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Academic
Reading
Practice Test
35
The Spectacular Eruption of Mount St. Helens

A The eruption in May 1980 of Mount St. Helens, Washington State, astounded the world with its violence. A gigantic explosion tore much of the volcano's summit to fragments; the energy released was equal to that of 500 of the nuclear bombs that destroyed Hiroshima in 1945.

B The event occurred along the boundary of two of the moving plates that make up the Earth's crust. They meet at the junction of the North American continent and the Pacific Ocean. One edge of the continental North American plate over-rides the oceanic Juan de Fuca micro-plate, producing the volcanic Cascade range that includes Mounts Baker, Rainier and Hood, and Lassen Peak as well as Mount St. Helens.

C Until Mount St. Helens began to stir, only Mount Baker and Lassen Peak had shown signs of life during the 20th century. According to geological evidence found by the United States Geological Survey, there had been two major eruptions of Mount St. Helens in the recent (geologically speaking) past: around 1900 B.C., and about A.D. 1500. Since the arrival of Europeans in the region, it had experienced a single period of spasmodic activity, between 1831 and 1857. Then, for more than a century, Mount St. Helens lay dormant.

D By 1979, the Geological Survey, alerted by signs of renewed activity, had been monitoring the volcano for 18 months. It warned the local population against being deceived by the mountain's outward calm, and forecast that an eruption would take place before the end of the century. The inhabitants of the area did not have to wait that long. On March 27, 1980, a few clouds of smoke formed above the summit, and slight tremors were felt. On the 28th, larger and darker clouds, consisting of gas and ashes, emerged and climbed as high as 20,000 feet. In April a slight lull ensued, but the volcanologists remained pessimistic. The, in early May, the northern flank of the mountain bulged, and the summit rose by 500 feet.

E Steps were taken to evacuate the population. Most campers, hikers, timberrcutters left the slopes of the mountain. Eighty-four-year-old Harry Truman, a holiday lodge owner who had lived there for more than 50 years, refused to be evacuated, in spite of official and public, including an entire class of school children, wrote to him, begging him to leave. He never did.
On May 18, at 8.32 in the morning, Mount St. Helens blew its top. literally. Suddenly, it was 1300 feet shorter than it had been before its growth had begun. Over half a cubic mile of rock had disintegrated. At the same time, an earthquake with an intensity of 5 on the Richter scale was recorded. It triggered an avalanche of snow and ice. mixed with hot rock-the entire north face of the mountain had fallen away. A wave of scorching volcanic gas and rock fragments shot horizontally from the volcano's riven flank, at an inescapable 200 miles per hour. As the sliding ice and snow melted, it touched off devastating torrents of mud and debris, which destroyed all life in their path. Pulverised, which destroyed all life in their path. Pulverised rock climbed as a dust cloud into the atmosphere. Finally, viscous lava, accompanied by burning clouds of ash and gas, welled out of volcano's new crater, and from lesser vents and cracks in its flanks.

Afterwards, scientists were able to analyse the sequence of events. First, magmamolten rock-at temperatures above 2000 F. had surged into the volcano from the Earth's mantle. The build-up was accompanied by an accumulation of gas, which increased as the mass of magma grew. It was the pressure inside the mountain that made it swell. Next, the rise in gas pressure caused a violent decompression. Which ejected the shattered summit like a cork from a shaken soda bottle. With the summit gone, the molten rock within was released in a jet of gas and fragmented magma, and lava welled from the crater.

The effects of the Mount St. Helens eruption were catastrophic. Almost all the trees of the surrounding forest, mainly Douglas firs. were flattened. and their branches and bark ripped off by the shock wave of the explosion. Ash and mud spread over nearly 200 square miles of country. All the towns and settlements in the area were smothered in an even coating of ash. Volcanic ash silted up the Columbia River 35 miles away, reducing the debris that accumulated at the foot of the volcano reached a depth, in places, of 200 feet.

