



Preparation Book for the

# TestAS

*Economics Module*

SECOND EDITION

2017

- ✓ Improve your performance with more than 125 practice questions
- ✓ Master the test with feedback from experts and successful test takers
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BAUSCHMID

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## FOREWORD

I am as passionate about education as I am about learning. Holding BA/BS degrees from the Wharton School in the United States and an MBA from Insead in France and Singapore, I have found that, over the course of my career, my education has opened many doors for me. I wrote the test preparation books to support students with similar passions.

Over the years, with our company [edulink](#), I have been privileged to help young men and women navigate what can be a complicated university application process to help them realize their educational dreams. I find it very rewarding to help students secure placement at German universities that will meet their long-term goals.

Due to the highly competitive nature of admission to these schools, applicants must always be looking for ways to differentiate their application. One of the most effective ways that they can do this is by performing well on the TestAS exam, an aptitude test for applicants from non-European countries who intend to pursue their studies at a German university. More than ever before, German universities are using the results of this exam to determine a student's qualification for university-level courses.

We created this preparation book based on our own first-hand experience taking the exam and detailed interviews with dozens of students who have taken the exam in Indonesia, Vietnam, China, Turkey, Russia, and Ukraine. This ebook gives a comprehensive overview of each of the tested topics, complete with test-taking tips and many practice questions, each designed to help you take the TestAS with confidence.

I wish you the best of success on the exam and in your applications.

Ozveri Bauschmid

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## 2 ANALYSING ECONOMIC INTERRELATIONSHIPS

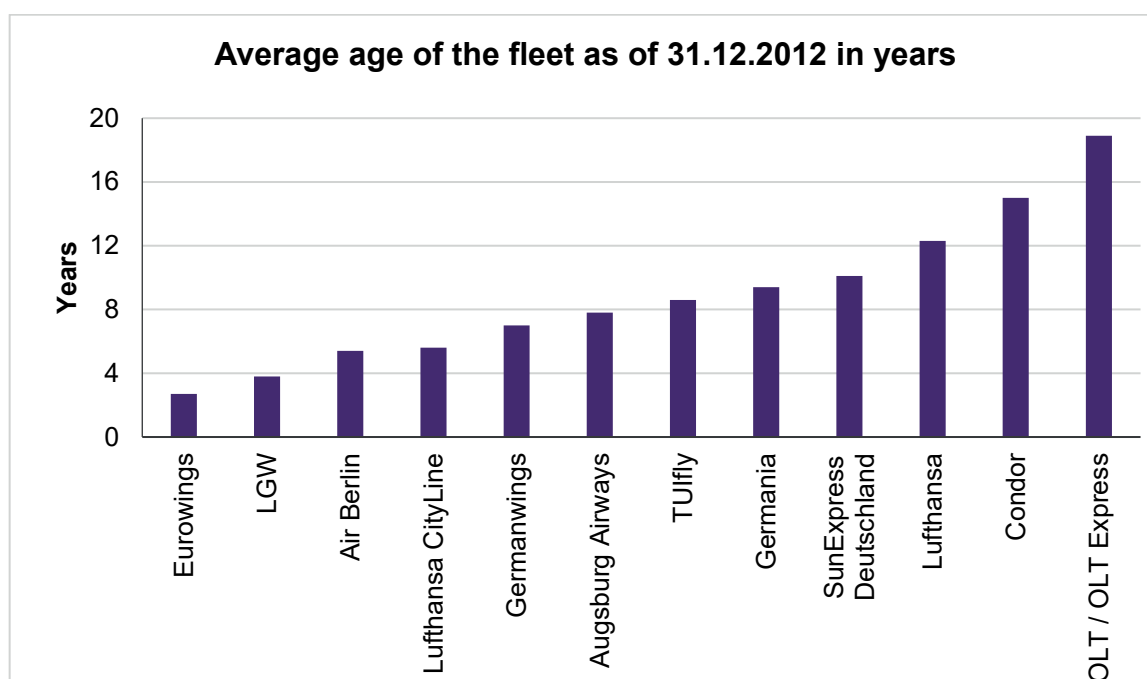
### 2.1 INTRODUCTION

The "Analysing Economic Interrelationships" subtest found in the Economics module tests your ability to differentiate between important and unimportant information. You must analyse various economic tables, graphs and diagrams. You must be able to draw conclusions based on the information provided.

