IELTSFever Academic Reading Test 101

Reading Passage 1

You should spend about 20 minutes on Questions 1-14, which are based on the IELTSFever Academic IELTS Reading Test 101 Reading Passage Natural Pesticide in India below.

Natural Pesticide

{A} A dramatic story about cotton farmers in India shows how destructive pesticides can be for people and the environment; and why today's agriculture is so dependent on pesticides. This story also shows that it's possible to stop using chemical pesticides without losing a crop to ravaging insects, and it explains how to do it.

{B} The story began about 30 years ago, a handful of families migrated from the Guntur district of Andhra Pradesh, southeast India, into Punukula, a community of around 900 people farming plots of between two and 10 acres. The outsiders from Guntur brought cotton-culture with them. Cotton wooed farmers by promising to bring in more hard cash than the mixed crops they were already growing to eat and sell: millet, sorghum, groundnuts, pigeon peas, mung beans, chilli and rice. But raising cotton meant using pesticides and fertilisers - until then a mystery to the mostly illiterate farmers of the community. When cotton production started spreading through Andhra Pradesh state. The high value of cotton made it an exceptionally attractive crop, but growing cotton required chemical fertilizers and pesticides. As most of the farmers were poor, illiterate, and without previous experience using agricultural chemicals, they were forced to rely on local, small-scale agricultural dealers for advice. The dealers sold them seeds, fertilizers, and pesticides on credit and also guaranteed purchase of their crop. The dealers themselves had little technical knowledge about pesticides. They merely passed on promotional information from multinational chemical companies that supplied their products.

{C} At first, cotton yields were high, and expenses for pesticides were low because cotton pests had not yet moved in. The farmers had never earned so much! But within a few years, cotton pests like bollworms and aphids plagued the fields, and the farmers saw how rapid insect evolution can be. Repeated spraying killed off the weaker pests, but left the ones most resistant to pesticides to multiply. As pesticide resistance mounted, the farmers had to apply more and more of the pesticides to get the same results. At the same time, the pesticides killed off birds, wasps, beetles, spiders, and other predators that had once provided natural control of pest insects. Without these predators, the pests could destroy the entire crop if pesticides were not used. Eventually, farmers were mixing pesticide "cocktails" containing as many as ten different brands and sometimes having to spray their cotton as frequently as two times a week. They were really hooked!

{D} The villagers were hesitant, but one of Punukula's village elders decided to risk trying the natural methods instead of pesticides. His son had collapsed with acute pesticide poisoning and survived but the hospital bill was staggering. SECURE's staff coached this villager on how to protect his cotton crop by using a toolkit of natural methods that India's Center for Sustainable Agriculture put together in collaboration with scientists at Andhra Pradesh's state university. They called the toolkit "Non-Pesticide Management"-or"NPM."

{E} The most important resource in the NPM toolkit was the neem tree (Azadirachta indica) which is common throughout much of India. Neem tree is a broad-leaved evergreen tree related to mahogany. It protects itself against insects by producing a multitude of natural pesticides that work in a variety of ways: with an arsenal of chemical defenses that repel egg-laying, interfere with insect growth, and most importantly, disrupt the ability of crop-eating insects to sense their food.

{F} In fact, neem has been used traditionally in India to protect stored grains from insects and to produce soaps, skin lotions, and other health products. To protect crops from insects, neem seeds are simply ground into a powder that is soaked overnight in water. The solution is then sprayed onto the crop. Another preparation, neem cake, can be mixed into the soil to kill pests and diseases in the soil, and it doubles as an organic fertiliser high in nitrogen. Neem trees grow locally, so the only "cost" is the labor to prepare neem for application to fields.