The eruption of Mount St. Helens was one of the most closely observed and analysed in history. Because geologists had been expecting the event, they were able to amass vast amounts of technical data when it happened. Study of atmospheric particles formed as a result of the explosion showed that droplets of sulphuric acid, acting as a screen between the Sun and the Earth's surface, caused a distinct drop in temperature. There is no doubt that the activity of Mount St. Helens and other volcanoes since 1980 has influenced our climate. Even so, it has been calculated that the quantity of dust ejected by Mount St. Helens - a quarter of a cubic mile- was negligible in comparison with that thrown out by earlier eruptions, such as that of Mount Katmai in Alaska in 1912 (three cubic miles). The volcano is still active. Lava domes have formed inside the new crater, and have periodically burst. The threat of Mount St Helens lives on.
Questions 1 and 2

Reading Passage 1 has 9 paragraphs labelled A-I

Answer questions 1 and 2 by writing the appropriate letter A-I inboxes 1 and 2 on your answer sheet.

Example
Which paragraph compares the eruption to the energy released by nuclear bomb?

Answer
A

1. Which paragraph describes the evacuation of the mountain?
2. Which paragraph describes the moment of the explosion of Mount St. Helens?

Questions 3 and 4

3. What are the dates of the TWO major eruptions of Mount St. Helens before 1980?
Write TWO dates in box 3 on your answer sheet.

4. How do scientists know that the volcano exploded around the two dates above?
Using NO MORE THAN THREE WORDS, write your answer in box 4 on your answer sheet.

Questions 5-8

Complete the summary of events below leading up to the eruption of Mount St. Helens. Choose NO MORE THAN THREE WORDS from the passage for each answer.

Write your answers in boxes 5-8 on your answer sheet.

In 1979 the Geological Survey warned ... (5) ... to expect a violent eruption before the end of the century. The forecast was soon proved accurate. At the end of March there were tremors and clouds formed above the mountain. This was followed by a lull, but in early May the top of the mountain rose by ... (6) ... . People were ... (7) ... from around the mountain. Finally, on May 18th at ... (8) ... , Mount St. Helens exploded.

Question 9 and 10

Complete the table below giving evidence for the power of the Mount St. Helens eruption.

Write your answers in boxes 9 and 10 on your answer sheet.

<table>
<thead>
<tr>
<th>Item</th>
<th>Equivalent to</th>
</tr>
</thead>
<tbody>
<tr>
<td>The energy released by the explosion of</td>
<td>Answer</td>
</tr>
<tr>
<td>Mount St. Helens</td>
<td>500 nuclear bombs</td>
</tr>
<tr>
<td>The area of land covered in mud or ash</td>
<td>... (9) ...</td>
</tr>
<tr>
<td>The quantity of dust ejected</td>
<td>... (10) ...</td>
</tr>
</tbody>
</table>

Question 11

Choose the appropriate letter A-D and write it in box 11 on your answer sheet.

11. According to the text the eruption of Mount St. Helens and other volcanoes has influenced our climate by ...
   A increasing the amount of rainfall.
   B heating the atmosphere.
   C cooling the air temperature.
   D causing atmospheric storms.
PEOPLE AND ORGANISATIONS: THE SELECTION ISSUE

A In 1991, according to the Department of Trade and Industry, a record 48,000 British companies went out of business. When businesses fail, the post-mortem analysis is traditionally undertaken by accountants and market strategists. Unarguably organisations do fail because of undercapitalisation, poor financial management, adverse market conditions etc. Yet, conversely, organisations with sound financial backing, good product ideas and market acumen often underperform and fail to meet shareholders' expectations. The complexity, degree and sustainment of organisational performance requires an explanation which goes beyond the balance sheet and the "paper conversion" of financial inputs into profit making outputs. A more complete explanation of "what went wrong" necessarily must consider the essence of what an organisation actually is and that one of the financial inputs, the most important and often the most expensive, is people.

B An organisation is only as good as the people it employs. Selecting the right person for the job involves more than identifying the essential or desirable range of skills, educational and professional qualifications necessary to perform the job and then recruiting the candidate who is most likely to possess these
skills or at least is perceived to have the ability and predisposition to acquire them. This is a purely person/skills match approach to selection. 

C Work invariably takes place in the presence and/or under the direction of others, in a particular organisational setting. The individual has to "fit" in with the work environment, with other employees, with the organisational climate, style or work, organisation and culture of the organisation. Different organisations have different cultures (Cartwright & Cooper, 1991; 1992). Working as an engineer at British Aerospace will not necessarily be a similar experience to working in the same capacity at GEC or Plessey.

