

## **SYLLABUS**

### **Class – B.Com (All) IV Sem.**

#### **Subject – English Language and Scientific Temper**

#### **Unit – I**

- Tina Morris – Tree
- Nissim Ezekiel - Night of the Scorpion
- C.P. Snow – Ramanujan
- Roger Rosenblatt – The power of WE
- George Orwell – What is Science?
- C. Rajagopalachari – Three Questions
- Desmond Morris – A short extract from the Naked Ape
- A.G. Gardiner – On the Rule of the Road

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### Night of the Scorpion

#### SUMMARY

- By Nissim Ezekiel

The poet of 'Night of the Scorpion' is Nissim Ezekiel who narrates this poem by remembering his childhood when his mother was bitten by a scorpion. He says that the continuous rain for ten hours had driven the scorpion into the house, where it crawled beneath a sack of rice. In the dark room, when his mother entered, the scorpion parted the poison into her toe in fraction of seconds and probably went out again.

The peasants of the village collected in their house in large numbers like the swarms of flies and buzzed God's name about hundred times, praying to stop the movements of the scorpion, as they believed that with every movement of the scorpion, the poison would move in the mother's blood. So, with the candles and lanterns, they even searched their house to paralyze the evil scorpion. But he was not found.

The shadows they formed on the wall, too appeared a scorpion to the poet. The villagers prayed that the scorpion stops and the sins of mother's previous birth gets washed away that night or her sufferings might decrease the misfortunes of her next birth. They said this way the sums of evil might get balanced in this unreal world. They called the world unreal as everything in this world is temporary and births and deaths keep occurring in a cycle.

They even prayed to god that the poison purifies her flesh. They sat around the mother groaning in pain. There was peace o understanding on each face as they felt that she had approached her end. The condition was becoming very messy as more neighbours were entering the house with more candles and lanterns, the insects were also increasing and the rain too continued.

The poet's father being a sceptic and rationalist person tried powders, mixtures and herbs to cure the mother. However, he also tried prayers and blessings as it was a very problematic situation He poured some paraffin upon the bitten toe and burnt it. The priest was also performing his rites to tame the poison. Finally, after twenty hours, the sting was lost. **The mother, after getting cured, thanked god that the scorpion picked her and spared her children.**

## RAMANUJAN

- By: C.P.Snow

### Summary

**Srinivasa Ramanujan** (22 December 1887 – 26 April 1920) was an Indian mathematician and autodidact who, with almost no formal training in pure mathematics, made extraordinary contributions to mathematical analysis, number theory, infinite series, and continued fractions. Ramanujan developed his own mathematical research in isolation. As a result, he rediscovered known theorems in addition to producing new work. Ramanujan was said to be a natural genius by the English mathematician G. H. Hardy, in the same league as mathematicians such as Euler and Gauss. Ramanujan was born at Erode, Madras Presidency (now Tamil Nadu) in a Tamil Brahmin family of Thenkalai Iyengar sect. His introduction to formal mathematics began at age 10. He demonstrated a natural ability, and was given books on advanced trigonometry written by S. L. Loney that he mastered by the age of 12; he even discovered theorems of his own, and re-discovered Euler's identity independently. He demonstrated unusual mathematical skills at school, winning accolades and awards. By 17, Ramanujan had conducted his own mathematical research on Bernoulli numbers and the Euler–Mascheroni constant.

In 1912–1913, he sent samples of his theorems to three academics at the University of Cambridge. G. H. Hardy, recognizing the brilliance of his work, invited Ramanujan to visit and work with him at Cambridge. He became a Fellow of the Royal Society and a Fellow of Trinity College, Cambridge. Ramanujan died of illness, malnutrition, and possibly liver infection in 1920 at the age of 32.

In December 2011, in recognition of his contribution to mathematics, the Government of India declared that Ramanujan's birthday (22 December) should be celebrated every year as National Mathematics Day, and also declared 2012 the National Mathematics Year.

