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Training guide for top scores

Preparation Book for the

TestAS

Mathematics, Computer Science and Natural Sciences Module

SIXTH EDITION

2017

- ☑ Improve your performance with more than 140 practice questions
- ☑ Master the test with feedback from experts and successful test takers
- ☑ Practice with dozens of tough questions

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, I have been privileged to help with our company edulink 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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Peter Bauschmid

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Edition 6 April 2017

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And additionally consider these **tips for the day of the exam**:

1.

- **Some seemingly highly technical questions are actually just math questions.** Some questions use a long text involving complex-sounding terminology, but answering it might only require that you simplify the given equation or interpret a graph. Look at the graph and use the available answer choices to guide you. Sometimes by plugging the answer choices into the graph you can derive the correct answer quickly.

2.

- **If you are stuck on a question, eliminate the obviously wrong answers using your common sense and guess.** There is no penalty for mistakes.

3.

- **Answer the easy questions rapidly and proceed!** The questions are given to you in increasing order of difficulty. Some students become suspicious when seeing the no-brainer questions at the beginning and re-solve these. You have roughly 3 minutes per question. This may sound like a lot, but most questions are lengthy. Moreover, 1-2 exercises toward the end of the exam will stretch your mind a lot. The necessary diagram will be either missing or too vague, resulting in you having to draw things on paper by yourself. Save time for these tough questions.

4.

- **If you have had limited exposure to one topic of natural science, consider answering such questions at the end!** A sensible test strategy could be to focus first on the familiar topics and to address the unknown topics later. Let's assume that you have a B2 level of English, and your high school science classes were not in English. Moreover, you never took physics and you do not have much time to study physics before the exam. In this case, you will likely need quite some time to read the lengthy questions and the visuals even on the topics familiar to you. You may consider doing the bio./chem. questions first.

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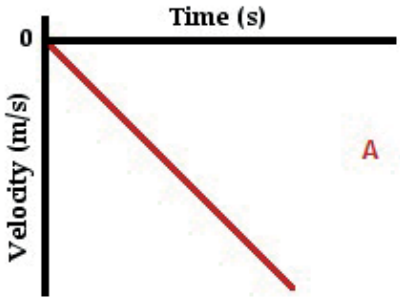
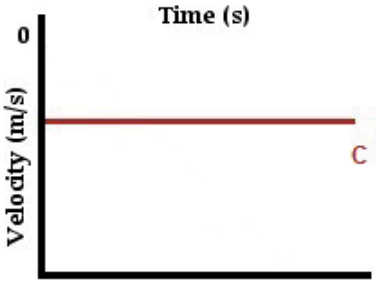
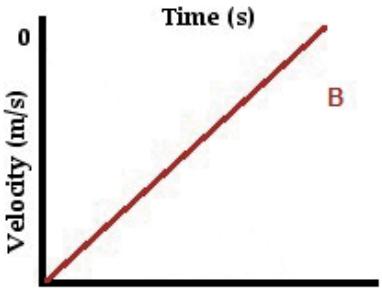
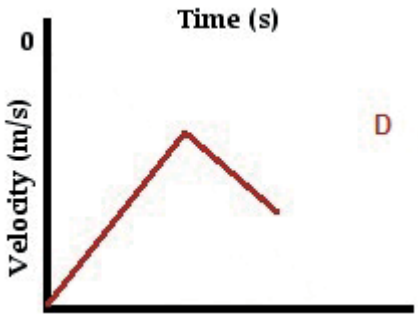
EXAMPLE 4

A ball falls down from the 50th floor of a skyscraper. Which one of these graphs shows the speed of the ball correctly?









Answer A

A free-falling object is undergoing an acceleration (g = 9.8 m/s/s, downward), so we are looking for acceleration. In the velocity/time graphs, this is depicted with a straight, diagonal line.

Given the freefall, the object starts with a zero velocity and moves in the negative direction. An object moving in the negative direction and speeding up has a negative acceleration.

The graph in answer A may not be correct to the digit, but we do not need to worry about this. This type of chart, as opposed to the options shown in B through D, shows us the correct answer.

As seen with the above example, some questions will require you to identify which diagram best matches the information that you are being presented with. The diagram that you choose may only be directionally correct (i.e., correct compared to the other options which are clearly wrong), but not precisely correct. You are simply to choose the best available diagram based on the provided information.

