I. Answer the following:

1. What was the reaction of the classmates to Ramanujan's question?

The classmates felt it was silly to ask such a question and roared with laughter.

2. What did the Indian mathematician Bhaskara prove?

Indian mathematician Bhaskara proved that 'Zero divided by Zero is infinity'.

3. Where did Ramanujan get "Loney's Trigonometry" book from ?

Ramanujan got "Loney's Trigonometry" book from the college library.

4. Where did Ramanujan do his mathematical problems?

Ramanujan did his mathematical problems on loose sheets of paper or on a slate and jotted the results in the notebooks.

5. What were the subjects neglected by Ramanujan in college?

History, English and Physiology were the subjects neglected by Ramanujan in college.

6. Which University granted him a fellowship of ₹75 a month?

The University of Madras granted him a fellowship of ₹75 a month though he had no qualifying degree.

7. What did Ramanujan send to G.H. Hardy?

Ramanujan sent a letter to the great mathematician G.H Hardy of Cambridge University, in which he set out 120 theorems and formulae.

8. Who discovered a rare mathematical genius in Ramanujan?

G.H. Hardy and his colleague, J.E. Little Wood, discovered a rare mathematical genius in Ramanujan.

II. Answer the following questions in a sentence or two:

1. Why did the students laugh at Ramanujan?

The students laughed at Ramanujan because they thought that he had asked an absurd question to the teacher.

2. Why did the teacher compliment Ramanujan?

The teacher complimented Ramanujan as he had asked a question that had taken mathematicians several centuries to answer.

3. What did Ramanujan do after reading the book on Trigonometry?

Ramanujan mastered the difficult book and he also began his own research. He came forth with many mathematical theorems and formulae which was not given in the book.

4. What disappointed Ramanujan's father?

Ramanujan failed twice in his first year arts examination in college, as he neglected other subjects such as History, English and Physiology. This disappointed his father.

5. How did Ramanujan manage his paper crisis?

Ramanujan started using even scraps of paper found lying on the streets. Sometimes he used a red pen to write over what was written in blue ink on the piece of paper he had picked up.

6. Why were Ramanujan's application for jobs rejected?

Ramanujan would visit offices showing everyone his frayed

notebooks but no one could understand what was written in the notebooks and so his applications for jobs were turned down.

7. Why was Ramanujan sent back to India?

While Ramanujan was doing his research work in Mathematics with determination, Tuberculosis, an incurable disease, was devouring him. So he was sent back to India.

II. Answer the following questions in about 80-100 words:

1. Describe the life of Srinivasa Ramanujan in India.

> Successful people are not gifted, they just work hard, then succeed on purpose.

Srinivasa Ramanujan was a child prodigy. Senior students used to go to his house to get their difficulties in Mathematics solved. At the age of 13, Ramanujan was able to get Loney's Trigonometry from a college library. He mastered the book and also began his research. He came forth with mathematical theorems and formulae which was not given in the book. One of his senior friends showed him a book titled Synopsis of Elementary Results in Pure Applied Mathematics. This book triggered the genius in him.

He used to do problems on loose sheets of paper and noted the results in the notebooks which later became famous as Ramanujan's Frayed Notebooks. He was awarded the Subramanyan Scholarship as he secured a first class in Mathematics in the Matriculation Examination. On May1, 1913 the university of Madras granted him a fellowship of ₹75 a month.

2. Narrate the association of Ramanujan with G.H. Hardy.

> " Tough situations build strong people".

Ramanujan had sent a letter to the great mathematician G.H. Hardy of Cambridge University in which he set out 120 theorems and formulae. Among them was the Reimann Series, a topic in the definite integral of Calculus. Hardy and his colleague, J.E. Littlewood, realized that they had discovered a rare mathematical genius. They made arrangements for Ramanujan's passage and stay at Cambridge University. On March 17, 1914, he sailed for Britain.

Ramanujan found it difficult to bear the cold and being a vegetarian, he had to cook his own food. But being in the company of Hardy, he could forget much of the hardship he had to endure. In Ramanujan, Hardy found an unsystematic mathematician. Ramanujan was elected, Fellow of the Royal Society on February 28, 1918.

POEM - 'THE COMET'

- Norman Little Ford

I. Read the following lines and answer the questions:

1. 'Rampaging through the heavens
   Never stopping day or night,'
   a) How does the Comet travel?
      The Comet travels through an area without stopping, making a lot of noise and causing damage.

b) Which word could you replace 'rampaging' with?

    a) charging   b) rolling   c) speeding   d) flying

  'Rampaging' could be replaced with speeding.