{G} The first farmer's trial with NPM was a complete success! His harvest was as good as the harvests of farmers that were using pesticides, and he earned much more because he did not spend a single rupee on pesticides. Inspired by this success, 20 farmers tried NPM the next year. SECURE posted two well-trained staff in Punukula to teach and help everyone in the village, and the village women put pressure on their husbands to stop using toxic chemicals. Families that were no longer exposing themselves to pesticides began to feel much better, and the rapid improvements in income, health, and general wellbeing quickly sold everyone on the value of NPM. By 2000, all the farmers in Punukula were using NPM, not only for cotton, but for their other crops as well.

{H} The suicide epidemic came to an end. And with the cash, health, and energy that returned when they stopped poisoning themselves with pesticides, the villagers were inspired to start more community and business projects. The women of Punukula created a new source of income by collecting, grinding, and selling neem seeds for NPM in other villages. The villagers rescued their indentured children and gave them special six-month"catch-up, courses to return to school.

{I} Fighting against pesticides, and winning, increased village solidarity, self-confidence, and optimism about the future. When dealers tried to punish NPM users by paying less for NPM cotton, the farmers united to form a marketing cooperative that found fairer prices elsewhere. The leadership and collaboration skills that the citizens of Punukula developed in the NPM struggle have helped them to take on other challenges, like water purification, building a cotton gin to add value to the cotton before they sell it, and convincing the state government to support NPM over the objection of multinational pesticide corporations.

Questions 1-4

Do the following statements agree with the information given in IELTSFever Academic IELTS Reading Test 101 Reading Passage 1? In boxes 1-4 on your answer sheet, write

TRUE	if the statement is True
FALSE	if the statement is false
NOT GIVEN	If the information is not given in the passage

(1) Cotton in Andhra Pradesh state could really bring more income to the local farmers than traditional farming.

(2) The majority of farmers had used agricultural pesticides before 30 years ago.

(3) The yield of cotton is relatively lower than that of other agricultural crops.

(4) The farmers didn't realize the spread of the pests was so fast.

Questions 5-11

Complete the summary below.

*Choose **NO MORE THAN TWO WORDS** from the IELTSFever Academic IELTS Reading Test 101 passage for each answer,*

Write your answers in boxes 5-11 on your answer sheet.

The Making of pesticide protecting crops against insects

The broad-leaved neem tree was chosen. It is a fast-growing and **5**_____ tree and produces an amount of **6**_____ for itself that can be effective like insect repellent. Firstly, neem seeds need to be crushed into **7**_____ form, which is left behind **8**_____ in water. Then we need to spray the solution onto the crop. A special **9**_____ is used when mixed with soil in order to eliminate bugs and bacteria, and its effect **10**_____ when it adds the level of **11**_____ in this organic fertilizer meanwhile.

Questions 12-14

Answer the questions below.

*Choose **NO MORE THAN TWO WORDS AND/OR A NUMBER** from the IELTSFever Academic IELTS Reading Test 101 passage for each answer Write your answers in boxes 12-14 on your answer sheet.*

(12) In which year did all the farmers use NPM for their crops in Punukula?

(13) What gave the women of Punukula a business opportunity to NPMs?

(14) Name one project that the citizens of Punukula decide to develop in the NPM.

Reading Passage 2

You should spend about 20 minutes on Questions 15-27, which are based on the IELTSFever Academic IELTS Reading Test 101 Reading Passage Jupiter with The Shoemaker-Levy9's collision below.

Jupiter with The Shoemaker-Levy9's collision

{A} Jupiter is the largest planet in the solar system. Its diameter is 88,846 miles (more than 140,000 kilometers), more than 11 times that of Earth, and about one-tenth that of the sun. It would take more than 1,000 Earths to fill up the volume of the giant planet. When viewed from Earth, Jupiter appears brighter than most stars. It is usually the second brightest planet -- after Venus. Jupiter is composed of a relatively small core of metal (iron and silicates surrounded by hydrogen). In the depths of the planet the hydrogen is so compressed that it is metallic in form: further from the centre where the inner atmosphere is stretched about 20000 km, the pressure is lower and the hydrogen is in its normal molecular form. The Jovian cloud tops visible from Earth consist primarily of methane and ammonia . There are other elements and compounds lurking in the cloud tops and below which are thought to be responsible for the colors seen in the atmosphere.