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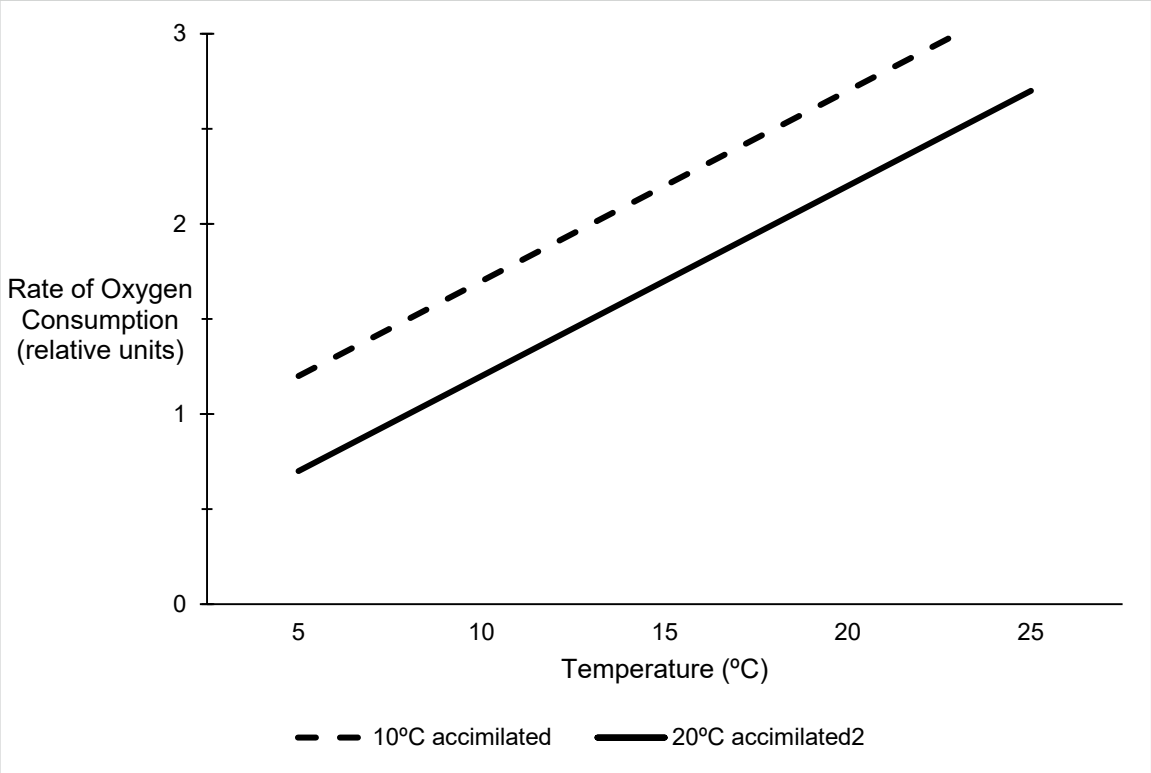
1.10.

Oxygen consumption is the amount of oxygen taken up and utilized for various metabolic activities in the body. When body temperature increases, the metabolism of cardiac and respiratory muscles also increases. The oxygen consumption of marine crabs acclimated to either $10^{o}C$ or $20^{o}C$ was measured at environmental temperatures of $5^{o}C$ to $25^{o}C$ to produce the following graph:



Which of the following can correctly be concluded from the information in the graph?

(A) Acclimation temperature does not affect the rate of oxygen consumption.

(B) Crabs have higher rates of oxygen consumption when measured at 10°C than when measured at 20°C.

(C) Oxygen consumption is higher in the 10°C acclimated crabs than in the 20°C acclimated crabs at each environmental temperature.

(D) By looking at the acclimation temperature, one can calculate the oxygen consumption.

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II. If a customer is a vegetarian, tomato soup is never chosen.

(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 D

Statement I: There are other dishes for vegetarians. If a customer does not want a main dish but a salad, the mixed salad would be chosen. The statement is not correct.

Statement II: If the customer neither wants a main dish nor a salad, he will choose a tomato soup or a sundae. At this decision point it is irrelevant if the customer is vegetarian or not. The statement is not correct.

EXAMPLE 1 – QUESTION 2

Which of the following statements is or are correct?

