



Instructions

This verbal reasoning test comprises 30 questions, and you will have 25 minutes in which to correctly answer as many as you can.

You will be presented with a passage to read, and a statement about that passage. You must select one of the following answers:

True: *The statement follows logically from the information or opinions contained in the passage.*

False: *The statement is logically false from the information or opinions contained in the passage.*

Cannot Say: *It is not possible to determine whether the statement is true or false without further information.*

You will have to work quickly and accurately to perform well in this test. If you don't know the answer to a question, leave it and come back to it if you have time.

Try to find a time and place where you will not be interrupted during the test. When you are ready, begin the test.

In a study of 3,000 employed men in the 19-70 age range over a period of 10 years, researchers found that those working for inconsiderate bosses were more likely to suffer from stress and stress-related illness than those working for more considerate and enlightened bosses. Previous research had shown that employees with inconsiderate bosses suffered from high blood pressure which is known to increase the risk of heart disease. In the latest survey the researchers asked employees to assess the competence of their bosses as leaders. They found that those who had categorised their boss as incompetent were 25% more at risk of serious heart disease and that this level of risk increased the longer they continued to work for the same boss. The statistics took into account external factors such as social class, educational background, lifestyle and any existing illness. The researchers recommended that should their findings be confirmed, managers should be given training to help them improve their working relationships.

- Q1** Twenty five percent of the 3,000 men in the study group suffer stress due to inconsiderate bosses.
- True False Cannot say
- Q2** Managers should be given training to help them improve their working relationships.
- True False Cannot say
- Q3** There is a link between high risk rates of cardiac illness among employees that have incompetent bosses.
- True False Cannot say

The European Space Agency (ESA) is the body which decides the scope and direction of European space initiatives. It is funded by its participating states, currently 18 in number. Each contributes according to its own economic power. The body controls the funding of existing activities such as the Planar rocket and space station projects but is also responsible for the initiation of new projects like a new generation of weather satellites. Some of the programmes are compulsory but others are not and member states are free to choose in which of the latter they will become involved. There is a direct correlation between the amount of money that a state agrees to invest in a programme and the amount of benefit it can expect in return through contracts awarded to its domestic space industry. ESA directors are keen to maintain a high level of funding from its member states even in times of global economic downturn. They believe that a longer term view is needed.

Q4 Space industries in the larger ESA contributor member states get more work from the ESA than the smaller contributors.

True False Cannot say

Q5 Even in tough economic times, ESA directors wish to maintain a high level of work flowing through to the space industries of member states.

True False Cannot say

Q6 Member states can choose to spend their money on the Planar rocket or new weather satellites.

True False Cannot say

Britain is still firmly committed to the EXOMars Robot project even though the scope and the cost have grown in the three years since it was first initiated. The shape of the project has changed dramatically, mainly due to the increased expectations of scientists. According to the ESA, this change in direction justifies the almost doubling of the original budget. The increased cost will, however, have to be met by the participating countries that originally signed up to fund this programme. Both Italy, the project leader, which provided much of the initial programme funding, and Britain, will have to significantly increase their share of funding for this project. Britain considers that this project makes the most of its expertise in robotics. To date Britain has not been involved in other high-profile ESA programmes such as the Columbus science laboratory and the Ariane Rocket project. The ESA now hopes to send the robot to Mars in 2016.

Q7 Italy and Britain are covering the cost of the ESA's EXOMars Robot project and the costs have risen significantly over the past three years.

True False Cannot say

Q8 Britain has accepted that the change in mission direction justifies the near doubling of the budget.

True False Cannot say

Q9 Historically, Britain has tried to avoid ESA high-profile missions.

True False Cannot say

Some commentators argue that in times of global economic uncertainty governments should be boosting flagging economies by investing in major infrastructure projects. Many people are of the opinion that governments should grasp the opportunities presented to tackle global climate change at the same time as stimulating the economy, by using this public sector investment to move towards a new low-carbon infrastructure which would be an effective way of reducing carbon emissions and of ensuring security of energy supplies. They claim investment is needed in projects like renewable energy generation, modernising buildings to be more energy efficient, improving transport networks and even building pipelines to carry captured CO₂ to undersea storage facilities. They acknowledge, however, that the political will has to be found and that this has to be done on a global level if positive results are to be realised.

Q10 Some commentators believe the best way to boost a flagging economy would be for governments to invest in major 'green'-related infrastructure projects.

True False Cannot say

Q11 Some people believe that a flagging economy should be good for 'green' projects.

True False Cannot say

Q12 Renewable energy generation projects will have a positive impact regardless of their scale.

True False Cannot say

Existing targets for reducing carbon emissions worldwide acknowledge that the current high levels of greenhouse gases in our atmosphere are an accumulation over many decades that can be directly attributed to today's developed economies. This situation has led to developing economies like India, China and Mexico having less aggressive targets for emissions reduction than the developed countries. There is concern though that unless these large emerging economies are fully committed to reducing carbon emissions, their desire for rapid economic growth coupled with less stringent emission targets will encourage them to continue to use traditional production methods rather than introduce cleaner and more sustainable technologies. If the reduction of carbon emissions worldwide has any hope of success, the emerging economies must be able to contribute on an equal basis to the decision making processes which will determine how this is to be achieved.

Q13 Developing economies have less stringent emissions reduction targets than developed economies do.