How does Jupiter come to form?

{B} The Origin theory is a mystical problem. In our own solar system inside or around asteroid belt, there are four rocky planets close to the Sun, each formed in the way described follow - Mercury, Venus, Earth and Mars: The first stars which formed from primordial hydrogen and

helium produced in the big bang cannot have had any planets, because there were no heavy elements available from which they could be built up. Planetary systems are all second-generation (or later) systems. As the parent cloud of gas and dust from which our Solar System was being formed, began to shrink, any rotation it possessed made it spin faster and faster, and as the core of the cloud collapsed to form a star, Some of the material from which it was forming was held out from the centre of the cloud by residual spin, and the material settled down into a dusty disc around the young star. Close to a young star, the lightest material in the disc, comprising mainly hydrogen and helium gas, is blown away by the heat of the star and solar radiation. The material left behind is made up of billions of tiny grains of dust that collide and stick together, building up larger lumps. The lumps of matter may be a few millimetres across and are settling into a thinner disc around the star. The process of accretion - lumps growing by sticking together carries on until the original dust grains have become lumps of rock about one kilometre across, similar to the asteroids that orbit in profusion between Mars and Jupiter today. Once the pieces of rock reach this size, they begin to tug on each other significantly through gravitation, pulling them into swarms that orbit around the star together, bumping into one another from time to time. Gravitation pulls the pieces more and more tightly together, with the largest lumps (which have the strongest gravitational pull) attracting more and more material, growing to become terrestrial planets and their satellites.

{C} Then there is a belt of cosmic rubble (the asteroid belt), a ring representative in many ways of the kind of material from which the inner planets formed. The material in this ring could never settle down to become a planet itself because it is continuously being disturbed by the gravitational influence of Jupiter, the largest planet in the solar system. Beyond the asteroid belt, there are four "gas giant" planets, Jupiter, Saturn, Uranus and Neptune These are probably typical of planets that format large distances from their parent star, planets in which the primordial volatile material has been retained, so that even though they may contain a small rocky core, they are mostly made of gas and ices. Beyond the gas giants, at a great distance, comes small, rocky Pluto, an anomaly, and possibly a comet or asteroid, captured and held in a fixed orbit.

Shoemaker-Levy 9

{D} In March 1993, astronomers Eugene Shoemaker, Carolyn Shoemaker, and David H. Levy discovered a comet near Jupiter. The comet was found orbiting planet Jupiter and is believed to have been captured from the Sun around two decades earlier. The comet, later named Shoemaker-Levy 9, probably once orbited the sun independently, but had been pulled by Jupiter's gravity into an orbit , the diameter of which becomes smaller, around the planet. When the comet was discovered, it had broken into 21 pieces. The comet probably had broken apart when it passed close to Jupiter.

The collision

{E} According to David Levy, a half-mile-wide object should hit the Earth on the average of once every 100,000 years. However, small objects the size of a grain of sand or a piece of gravel hit the Earth each minute. The frequency with which a 100-meter asteroid/comet hits Earth is about once every 100 years. The chances could be higher or lower because these small objects are

not easy to see with our telescopes, so their number is not well known. Calculations revealed that the cemetery fragments were on course to collide with Jupiter during July 1994, and that each fragment could deliver an energy equivalent to approximately 500,000 million tons of TNT. The prospect of celestial fireworks on such a grand scale immediately captured the attention of astronomers worldwide! Scientists hoped to learn much about the effects of a collision between a planet and a comet. Astronomers at all the major telescopes on Earth turned their instruments toward Jupiter at the predicted collision times. Scientists also observed Jupiter with the powerful Hubble Space Telescope, which is in orbit around Earth; and the remotely controlled space probe Galileo, which was on its way to Jupiter.