### Life in England

Ramanujan boarded the S.S. *Nevasa* on 17 March 1914, and at 10 o'clock in the morning, the ship departed from Madras. He arrived in London on 14 April. & immediately began his work with Littlewood and Hardy. After six weeks, Ramanujan took up residence on Whewell's Court, just a five-minute walk from Hardy's room. Hardy and Ramanujan began to take a look at Ramanujan's notebooks. Hardy had already received 120 theorems from Ramanujan in the first two letters, but there were many more results and theorems to be found in the notebooks. Hardy saw that some were wrong, others had already been discovered, while the rest were new breakthroughs. Ramanujan left a deep impression on Hardy and Littlewood. Littlewood commented, "I can believe that he's at least a Jacobi", while Hardy said he "can compare him only with [Leonhard] Euler or Jacobi."

Ramanujan spent nearly five years in Cambridge collaborating with Hardy and Littlewood and published a part of his findings there. Hardy and Ramanujan had highly contrasting personalities. Their collaboration was a clash of different cultures, beliefs and working styles. Hardy was an atheist and an apostle of proof and mathematical rigour, whereas Ramanujan was a deeply religious man and relied very strongly on his intuition. While in England, Hardy tried his best to fill the gaps in Ramanujan's education without interrupting his spell of inspiration.

Ramanujan was awarded a B.A. degree by research (this degree was later renamed PhD) in March 1916 for his work on highly composite numbers, the first part of which was published as a paper in the *Proceedings of the London Mathematical Society*. The paper was over 50 pages with different properties of such numbers proven. Hardy remarked that this was one of the most unusual papers seen in mathematical research at that time and that Ramanujan showed extraordinary ingenuity in handling

it. On 6 December 1917, he was elected to the London Mathematical Society. He became a Fellow of the Royal Society in 1918, becoming the second Indian to do so, following Ardaseer Cursetjee in 1841, and he was one of the youngest Fellows in the history of the Royal Society. He was elected "for his investigation in Elliptic functions and the Theory of Numbers." On 13 October 1918, he became the first Indian to be elected a Fellow of Trinity College, Cambridge.

### **Illness and return to India**

Plagued by health problems throughout his life, living in a country far away from home, and obsessively involved with his mathematics, Ramanujan's health worsened in England, perhaps exacerbated by stress and by the scarcity of vegetarian food during the First World War. He was diagnosed with tuberculosis and a severe vitamin deficiency and was confined to a sanatorium.

Ramanujan returned to Kumbakonam, Madras Presidency in 1919 and died soon thereafter at the age of 32.

### ***Main article: 1729 (number)***

The number 1729 is known as the Hardy–Ramanujan number after a famous anecdote of the British mathematician G. H. Hardy regarding a visit to the hospital to see Ramanujan. In Hardy's words

"I remember once going to see him when he was ill at Putney. I had ridden in taxi cab number 1729 and remarked that the number seemed to me rather a dull one, and that I hoped it was not an unfavorable omen. "No," he replied, "it is a very interesting number; it is the smallest number expressible as the sum of two cubes in two different ways."

### **The two different ways are**

$$1729 = 1^3 + 12^3 = 9^3 + 10^3.$$

Generalizations of this idea have created the notion of "taxicab numbers". Coincidentally, 1729 is also a Carmichael number.

## WHAT IS SCIENCE?

### SUMMARY

BY: George Orwell

George Orwell's "What is Science?" is addressed as a rebuttal to a statement by a "Mr. J. Stewart Cook". Cook believes that all people should be "scientifically educated" and scientist being "brought out of their isolation" to participate in politics and economics. Orwell begins to agree with this statement, however he immediately goes into the main focus of his essay: "What defines science." Orwell points out that Cook does not define science, and that science in the public's mind is simply things like chemistry. He points out that this is not the case, and that science encompasses many subjects. No one looks at a poet and says "He is a scientist". Orwell continues to poke at what describes a scientist by prescribing a test: "withstanding nationalism". He states sciences are supposed to be international, and should not have borders. Yet we see scientists keeping to their governments. Orwell uses Nazi Germany as an example, showing how German scientists created and researched only for Germany. Orwell moves on to point out that a "scientific education" shouldn't sacrifice historical education and literacy. Furthermore, Orwell states that a "scientific education" should provide methods of solving problems, not just facts or single-minded thinking.