True False Cannot say

Q14 The developing countries will resist any move to stricter emissions targets.

True False Cannot say

Q15 Currently, developing economies produce less carbon dioxide per year than developed countries do.

True False Cannot say

A new government body is about to publish a number of scenarios hypothesising how our climate might change by the year 2100. The information provided will be used to help decide how to start adapting our society to changes resulting from global warming which will be particularly important when considering large infrastructure projects with a long lifespan. Whilst all agree that there is some degree of global warming, some scientists argue that we are overemphasising this long-term approach and should instead be focussing on shorter range natural variability which is not well understood and often difficult to predict. They claim that there is no way of knowing how accurate these long range hypotheses will be, and also question how useful the hypotheses will be for predicting the climate for the next 10 years. All existing long-term predictions suggest that within fifty years our summer will be drier and heat waves will be the norm, but what, if anything, does that tell us about the next two or three years? How do we reconcile long and short-term predictions?

Q16 Over the next 50 years the summer each year will be hotter and drier.

True False Cannot say

Q17 Some scientists do not agree that global warming is happening.

True False Cannot say

Q18 Government scientists are not able to accurately forecast what the weather will do between now and the year 2100.

True False Cannot say

Predicting earthquakes using observable phenomena like phases of the moon, cloud formations, weather conditions or animal behaviour is a controversial and, some would say, impossible task. There is little or no verifiable evidence to link any of these phenomena to predictions of actual seismic activity. Early detection, as a means of advance warning, is far more reliable than future prediction and can be done by measuring primary waves (referred to as P-Waves). These non-destructive waves travel faster through the earth's crust than the harmful and destructive secondary waves and so can provide a valuable, albeit short, advance warning. This effect of different speed waves can be likened to the relationship between light and sound; we see lightning before we hear the thunder. Some people believe that animals can detect P-Waves and that this is what causes them to start behaving strangely. Other theories advanced to explain their behaviour are that that the animals are reacting to changes in low-frequency electromagnetic signals caused by the fracturing of crystalline rock in the fault lines.

Q19 If animals can detect primary waves, they could be used to predict earthquakes.

True False Cannot say

Q20 Primary waves travel at the speed of sound.

True False Cannot say

Q21 P-Waves, and the low-frequency electromagnetic signals some believe animals can sense, are not the same thing.

True False Cannot say

Scientists have been able to successfully genetically modify plants, animals and micro-organisms for a number of years. They do this by manipulating genes to produce genetic changes (which could in theory occur naturally). Supporters of genetic modification claim that the benefits, such as being able to produce crops that are resistant to disease, will help alleviate world food shortages. Many environmentalists believe that the accidental release of genetically modified organisms into the environment is genetic pollution and they fear that the uncontrolled interbreeding of modified organisms with those occurring naturally will contaminate the environment in unforeseen and possibly dangerous ways. They point out that experiments done by researchers to reassure the public about the safety of GM crops have been carried out under scientifically controlled conditions which are far removed from the actual working conditions of food producers.

Q22 No experiments intended to demonstrate the safety of GM crops have been carried out in a scientifically controlled environment.

True False Cannot say

Q23 Genetic change in plants is not necessarily evidence of the intervention of genetic scientists.

True False Cannot say

Q24 Some supporters of genetic modification believe that unless we expand our use of GM crops, increased global food shortages are inevitable.

True False Cannot say

The population of the world is increasing by around 83 million per year. This figure actually represents a decline by almost 50% in the growth rate from its peak of 2.2% in 1963 and further reductions are expected over the coming decades. The 20th century saw the biggest global increase of all time in the population and if the current levels of growth continue the world population will be around 9 billion by the year 2042. The increases are due to increased life expectancy and reduced mortality rates resulting from improvements in healthcare and agricultural productivity. Growth rates vary by region. There are estimates that over 90% of population growth in the future will be in developing countries. Central and Eastern Europe are experiencing a net decrease of population with Japan and some Western European countries expected to follow suit within the next 10 years.

Q25 The annual rate of increase of the global population has fallen by 50% per annum since 1963.

True False Cannot say

Q26 The European Union will suffer a net decrease in population over the next 10 years.

True False Cannot say

Q27 Global population is predicted to reach 9 billion by 2042 as the annual global population growth rate continues to rise.

True False Cannot say

There are statistics which suggest that in some of the most underdeveloped countries almost one half of the population is now in the 10-19 age range. These countries have experienced a much smaller decrease in birth rates than has been seen in more developed countries. Charities and other agencies are calling for additional funds to be made available to provide improved education for these young people as well as easier access to contraception. There has also been a rapid increase in the number of people aged 65 or older. In the next 50 years, 95% of this increase will happen in developing countries like India, while in countries like Japan, Germany and Italy the percentage of the population aged 65 or more is set to rise to 40%. Increases in the numbers of the very young and the very old place stress on societies and governments may find it difficult to cope with the demands of an increasing number of dependent elderly citizens in addition to providing healthcare and education for the young.

Q28 Those countries that have high numbers of younger people will be better positioned in the longer term to cope with their growing older population.

True False Cannot say

Q29 In Japan and Germany less than 60% of the population is under 65 years of age.

True False Cannot say

Q30 Birth rate decreases are not restricted to developed countries.

True False Cannot say