{F} The fragments fell on the back side of Jupiter as viewed from Earth and the Hubble Space Telescope But the rotation of Jupiter carried the impact sites around to the visible side after less than half an hour. Scientists estimate that the largest fragments were about 0.3 to 2.5 miles (0.5 to 4 kilometers) in diameter. The impacts were directly observable from Galileo, which was within about 150 million miles (240 million kilometers) from Jupiter. However, damage to certain of the probe's instruments limited its ability to record and send data. The impacts caused large explosions, probably due to the compression, heating, and rapid expansion of atmospheric gases. The explosions scattered comet debris over large areas, some with diameters larger than that of Earth. The debris gradually spread into a dark haze of fine material that remained suspended for several months in Jupiter's upper atmosphere. If a similar comet ever collided with Earth, it might produce a haze that would cool the atmosphere and darken the planet by absorbing sunlight. If the haze lasted long enough, much of Earth's plant life could die, along with the people and animals that depend on plants.

{G} The smaller cemetery fragments plunged into Jupiter rapidly disintegrated and left little trace; three of the smallest fragments, namely T, U and V left no discernible traces whatsoever. However, many of the cemetery fragments were sufficiently large to produce a spectacular display. Each large fragment punched through the cloud tops, heated the surrounding gases to some 20,000 K on the way, and caused a massive plume or fireball up to 2,000 km in diameter to rise above the cloud tops. Some days after collision the impact sites began to evolve and fade as they became subject to the dynamics of Jupiter's atmosphere. No-one knows how long they will remain visible from Earth, but it is thought that the larger scars may persist for a year or more. The interest of professional astronomers in Jupiter is now waning and valuable work can therefore be performed by amateurs in tracking the evolution of the collision scars. The scars are easily visible in a modest telescope, and a large reflector will show them in some detail. There is scope for valuable observing work from now until Jupiter reaches conjunction with the Sun in November 2004.

Questions 15-18

Choose the correct letter, A, B, C or D.
Write your answers in boxes 15-18 on your answer sheet.

Question 15 People believe the origin of planets of inner asteroid belt can be

(A) somewhat an inaccurate and too broad theory

(B) a sophisticated mystery though certain speculation has been proposed

(C) a totally wrong speculation

(D) totally explained by the theory made

Question 16 When did the planet of Jupiter come to form?

(A) when there were no heavy elements

(B) at the same time as the big bang happened

(C) during the generation of first stars

(D) when our Solar System was being formed

Question 17 According to the passage, what is true for the "gas giant" planets?

(A) They are at large distances from their parent star.

(B) The original volatile material has been lost

(C) They contain gas and ice core.

(D) Each is possibly a comet or asteroid, captured and held in a fixed orbit.

Question 18 Astronomers and scientists on Earth started their instruments toward Jupiter at the predicted collision times mainly because

(A) hoped to calculate the real risk of the collision between the Earth and a comet.

(B) hoped to learn unknown knowledge of a collision between a planet and a comet.

(C) hoped to collect data about the structure of the Jupiter

(D) hoped to test the powerful Hubble Space Telescope

Questions 19-24

Complete the following summary of the paragraphs of IELTSFever Academic IELTS Reading Test 101 Reading Passage 2,

Choose the appropriate letter from A-L and write your answers in boxes 19-24 on your answer sheet.