Each question contains a graph or a table followed by two statements concerning the illustration. Let us now take a look at what such a practice question from the "Analysing Economic Interrelationships" section could look like.

#### EXAMPLE 1

This bar chart shows the average age of aeroplanes from select German airlines (status: 31.12.2012).



Source: Deutsches Zentrum für Luft-und Raumfahrt e.V., Durchschnittsalter der Flugzeugflotten ausgewählter deutscher Luftverkehrsunternehmen zum 31.12.2012, <http://www.dlr.de/fw/Portaldata/42/Resources/dokumente/pdf/LVB2012.pdf>, last called up on 25.01.2016, Luftverkehrsbericht 2012, Ascend 2013: Flugzeugdatenbanken (October 2013).

Which of the following statements is or are correct?

## 2.2 TIPS FOR SUCCESS

There are several tips which you should take into consideration when preparing yourself for the test day.

1.

- **Read the corresponding statements carefully before you start to analyse the illustration in detail.** Many diagrams are complex, but the question may be referring to just one part of the diagram. Take the time to read the corresponding statements carefully before analysing the illustration.

2.

- **Become well familiarised with important terminology and concepts (e.g. quarterly invoices).** Within this guide, you will find complex terms and topics with which students have their difficulties.

3.

- **Trust the numbers and not the visual illustration.** Always take a close look at the values found within the illustration. Some illustrations are intentionally confusing. A bar chart can optically communicate that a number is doubled, whereas in reality the increase is minor. Only when we read the values closely do we see how drastic the change really is.

4.

- **"Don't know" means "statement incorrect".** In some questions you will not have enough data to determine whether a statement is correct or not. In such cases, the statement is considered wrong.

5.

- **Become familiar with various types of diagrams, tables and graphs.** Once you know how to read various graphs, you can confidently focus on the calculations found within the exam.

6.

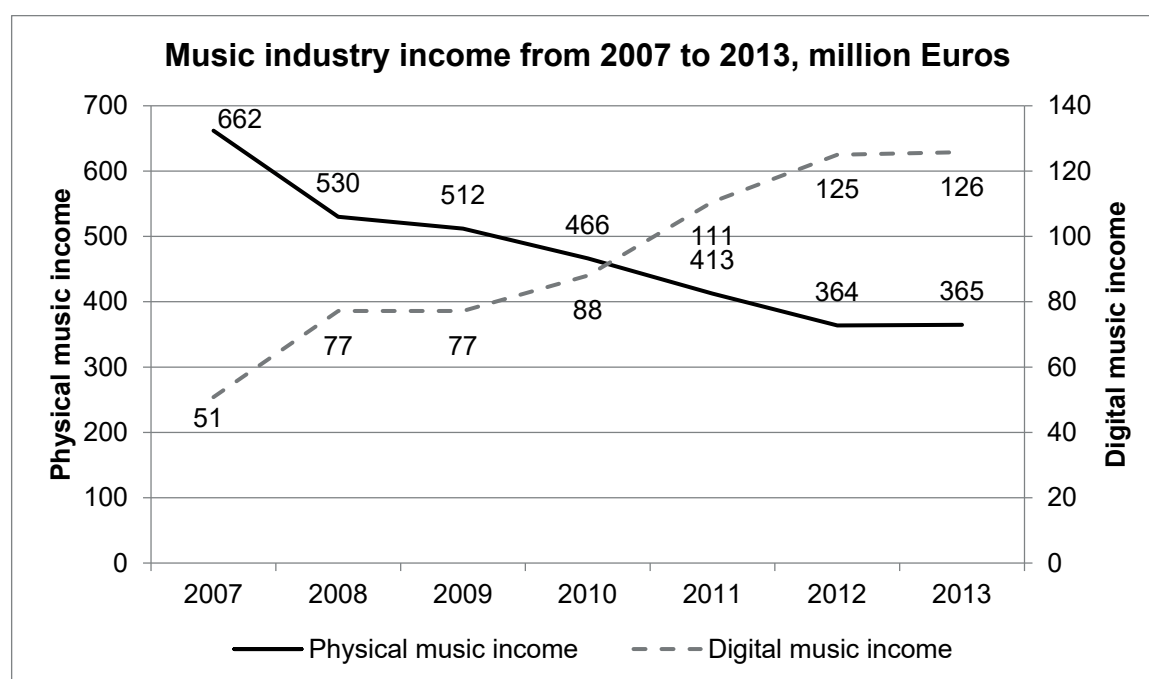
- **Always check the units which you are dealing with and pay attention to the correct unit when answering!** For example: cm, m, cent and per cent.