D Poor selection decisions are expensive. For example, the costs of training a policeman are about £ 20,000 (approx. US$ 30,000). The costs of employing an unsuitable technician on an oil rig or in a nuclear plant could, in an emergency, result in millions of pounds of damage or loss of life. The disharmony of a poor person-environment fit (PE-fit) is likely to result in low job satisfaction, lack of organisational commitment and employee stress, which affect organisational outcomes i.e. productivity, high labour turnover and absenteeism, and individual outcomes i.e. physical, psychological and mental well-being.

E However, despite the importance of the recruitment decision and the range of sophisticated and more objective selection techniques available, including the use of psychometric tests, assessment centres etc., many organisations are still prepared to make this decision on the basis of a single 30 to 45 minute unstructured interview. Indeed, research has demonstrated that a selection decision is often made within the first four minutes of the interview. In the remaining time, the interviewer then attends exclusively to information that reinforces the initial "accept" or "reject" decision. Research into the validity of selection methods has consistently demonstrated that the unstructured interview, where the interviewer asks any questions he or she likes, is a poor predictor of future job performance and fares little better that more controversial methods like graphology and astrology. In times of high unemployment, recruitment becomes a "buyer's market" and this was the case in Britain during the 1980s.

F The future, we are told, is likely to be different. Detailed surveys of social and economic trends in the European community show that Europe's population is falling and getting older. The birth rate in the Community is now only three-quarters of the level needed to ensure replacement of the existing population. By the year 2020, it is predicted that more than one in four Europeans will be aged 60 or more and barely one in five will be under 20. In a five-year period between 1983 and 1988 the Community's female workforce grew by almost six million. As a result, 51% of all women aged 14 to 64 are now economically active in the labour market compared with 78% of men.

G The changing demographics will not only affect selection ratios. They will also make it increasingly important for organisations wishing to maintain in their competitive edge to be more responsive and accommodating to the changing needs of their workforce if they are to retain and develop their human resources. More flexible working hours, the opportunity of work from home or job share, the provision of childcare facilities etc., will play a major role in attracting and retaining staff in the future.
Questions 17-22
Do the following statements agree with the views of the writer in Reading Passage 2?

In boxes 17-22 on your answer sheet write
YES if the statement agrees with the writer
NO if the statement does not agree with the writer
NOT GIVEN if there is no information about this in the passage

17. Organisations should recognise that their employees are a significant part of their financial assets.
18. Open-structured 45 minute interviews are the best method to identify suitable employees.
19. The rise in the female workforce in the European Community is a positive trend.
20. Graphology is a good predictor of future job performance.
21. In the future, the number of people in employable age groups will decline.
22. In 2020, the percentage of the population under 20 will be smaller than now.

Questions 23-25
Complete the notes below with words taken from Reading Passage 2. Use NO MORE THAN ONE or TWO WORDS for each answer.
Write your answers in boxes 23-25 on your answer sheet.

Poor person-environment fit
↓

i. Low job satisfaction
   ii. Lack of organisational commitment
   iii. Employee stress

....(23)....

....(24)....

| a. low production rates | a. poor health |
| b. high rates of staff change | b. poor psychological health |
| c. ....(25).... | c. poor mental health |
"The Rollfilm Revolution"

The introduction of the dry plate process brought with it many advantages. Not only was it much more convenient, so that the photographer no longer needed to prepare his material in advance, but its much greater sensitivity made possible a new generation of cameras. Instantaneous exposures had been possible before, but only with some difficulty and with special equipment and conditions. Now, exposures short enough to permit the camera to be held in the hand were easily achieved. As well as fitting shutters and viewfinders to their conventional stand cameras, manufacturers began to construct smaller cameras intended specifically for hand use.

One of the first designs to be published was Thomas Bolas’s ‘Detective’ camera of 1881. Externally a plain box, quite unlike the folding bellows camera typical of the period, it could be used unobtrusively. The name caught on, and for the next decade or so almost all hand cameras were called ‘Detectives’. Many of the new designs in the 1880s were for magazine cameras, in which a number of dry plates could be pre-loaded and changed one after another following exposure. Although much more convenient than stand cameras, still used by most serious workers, magazine plate cameras were heavy, and required access to a darkroom for loading and processing the plates. This was all changed by a young American bank clerk turned photographic manufacturer, George Eastman, from Rochester, New York.