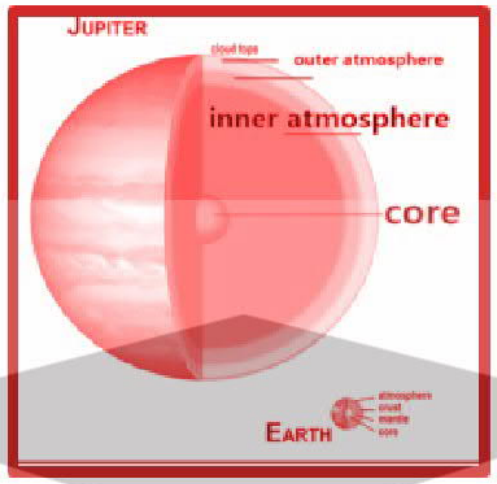
A wider	B smaller	C expansion	D collision	E 20 years	F 30 years
G 100 years	H gathered	I calculation	J released	K gravity	L pulled

The comet of Shoemaker is thought to have been orbiting Jupiter at least for **19**..... The comet probably once orbited the sun independently, but had been pulled by Jupiter's **20**.....into an orbit around the planet. When the diameter of orbit became **21**.....with Jupiter's force, it came closer and had broken into 21-pieces. According to David Levy, the possibility with which a 100-meter asteroid/comet hits Earth is about once every **22**..... The chances could be higher or lower and their number is not well determined.

Calculations revealed that the cemetery fragments were on course to collide with Jupiter during July 1994. Finally, the fragments collide into the back side of Jupiter as viewed from Earth and the Hubble Space Telescope. Large explosion from the impacts **23**..... the huge, hot atmospheric gases. And the comet debris gradually expanded into a dark dust of material that **24**..... suspended for months in Jupiter's upper atmosphere.

Questions 25-27

*Filling the table, Choose **NO MORE THAN THREE WORDS AND/OR A NUMBER** from the passage for each answer.*



Main part of the Jupiter	Main elements or molecules	Size
core	**25**	Twice as wide as earth
inner atmosphere	Normal **27**.....	20000 km
Outer atmosphere	methane and ammonia	More than **27** ..... Km (as diameter)

Reading Passage 3

You should spend about 20 minutes on Questions 28-40, which are based on the IELTSFever Academic IELTS Reading Test 101 Reading Passage Children's acquiring the principles of mathematics and science below.

Children's acquiring the principles of mathematics and science

{A} It has been pointed out that learning mathematics and science is not so much learning facts as learning ways of thinking. It has also been emphasised that in order to learn science, people often have to change the way they think in ordinary situations. For example, in order to understand even simple concepts such as heat and temperature, ways of thinking of temperature as a measure of heat must be abandoned and a distinction between 'temperature' and 'heat' must be learned. These changes in ways of thinking are often referred to as conceptual changes. But how do conceptual changes happen? How do young people change their ways of thinking as they develop and as they learn in school?

{B} Traditional instruction based on telling students how modem scientists think does not seem to be very successful. Students may learn the definitions, the formulae, the terminology, and yet still maintain their previous conceptions. This difficulty has been illustrated many times, for example, when instructed students are interviewed about heat and temperature. It is often identified by teachers as a difficulty in applying the concepts learned in the classroom; students may be able to repeat a formula but fail to use the concept represented by the formula when they explain observed events.

{C} The psychologist Piaget suggested an interesting hypothesis relating to the process of cognitive change in children. Cognitive change was expected to result from the pupils' own intellectual activity. When confronted with a result that challenges their thinking—that is, when faced with conflict-pupils realise that they need to think again about their own ways of solving problems, regardless of whether the problem is one in mathematics or in science. He hypothesised that conflict brings about disequilibrium, and then triggers equilibration processes that ultimately produce cognitive change. For this reason, according to Piaget and his colleagues, in order for pupils to progress in their thinking they need to be actively engaged in solving problems that will challenge their current mode of reasoning. However, Piaget also pointed out that young children do not always discard their ideas in the face of contradictory evidence. They may actually discard the evidence and keep their theory.

{D} Piaget' s hypothesis about how cognitive change occurs was later translated into an educational approach which is now termed "discovery learning' . Discovery learning initially took what is now considered the ;' lone learner' route. The role of the teacher was to select situations that challenged the pupils' reasoning; and the pupils' peers had no real role in this process. However, it was subsequently proposed that interpersonal conflict, especially with peers, might play an important role in promoting cognitive change. This hypothesis, originally advanced by Perret-Clermont and Doise and Mugny, has been investigated in many recent studies of science teaching and learning.