## 2.3 WHAT MAKES UP A DIAGRAM?

Using the following example, we will show you how a diagram is structured and what components make up the illustration as a whole. In the diagram below, you will see, at first glance, many numbers and lines which might seem confusing. But, within this chapter, we will explain to you how to quickly recognise and decode the components of each diagram. Once you get the hang of reading such diagrams, you will have more confidence to answer the corresponding questions in the exam.

### EXAMPLE 2

The line chart shows the income of the music industry within the country of XYZ over the last seven years. The income display is in millions of Euros.

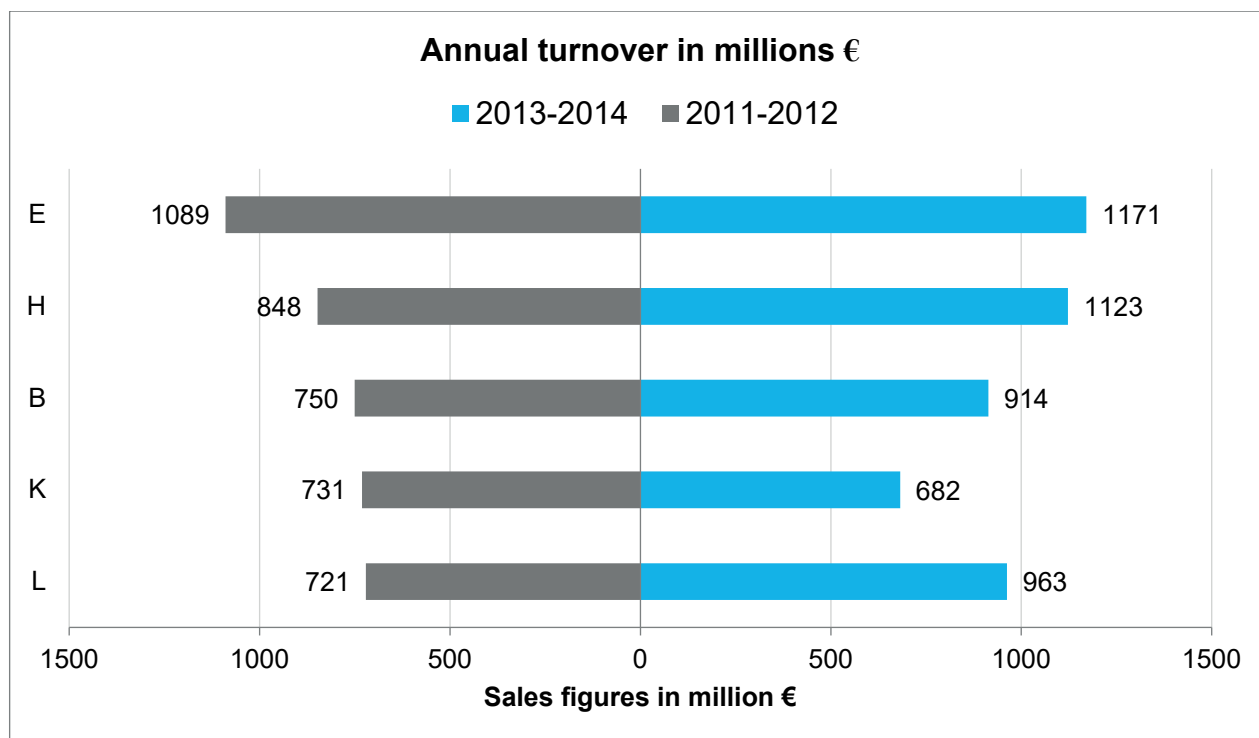


Source: The Statistics Portal.

Which of the following statements is or are correct?

- I. The percentage change of the physical music income was larger in 2008 and smaller in 2013 (both in comparison to the previous years).
- II. The physical music income change was purely negative from 2007 to 2013.
  - (A) Only statement I is correct.
  - (B) Only statement II is correct.





Which of the following statements is or are correct?

- I. L and H are the two companies with the largest differences between the annual turnovers of both time periods.
- II. The combined annual turnover of the five companies changed more than 5% between the two time periods (2011-2012 and 2013-2014).
- (A) Only statement I is correct.
- (B) Only statement II is correct.
- (C) Both statements are correct.
- (D) Neither of the two statements is correct.

### Answer C

**Statement I:** The difference between the annual turnovers is the largest with L and H. The difference is 242 million € (25%) and 275 million € (24%), respectively. Statement I is correct.

**Statement II:** After we have taken a look at the differences between the annual turnovers of E and K, we now know that the difference is less than 10%. The calculation of the annual turnover for all five companies between the years 2011 and 2012 is  $721 + 1,089 + 731 + 750$

## Answer A

Statement I: We do not see the exact values, but an optical comparison shows us that the operating result in 2012 was higher than in 2013. This means that the operating result in 2013 was lower than in 2012. The operating result is calculated by subtracting the costs from the turnover. Since turnover increased, the operating result can only be smaller if the costs increased more than the turnover. Thus, statement I is correct.

Statement II: The number of retail shops is displayed on the second Y-axis. It starts with 2,000 and not with zero. The increase is from roughly 2,400 to 2,900. Statement II is, therefore, false.

Within the exam, questions may come up which seem complicated, are explained in lengthy paragraphs or for which you have no previous knowledge. Do not get discouraged. In the case of such questions, the information within the question is sufficient in order to answer the question.

## 2.5 IMPORTANT TERMS

Below, we just want to give you some examples of terms which are often found within the test.

### 2.5.1 QUARTER

A quarter describes the time period of three months and is often used within financial reports. A year is made up of four quarters: January, February and March (Q1); April, May and June (Q2); July, August and September (Q3); and October, November and December (Q4). The sales from Q2 2015 include, for example, all sales within the second quarter (the sum of all sales in April, May and June) of 2015.

### EXAMPLE 23

How high were the sales of publicly distributed electricity in the UK in the first quarter of 2014 (in terawatt hours (TWh))?