Eastman had begun to manufacture gelatine dry plates in 1880, being one of the first to do so in America. He soon looked for ways of simplifying photography, believing that many people were put off by the complication and messiness. His first step was to develop, with the camera manufacturer William H. Walker, a holder for a long roll of paper negative ‘film’. This could be fitted to a standard plate camera, and up to forty-eight exposures made before reloading. The combined weight of the paper roll and the holder was far less than the same number of glass plates in their tight wooden holders. Although roll-holders had been made as early as the 1850s, none had been very successful because of the limitations of the photographic materials then available. Eastman's rollable paper film was sensitive and gave negatives of good quality; the Eastman-Walker roll-holder was a great success.

The next step was to combine the roll-holder with a small hand camera; Eastman's first design was patented with an employee, F. M. Cossitt, in 1886. It was not a success. Only fifty Eastman detective cameras were made, and they were sold as a lot to a dealer in 1887; the cost was too high and the design too complicated. Eastman set about developing a new model, which was launched in June 1888. It was a small box, containing a roll of paper-based stripping film sufficient for 100 circular exposures 6 cm in diameter. Its operation was simple: set the shutter by pulling a wire string; aim the camera using the V line...
impression in the camera top; press the release button to activate the exposure; and turn a special key to wind to the film. A hundred exposures had to be made, so it was important to record each picture in the memorandum book provided, since there was no exposure counter. Eastman gave his camera the invented name 'Kodak'-which was easily pronounceable in most languages, and had two Ks which Eastman felt was a firm, uncompromising kind of letter.

The importance of Eastman's new roll-film camera was not that it was the first. There had been several earlier cameras, notably the Stirn 'America', first demonstrated in the spring of 1887 and on sale from early 1888. This also used a roll of negative paper, and had such refinements as a reflecting viewfinder and an ingenious exposure marker. The real significance of the first Kodak camera was that it was backed up by a developing and printing service. Hitherto, virtually all photographers developed and printed their own pictures. This required that facilities of a darkroom and the time and inclination to handle the necessary chemicals, make the prints and so on. Eastman recognized that not everyone had the resources or the desire to do this. When a customer had made a hundred exposures in the Kodak camera, he sent it to Eastman's factory in Rochester (or later in Harrow in England) where the film was unloaded, processed and printed, the camera reloaded and returned to the owner. "You Press the Button, We Do the Rest" ran Eastman's classic marketing slogan; photography had been brought to everyone. Everyone, that is, who could afford $25 or five guineas for the camera and $10 or two guineas for the developing and printing. A guinea ($5) was a week's wages for many at the time, so this simple camera cost the equivalent of hundreds of dollars today.

In 1889 an improved model with a new shutter design was introduced, and it was called the No. 2 Kodak camera. The paper-based stripping film was complicated to manipulate, since the processed negative image had to be stripped from the paper base for printing. At the end of 1889 Eastman launched a new roll film on a celluloid base. Clear, tough, transparent and flexible, the new film not only made the rollfilm camera fully practical, but provided the raw material for the introduction of cinematography a few years later. Other, larger models were introduced, including several folding versions, one of which took pictures 21.6 cm x 16.5 cm in size. Other manufacturers in America and Europe introduced cameras to take the Kodak roll-films, and other firms began to offer developing and printing services for the benefit of the new breed of photographers. By September 1889, over 5,000 Kodak cameras had been sold in the USA, and the company was daily printing 6-7,000 negatives. Holidays and special events created enormous surges in demand for processing; 900 Kodak users returned their cameras for processing and reloading in the week after the New York centennial celebration.
Questions 26-29
Do the following statements agree with the views of the writer in Reading Passage 3?

In boxes 26-29 on your answer sheet write
YES if the statement agrees with the writer
NO if the statement does agree with the writer
NOT GIVEN if there is no information about this in the passage

26. Before the dry plate process short exposures could only be achieved with cameras held in the hand.
27. Stirn's America' camera lacked Kodak's developing service.
28. The first Kodak film cost the equivalent of a week's wages to develop.
29. Some of Eastman's 1891 range of cameras could be loaded in daylight.

Questions 30-34
Complete the diagram below. Choose NO MORE THAN THREE WORDS from the passage for each answer.

Write your answers in boxes 30-34 on your answer sheet.

Questions 35-38
Complete the table below. Choose NO MORE THAN THREE WORDS from the passage for each answer.

Write your answers in boxes 35-38 on your answer sheet.