaying the product launch as a whole.
 - II. The 3 individual projects Monitoring the Competition, Scientific Publication and Advertising Measures can be partially processed at the same time without the new product launch being delayed overall.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 21

Which of the following statements is/are true?

- I. The target time to product launch is equal to the sum of the durations of 4 individual projects.
 - II. 2 individual projects need more time within your schedule than all the others together.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 22

Which of the following statements is/are true?

- I. If the time taken to observe the competition triples, the product launch will inevitably be delayed.
 - II. If the evaluation of the results takes longer, the product launch will also be delayed in any case.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 23

If, during the implementation of the test series, it turned out that another individual project (official approval procedure) would be necessary, which would take 3 months and could only be started after the evaluation of the results, which of the following statements is or are true?

- I. The product launch will necessarily be delayed as a result of this.
 - II. Between the completion of the test series and the start of the sales training, all 3 teams must work in parallel, with only one team still having a break of less than one month.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 24

If, to make matters worse, one of the 3 project teams had to take a compulsory break of one month after 12 months - in relation to the start of the project - which of the following statements is or are true?

- I. The product launch will now be delayed after all.
 - II. For one of the teams there is still an additional break of more than 0.5 months.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

2.2.5 Flat renovation

You have found a cheap old flat in your dream district and want to move in within a month. The problem is that the flat is in a very poor state of repair. So you have a lot of appointments with craftsmen coming up that you need to coordinate. Here are the boundary conditions:

- You will receive the keys on Monday the 1st.
- Monday to Thursday the working day is 8 hours, Friday 5 hours.
- You have given notice to move out of your old flat on the 30th. As you need a weekend for the move and have to paint for 2 more days, the new flat must be ready for occupation by Friday the 26th at the latest.

You need the following craftsmen's services:

- Window removal and installation, 9 windows in total, 4 working hours each. (2 men)
- Electrician work: 6 rooms, 4 working hours each. (1st day 2 men, afterwards only 1 man)
- Plastering work: 4 rooms, 8 working hours each and 2 rooms, 5 working hours each. (2 men)
- Painting: 3 rooms, 13 working hours each, 3 rooms, 7 working hours each (2 men).
- Tiler: bathroom 24 working hours, toilet 9 working hours, kitchen 9 working hours, (1 man)
- Parquet layer: 2 rooms, 13 working hrs. (2 men)

The doors are removed by a carpenter's workshop, overhauled in the workshop for 13 working days and later reinstalled on call. The latter takes 2 hrs. and may only be done after the painting work has been completed. After that, the flat is ready for occupancy.

The window fitters and electricians must be finished before the plasterers start. Only then can the painters get started, for which they need a total of 54 working hours. Next, the tilers and parquet layers can work in parallel. After that, the painters have to go back into the flat for 6 working hours for finishing work.

You have to show each craftsman his project. Only on the 4th day after that, at the earliest, do the craftsmen start with the respective work. However, you only manage to give out one order per working day, as you have to do this in addition to your office work.

Exercise 25

Which of the following statements is/are true?

- I. You can only assign the last workmen in the second week.
 - II. On 10 working days only one professional group works in your flat.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 26

Which of the following statements is/are true?

- I. There is no delay in the process if you hire the electrician before the window installer.
 - II. There is no delay in the process if you hire the parquet layer one day later than planned.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 27

Which of the following statements is/are true?

- I. Overall, you can afford a delay of only 4 hrs.
 - II. If you hire the carpenter 1 day later, the plasterer could start 1 day earlier.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 28

Which of the following statements is/are true?

- I. According to the plan, you yourself do not need to do anything from the 10th onwards other than check the progress of the work, provided that everything runs smoothly as planned.
 - II. If the window manufacturer offered to work on Saturday, the renovation would be completed one day earlier.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 29

Which of the following statements is/are true?

- I. If you could hire all the workmen on Mon, the 1st, the renovation could be completed 3 days earlier.
 - II. If the tiler offered to work on Saturday, the renovation would be finished one day earlier.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

2.2.6 Incentive car racing

The used car dealer Rusty Cars has had a high-turnover year. You are the sales manager and want to organise a rewarding and motivational incentive for your department. It includes a theory morning on Saturday, video-based training on Saturday afternoon, another theory morning on Sunday and then a course race with an award ceremony on Sunday afternoon. For this you need 3 trainers on each of the two days. Of course, all participating trainers must be present at the award ceremony. You also need to decide which theme should be the focus: Performance, Security or Fun, as you need different vehicles for each theme. Unfortunately, you have to keep an eye on your budget and plan as cheaply as possible.

On these terms, you have a total of 10 trainers at your disposal:

➤ Toni Ausbremser	performance, fun	available Sat + Sun	1000 Euro per day
➤ Brett Brenner	performance, security	available Sat or Sun	200 Euro per day
➤ Carlo Carburetto	performance, fun	available Sat + Sun	750 Euro per day
➤ Didier Drifter	security, fun	available only Sun	500 Euro per day
➤ Ettore Frugatti	performance, security	available Sat or Sun	1000 Euro per day
➤ Günter Hetzer	security, fun	available only Sun	500 Euro per day
➤ Waltraut Röhrle	performance, fun	available Sat + Sun	750 Euro per day
➤ Haschke von Hunstein	performance, fun	available only Sat	100 Euro per day
➤ Igor Overtaker	all themes	available Sat + Sun	1500 Euro per day
➤ Kenzo Kabrio	security, fun	available Sat + Sun	500 Euro per day

Exercise 30

Which of the following statements is/are true?

- I. No trainer is available without restrictions this weekend.
 - II. The same number of trainers are available for each topic.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 31

Which of the following statements is/are true?

- I. You cannot offer the topic of security at your Incentive Weekend.
 - II. You cannot book Haschke von Hunstein as a trainer at all.
-
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 32

Which of the following statements is or are true?

- I. Unfortunately, you cannot avoid hiring even the most expensive coach.
 - II. The cheapest option is to hire the same 3 coaches for Saturday and Sunday.
-
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 33

Which of the following statements is/are true?

- I. Whether you choose the theme Performance or Fun, you book Carlo Carbutetto.
 - II. No matter whether you choose the theme Performance or Fun, you engage Waltraut Röhrle.
-
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 34

Which of the following statements is/are true?

- I. The question of which topic you can implement most favourably depends on the difference in the fees of two trainers.
 - II. The difference in the trainers' fees on the basis of which you choose the theme is 500 euros for the incentive.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 35

Which of the following statements is or are true if you decide not to necessarily hold the award ceremony in the presence of all coaches who participated?

- I. You can save more than 1000 euros in coaching fees.
 - II. You could now also choose the security theme, but it would be the most expensive option for you in terms of trainer fees.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.

Exercise 36

Which of the following statements is or are true if you were independent of the use of the vehicle types and thus not tied to a theme for the incentive? (However, it would again be true that the award ceremony must be held in the presence of all coaches who participated).

- I. This variability would have no influence on the cost savings.
 - II. This constellation would have the effect of reducing the quota of women among the booked coaches.
- (A) Only statement I is true.
 - (B) Only statement II is true.
 - (C) Both statements are true.
 - (D) None of the statements is true.