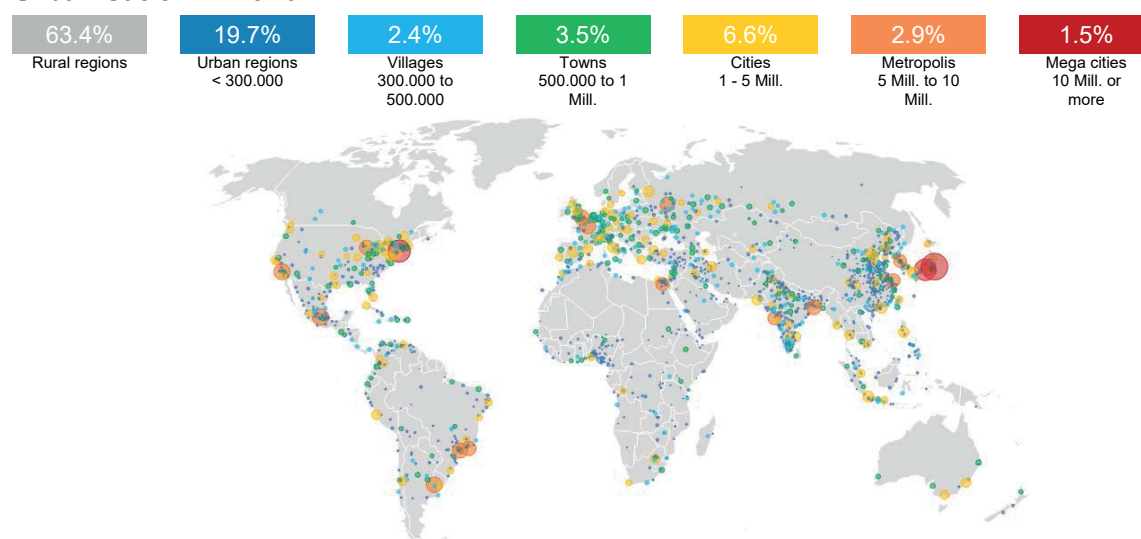
## 2.12.

The following bubble chart shows the distribution of the world population in cities since 1970 as well as a forecast for the future. We can see a continuous trend of urbanization. This means an expanding of urban living. According to the Economist, in 2030, approximately 9% of the world population will be living in 41 mega cities (cities with more than 10 million inhabitants).

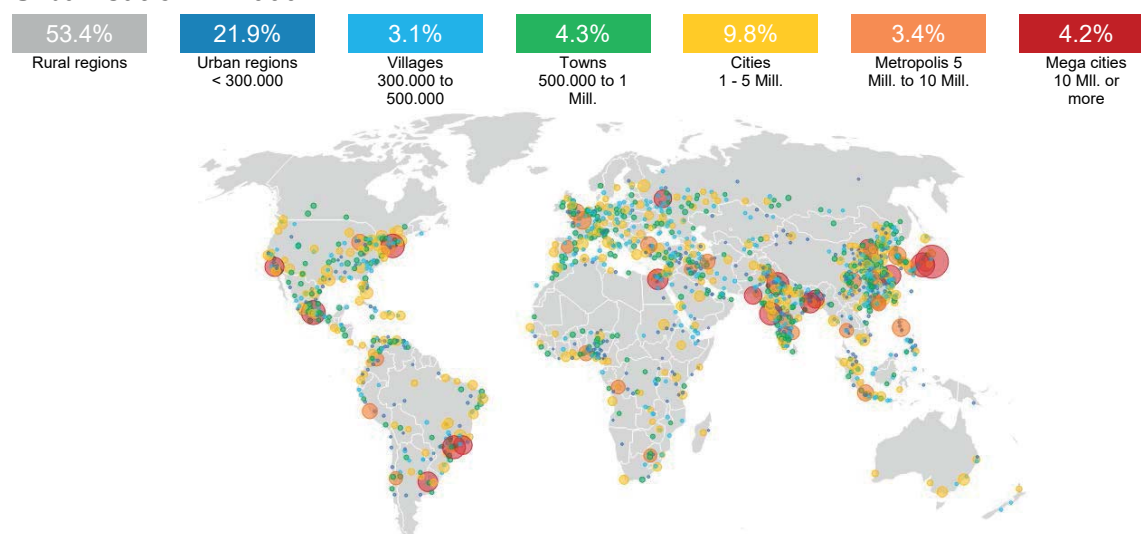
Comment: The data available is for countries that existed in 2014; illustration using modern borders.

Sources: UN as cited by The Economist, <http://www.economist.com/blogs/graphicdetail/2015/02/daily-chart-1>, last called up on 03.02.2016.