{E} Christine Howe and her colleagues, for example, have compared children's progress in understanding several types of science concepts when they are given the opportunity to observe relevant events. In one study, Howe compared the progress of 8 to 12-year-old children in understanding what influences motion down a slope. In order to ascertain the role of conflict in group work, they created two kinds of groups according to a pre-test: one in which the children had dissimilar views, and a second in which the children had similar views. They found support for the idea that children in the groups with dissimilar views progressed more after their training sessions than those who had been placed in groups with similar views. However, they found no evidence to support the idea that the children worked out their new conceptions during their group discussions, because progress was not actually observed in a post-test immediately after the sessions of group work, but rather in a second test given around four weeks after the group work.

{F} In another study, Howe set out to investigate whether the progress obtained through pair work could be a function of the exchange of ideas. They investigated the progress made by 12-15-year-old pupils in understanding the path of falling objects, a topic that usually involves

conceptual difficulties. In order to create pairs of pupils with varying levels of dissimilarity in their initial conceptions, the pupils' predictions and explanations of the path of falling objects were assessed before they were engaged in pair work. The work sessions involved solving computer-presented problems, again about predicting and explaining the paths of falling objects. A post-test, given to individuals, assessed the progress made by pupils in their conceptions of what influenced the path of falling objects.

Questions 28-30

Choose THREE letters, A-F.

The list below contains some possible statements about learning.

Which THREE of these statements are attributed to Piaget by the writer of the passage?

(A) Teachers play a big role in learning by explaining difficult concepts.

(B) Mental challenge is a stimulus to learning.

(C) Teaching should be consistent in order to easily acquire knowledge.

(D) Children sometimes ignore evidence that conflicts with their original believes.

(E) Children can help each other make cognitive progress.

(F) Cognitive progress mainly relied on children's own intellectual activity.

Questions 31-33

Choose THREE letters, A-F.

Which THREE of these statements describe Howe's experiment with 8-12-year-olds children?

(A) The difference of learning progress between groups was obvious.

(B) The most active children made the least progress.

(C) The children were evaluated on their abilities to understand a physics phenomenon.

(D) The teacher aided the children to understand a scientific problem.

(E) A total of three tests were given to the children.

(F) All the children were working in mixed-ability groups

Questions 34-37

Do the following statements agree with the hypothesis of the psychologist Piaget?

In boxes 34-37 on your answer sheet, write

TRUE	if the statement is True
FALSE	if the statement is false
NOT GIVEN	If the information is not given in the passage

(34) facing incompatible problems in different disciplines, students may be required to rethink their approach to solve the problem

(35) Pupils learn new solutions by keep questioning their original ways of thinking

(36) With clear instructions, students could acquire new concepts with few problems.

(37) Young children are less likely to change their concepts in problems of science than in mathematics.

Questions 38-40

Choose the correct letter, A, B, C or D.

Write the correct letter in boxes 38-40 on your answer sheet.

Question 38 The 'lone learner' route is an educational approach which

(A) is the main approach for discovery learning in many teaching now.

(B) requires help from the pupils' peers.

(C) relies on how the teacher guides the students heavily.

(D) missed an important part for discovery learning.

Question 39 it can be inferred from the passage as experiment in paragraph E

(A) that children acquire more when learning in groups.

(B) That children opposing each other would learn slower.

(C) Researches should check feedback right after the first test.

(D) There can be a satisfying result thanks to the duration of it.

Question 40 Howe set out the pair work experiment in order to

(A) study on how 12-15-years old pupils learn scientific concepts.

(B) assesses whether teammates would have the features of exchanging ideas.

(C) investigates pupils' ability to solve physics problems.

(D) predict and explain the path of falling objects.