2. 'Faster than a cheetah

  With a tail that's miles long'

  a) Why is the Comet compared to a cheetah?

    The movement of the Comet and the cheetah is similar.

    Hence the poet compares the Comet with the cheetah because of

    its speed.

  b) Whose tail is compared here?

    The Comet's tail is compared here.

3. 'With shock wave reaching to the ground

  Causing the land to quake'

  a) What is reaching to the ground?

    Comet is reaching to the ground with a shockwave.

  b) What is causing the land to quake?

    The shockwaves of the Comet cause the land to quake.

4. 'In the dust they leave behind,

  Could have started life on the earth

  Which resulted in mankind.

  a) What does the word 'they' refer to?

    The word 'they' refers to the Comets.

  b) According to scientist, how did life start on earth?

    According to Scientists, life could have started from the

    dust left behind by the Comets.

5. 'But I know no better spectacle

  Than a Comet in full flight.'

  a) Who does 'I' refer to?

    'I' refers to the poet, Norman Little Ford

  b) What is the best spectacle mentioned in the above lines?

    The best spectacle mentioned in the above lines is the

  Comet in full speed.

II. Answer the following questions in about 80-100 words:

1. Narrate how the poet describes the Comet.

    "In order to see spectacular views one must take the tough

 trail"

    The poem titled 'The Comet' depicts the movement and the impacts of a Comet on the earthly life in a charming poetic style. The poet, Norman Little Ford thinks that the spectacle of watching a full bright Comet I mesmerizing and incomparable with any other on the earth. He compares it with the speed of a cheetah and finds it faster than the cheetah. It seems to be much greater and stronger than mountains even. Then the poet discusses that the melting of the ice in the outer surface of Comet results in the formation of a trail on its way.

    He speculates the scientists theory, that the dust left behind the comet could have been the reason for the origin of life on earth. But he is not sure about the theory. So the poet sums up that he is just an observer of the comet and does not know anything more about it. Finally he insists that he has not seen any scene which may surpass the beauty of this spectacle.

2. Give a detailed account of the various effects caused by the Comet to the earth.

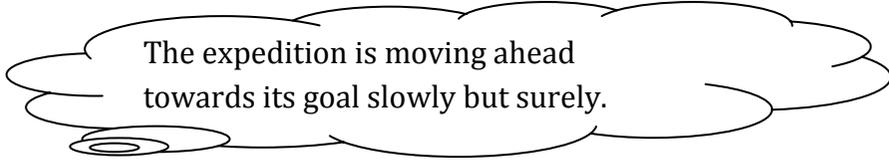> "Life is like a comet that briefly crosses the sky without almost being noticed."

The Comet is a poem written by an American Poet Norman Littleford. This poem depicts the movement and the impacts of a Comet on the earth in a charming poetic style. The poet describes its departure from somewhere in the heavens and talks about its continuous journey which it conducts without any stoppage. He thinks that the spectacle of watching a full bright comet is mesmerizing and incomparable with any other on the earth. He explains us about the devastating impact of its closeness to the earth as it may cause earthquakes. He also discusses the scientific point of view as scientists state that the chemicals found in the dust of the comet might have resulted in the start of life on the earth. The poet does not validate the theory but he insists that he has not seen any scene which may surpass the beauty of this spectacle.

SUPPLEMENTARY -"MOTHER'S VOCIE"

- Vasil Berezhnoy

Answer the following question in about 80-120 words:

Write a paragraph listing all the sentimental and the scientific reasons given by the mother against the expedition to neighbouring galaxy.

The expedition is moving ahead towards its goal slowly but surely.

The story 'Mother's Voice' is about the spirit of discovery that prompts a young astronaut to go looking for another world. The narator's mother visited her son on the moon. She admired the moonscape, endless tunnels, tall structures etc., But she wasn't very comfortable about her son's yearning to go for an expedition to the neighbouring galaxy. Therefore, she tried her best to convince her son with various sentimental and Scientific reasons. She told him that the orchards were in full bloom and a lot of fruits were expected. She spoke to him about the river Dnieper on the Earth and he should never miss it. She enquired as to why people should go into the unknown and ask for trouble. Scientifically, she said that people should establish life on the Moon at first before moving on to the other planets. She told her son that the life on the moon was better because they were in the gravitational field of their native Earth and native sun. She told him to see the miracle of the Earth floating through space, all by itself. She urged him to see the snow-cap on the pole, and the glittering ocean, 'The cradle of life'.

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