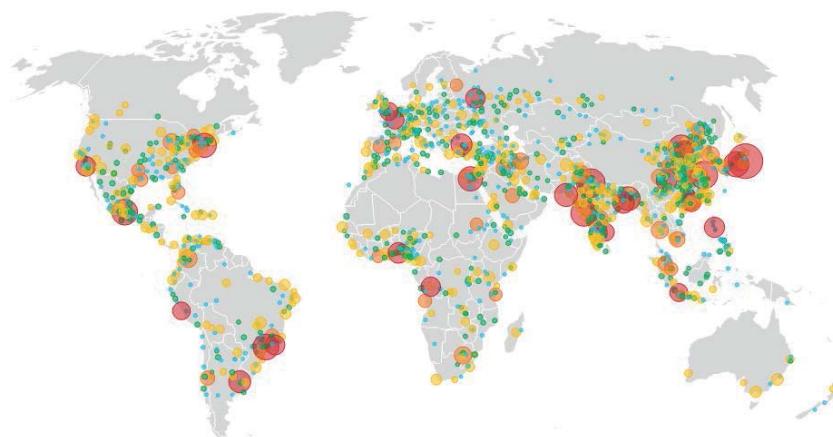
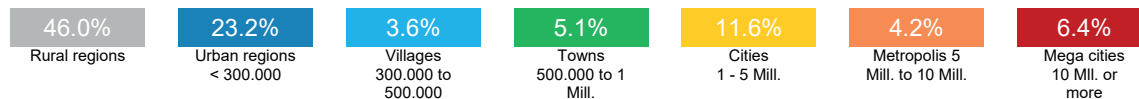
## Urbanisation in 1970



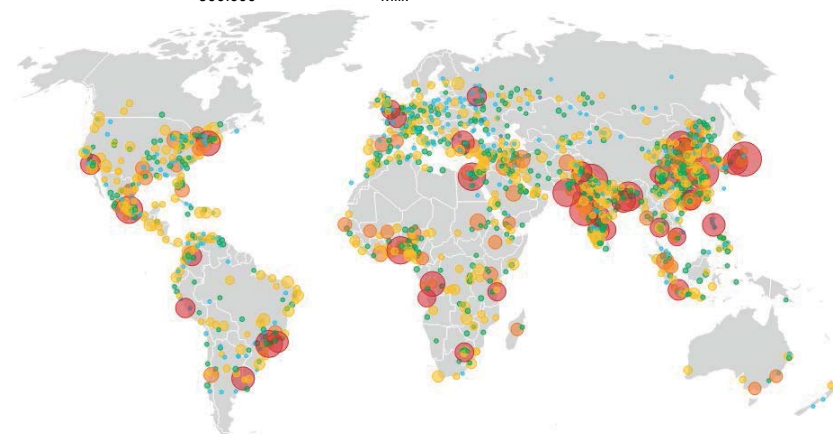
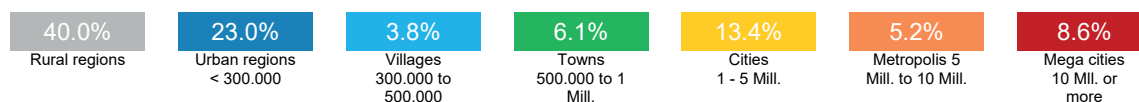
## Urbanisation in 2000



### Urbanisation in 2016



### Urbanisation in 2030



Which of the following statements is or are correct?

- I. In the future, urbanisations will take place the most in Africa and Asia.
  - II. The shares of the entire population in cities of 5 million have tripled between 1930 and 2030.
- (A) Only statement I is correct.
  - (B) Only statement II is correct.
  - (C) Both statements are correct.
  - (D) Neither of the two statements is correct.