First off, this is quite the interesting read since I have read Orwell's *1984*. I would have never known Orwell had held such opinions on these types of matters. Orwell's thoughts on what a scientific education is and what science means is interesting. I have never thought what science meant, and his description of what the public believes it is is what I always imagined when I thought of science. This spiked my attention to continue reading. As I did, I agreed with many of his points. A scientific education should mean that we should learn how to take on problems in a scientific manner. By "Scientific manner", I mean we need to learn how to be able to solve problems, not only know solid facts on how to. An old proverb everyone knows, shortened, goes like this: "...teach a man to fish, and he will eat for a lifetime". If we teach people how to solve problems, how to think for themselves we would have a much more educated general public. That's not to say our general public isn't smart, but we hear stories of people doing things that goes against common sense.

Orwell argues that although science is highly valued in society, it should not be "piling up a lot of facts". Science should be the collective thought process of reasoning, and should coexist harmoniously with literature and art in a person's educational diet.

Orwell goes on to contrast the praise and glory given of "true" scientists ("physicist", "biologist") with other "irrelevant" occupations ("poet", "lawyer"). Orwell goes on to warn of the dangers of neglecting subjects other than science, as he believes in order to be "cultured" it is essential to study literature and arts in order to form morals. This warning comes in the form of a Nazi reference: of the scientists who become nationalistic slaves to the Nazi regime, and of physicists scrambling to unlock the secrets of atomic bomb destruction. Orwell further intensifies his persuasion through the use of diction.

He first questions science, reveals the vices of an un-rounded education, reaffirms science's value in society, then finally connects the points through the mention of the scientists who willingly chose not to participate in inhumane war efforts, as they have "some acquaintance with history or literature or the arts". Although Orwell uses light satire and humor to his point the essay reveals critical flaws in society's psychology which are appropriately addressed given this juncture in history when the lack of individual thinking and judgement lead to the onslaught of war.

**The Naked Ape**  
**by Desmond Morris**

Desmond Morris, in his introduction to *The Naked Ape: A Zoologist's Study of the Human Animal*, says that of the 193 species of monkeys and apes, all but one is covered with hair. He identifies *Homo sapiens*, the self-named ape, as the exception. In the seven chapters that follow, Morris studies humans from a zoological perspective, focusing on origins, sexual behavior, rearing, exploration, fighting, feeding, and comfort. The final chapter explores humans as they relate to other animals.

From a zoological perspective, Morris rejects the idea of a homocentric universe. He contends that humans' biological nature has shaped their social structure and not the reverse. He argues that the human reproductive cycle has the potential to overpopulate the world, and therefore, those opposing birth control are engaged in "dangerous war mongering." Finally, he cautions people that humans may destroy themselves if they do not control population and aggression and the resulting environmental damage both to other species and to the earth.

The Naked Ape's view that the behavior of humans was determined largely by their biology and that humans share many characteristics with animals, particularly apes, was offensive to many readers and enlightening to others. Nevertheless, the book had an effect on teachings in psychology, sociology, and history. Although Christian fundamentalists and other groups objected to the book, many young people found in its pages a justification for the sexual revolution.

### **THREE QUESTIONS**

**BY: C. Rajagopalachari**

About the writer

Chakravarti Rajagopalachari (1879-1972) was a prominent Indian nationalist leader, first Indian governor general of his country, and founder of the Swatantra party. He also wrote a popular version of the "Mahabharata."

Chakravarti Rajagopalachari was born in a village in Madras and graduated from the Central Hindu College of Bangalore. He then took a law degree from the Madras Law College. In 1921 Rajagopalachari was chosen general secretary of the Indian National Congress under Mohandas Gandhi's leadership. Soon thereafter his daughter married into Gandhi's family. In subsequent years he was intermittently a member of the all-powerful Congress Working Committee, the top executive arm of the National Congress, and worked very closely with Gandhi.