I. If a customer doesn't want a soup, the sundae will always be chosen.

II. If a customer is not very hungry and wants a salad, the veggie casserole will never be chosen.

(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 B

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Statement I: There are other dishes. This statement is only correct if the customer doesn't want either a main dish or a salad. The statement is not correct.

Statement II: It doesn't matter if the customer is vegetarian or not, if he wants a salad and not a main dish, he will never choose the veggie casserole because this is a main dish and not a salad. The statement is correct.

As with some of the questions you will encounter in the exam, the text description of the question can be lengthy and rather repetitive of the visual. As seen in this question, sometimes you do not need to read the lengthy text. Rather it is sufficient to look at the diagram and the question statements. This is especially applicable for the first few questions, which are the easiest ones.

There are different types of flowchart questions. Let's review these.

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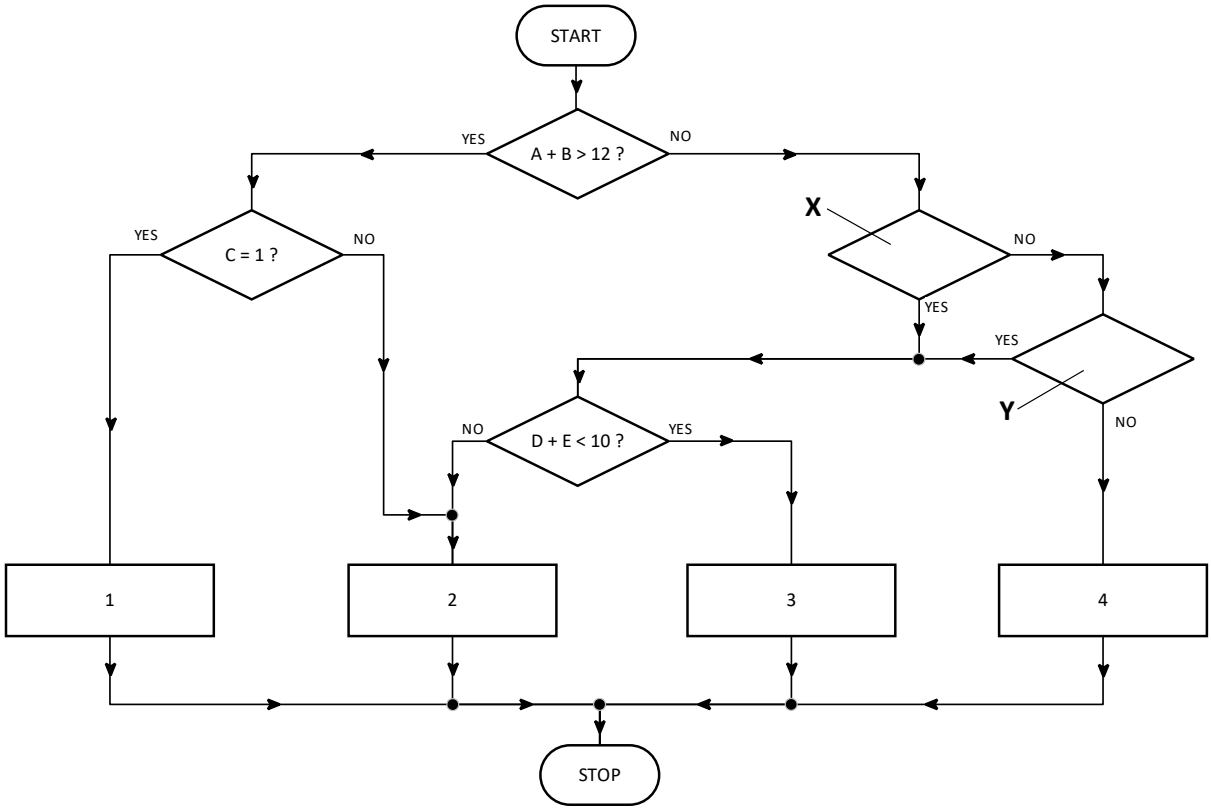
TEXT AND FLOWCHART FOR SAMPLE QUESTIONS 2.17 AND 2.18.



The parameters of the flow chart are always integers.

2.17.

Based on the flowchart, which of the following statements is or are correct?

I. If (A+B+C) =12, then you will reach operation point 1.

II. Even if C=1, you can still reach operation point 2.

(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 B

Statement I: There are numerous combination options for A+B+C = 12.
For example, A=B=0 C=12 => In this case, we would end up at 2, 3 or 4.

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