**Answer C**

Statement I: In order to evaluate this statement, we have to compare the maps of 2016 and 2030. We see that numerous new orange and red bubbles have appeared in Africa. This means the establishing of cities, metropolises and even mega cities. Furthermore, we see that, in the case of Asia, the orange/red bubbles have gotten larger. This means that the current cities are getting even larger. Thus, statement I is true.

Statement II: In 1970,  $2.9\% + 1.5\% = 4.4\%$  of the population were in metropolises and mega cities. According to the forecast, in 2030 it will be  $5.2\% + 8.6\% = 13.8\%$ .

$4.4\% \times 3 = 13.2\%$ . Thus, statement II is correct.

Often it happens that only a portion of the information has to be evaluated in order to answer the question. For example, within this question, you only need to look at the diagrams for 2016 and 2030 and only the parts concerning metropolises and mega cities for 1970 and 2030. For this reason, always first read the question and then decide what you need to focus on.

## 3.4 TYPES OF QUESTIONS

### 3.4.1 TYPE 1 – JUST LIKE A PARAGRAPH

In this question type, the flowchart is the visual version of the given text. The decision and operation points in the flowchart need to be inspected to determine the relationship between them. There are mostly 3 decision points, meaning that the decisions are not very complex. But toward the end the questions may have in excess of 10 decision points and a total of 16 decision and operation points.

Almost always, the visual will have at least the same information and oftentimes more information than the long explanatory text. (So you may be able to skip reading the lengthy text, but you cannot skip the flowchart.) You may try the following strategy to answer the questions quickly:

- **Step 1:** Read the question statements.
- **Step 2:** Review the flowchart. You may be able to answer the question already!
- **Step 3:** If the question is not answerable based on the visual only, read the lengthy introductory text preceding the flowchart.

Try and see if this works for you. (This approach will not work with flowchart questions when there are missing/unspecified values.)