Summary

Yudhishtira was worried about sorrow of his brothers. He wanted them to be more cheerful. Yudhishtira was feeling thirsty so he asked Nakul to climb the tree and see whether there is any pool or river nearby. Nakul saw some water plants and cranes at a far distance from there. Yudhishtira asked Nakul to get him some water. Nakul went ahead in the forest and came across a pond. He wanted to quench his thirst first and then take water in the quiver to the rest of the brothers. When he bent down to have some water he heard a voice which stopped him from drinking water before answering some questions. But Nakul did not heed to the warning and drank the water. He overcome by drowsiness and fell down as though dead. The same was the fate of all the other three brothers – Sahadev, Arjun & Bhim. So at last Yudhishtira himself went in search of them and when he found all of them lying on the ground as if dead, he wept a lot. Then when he thought of drinking water from the pond, again the voice stopped him from doing so before answering his questions. Yudhishtira immediately guessed whose voice it was and asked him to raise his questions. When the voice asked him questions, Yudhishtira answered all of them and the voice which was of Yaksha, was impressed, and told that one of the four brothers would be alive as a reward. So he asked him to choose any of the four. Yudhishtira chose Nakula and when asked why?, he said that he did not want his second mother Madri to be bereaved of her son. So he chose him. Yaksha was impressed of the wise choice made by Yudhishtira and his impartiality and granted that all his brothers could come back to life.

## ON THE RULES OF THE ROAD

BY: A.G.GARDINER

### SUMMARY

In order to understand what Gardiner means when he says that liberty involves a social contract and not just personal liberty, think about what he says later in the essay. Later in the essay, he says

There are a lot of people in the world, and I have to accommodate my liberty to their liberties.

A fat old lady was walking with her basket down the middle of a street, in Petrograd, to the great confusion of the traffic and with no small threat to herself. It was pointed out to her that the pavement was the place for foot-passengers, but she replied: "I 'm going to walk where I like. We 've got liberty now." It did not occur to the dear old lady that if liberty unrestricted the foot-passenger to walk down the middle of the road, then the end of such liberty would be universal chaos. Everybody would be getting in everybody else's way and nobody would get anywhere. Individual liberty would have become social lawlessness.

What he means here is that we cannot simply think "I have liberty, and therefore I may do whatever I want." We have to realize that there are times when our actions can take away liberty from other people.

There is a danger of the world getting liberty-drunk in well to remind ourselves of what the rule of the road means. It means that in order that the liberties of all may be preserved, the liberties of everybody must be curtailed. When the policeman, say at Piccadilly Circus, steps into the middle of the road and puts out his hand, he is the symbol not of tyranny, but of liberty. You may not think so. You may, being in a hurry, and seeing your motor-car pulled up by this fellow, dishonour him to be interfering with your free use of the public highway? Then, if you are a reasonable person, you will reflect that if he did not incidentally, interfere with you, he would interfere with no one, and the result would be that Piccadilly Circus would be a maelstrom that you would never cross at all. You have to agree to a limitation of private liberty in order that you may enjoy a social order which makes your liberty a reality.

Because our actions can take away liberty from other people, we have to have a social contract. We have to agree to give up some of our liberty in order to keep most of that liberty. Earlier in the essay, Gardiner writes about what would happen if we did not give up our liberty when told to do so by a traffic cop (or, in modern times, a stop light). If everyone tried to keep their liberty to drive whenever and wherever they wanted, no one would have any liberty to drive at all. The intersections would be jammed as everyone tried to drive at once. It would be chaos. We are all liable to forget and unfortunately we are much more conscious of the imperfections of others in this respect than of our own. A reasonable consideration for the rights or feelings of others is the foundation of social conduct. I believe that the rights of small people and quiet people are as important to preserve as the rights of small nationalities. When I hear the aggressive, bullying horn which some motorists deliberately use, I confess that I feel something boiling up in me which is very like what I felt when Germany came trampling like a bully over Belgium. By what right my dear sir, do you go along our highways uttering that ugly curse on all who obstruct your path? Can't you announce your coming like a gentleman? Can't you take your turn? Are you someone in particular? I find myself wondering what sort of person it is who can sit behind that hog - like outrage without realizing that he is the spirit of Prussia incarnate and a very ugly spectacle in a civilized world.

Therefore, we cannot simply think that liberty means that we can do whatever we want. Instead, we have to make a social contract with other people. When we do that, we all give up some of our liberties so that everyone can live together in harmony. It is in the small matters of conduct, in the adherence of the rule of the road, that we pass judgment upon ourselves, and declare that we are civilized or uncivilized. The great moments of heroism and sacrifice are rare. It is the little habits of common place interaction that make up the great sum of life and sweeten or make bitter the journey.