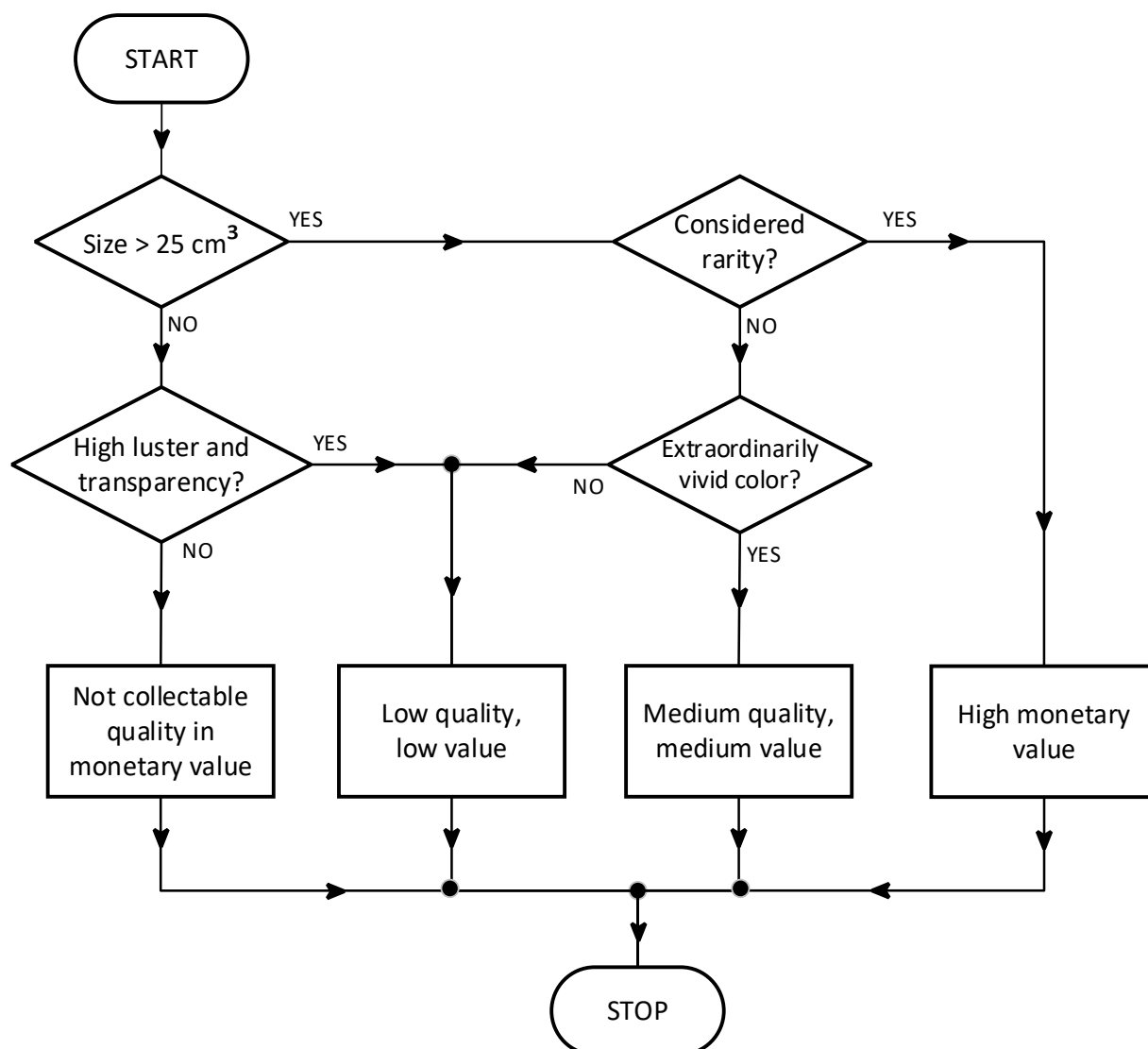
#### EXAMPLE 2

Mineral collecting is the hobby of systematically collecting, identifying and displaying mineral specimens. People pursue this hobby for different reasons. Some merely like the act of collecting and putting together a collection. Others collect minerals because of their beauty. And others love the thrill of hunting the perfect mineral and possibly making a good income. This last category of hobbyists have a clearly defined criteria to determine how valuable the collected minerals are.

- The size of the specimen
- Lustre (=shininess) and transparency of the stone
- Colour of the specimen

- o Rarity of the species

The following flowchart illustrates the process used by these collectors.



Which of the following statements is or are correct?

- If a mineral is considered a rarity, it will command a high market value.
- There is no monetary value for collecting a stone in the shape of a sphere with a diameter of 4 cm unless its lustre or colour are extraordinary. (Volume of a sphere:  $\frac{4}{3}\pi r^3$ )
  - Only statement I is correct.
  - Only statement II is correct.

- (C) Both statements are correct.
- (D) Neither of the two statements is correct.

### Answer D

*Statement I is not correct. If a stone is smaller than  $25 \text{ cm}^3$ , it cannot have a high value according to the flowchart.*

*Statement II is also not correct. A sphere with a diameter of 4 cm has a radius of 2 cm. Entering the radius in the given formula, we get a volume of  $33.5 \text{ cm}^3$ . This is above the given size cut-off of  $25 \text{ cm}^3$ . According to the flowchart any stone above this size has a monetary value if its colour, not its lustre, is extraordinary.*

As with this example, some question will require you do simple arithmetic. But there is no need to memorize anything in advance. All necessary information / formulae will be provided.

## 3.4.2 TYPE 2 – MISSING VALUES

In the second frequently encountered question type, some of the information in the flowchart will be missing. Oftentimes the question then is whether the missing information can be substituted with the given statements. The easy questions will have 1-2 decision and operation points missing, while toward the end you can have 6 decision and operation points missing.

Below we provide an easy example.

### EXAMPLE 3

When selecting students for a PhD program, universities in the US check a number of requirements, including your GPA from your latest studies (master's if you did master's, otherwise bachelor grades), the score from the GRE examination, whether the student has a