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**St. Joseph's College (Autonomous), Bangalore**  
**M.Sc Mathematics - III Semester**  
**End Semester Examination\_November 2020**  
**MTOE9616: Making The Right Decision**

**Duration: 1.5 Hours**

**Max. Marks: 35**

- 1. The paper contains Four pages.**
- 2. Answer ALL questions.**

1. Everyone wants to be healthy, wealthy, and wise-or at least the first two, since a lot of people seem to assume they're already wise, but it's hard to perform major self-deception on the issues of health and wealth. As CEO of healthy humans, you're in the business of manufacturing health food. In looking over your product lines. You've noticed that you don't do so well when going up against high profile rivals with celebrity spokespeople; you seem to do better when you have the field to yourself. However, the overall balance sheet is healthy, and you're looking for new products to add to your line. should you go with [give reason]
  - A. A flavour-enhanced dried vegetable snack designed to be a substitute for potato chips and other variation of junk food? it's competitive with potato chips in taste tests.
  - B. An energy drink that is all the rage in Japan because it not only energizes you but curbs your appetite? you have an opportunity for an exclusive American franchise.
  - C. A toothpaste from Scandinavia that seems not only to leave your teeth whiter and your breath fresher but also to lower your cholesterol?

**[8m]**

2. Read the following article

With this information, if you are one of the person what options will you bring to the decision table to achieve the same payoff you had in your mind. Specify the payoff.

**On Thursday evening, detectives from India's National Investigation Agency arrived in an SUV at a red and white building on the outskirts of Ranchi in India's eastern state of Jharkhand.**

There they picked up Father Stan Swamy, an ailing 83-year-old activist and Jesuit priest. They seized his mobile phone and asked him to pack a bag. They then drove him to the airport and boarded a flight to Mumbai, where Father Swamy was remanded to judicial custody until 23 October.

He is now the oldest person to be accused of terrorism in India.

The National Investigation Agency (NIA), which deals with anti-terror crimes, arrested him in connection over a 2018 incident of caste-based violence and alleged links with Maoists. The rebels, who are active in several eastern and central states, claim that they are fighting for communist rule and greater rights for tribal people and the rural poor.

In a video recorded days before his arrest, Father Swamy said detectives had questioned him for 15 hours over five days in July. They had produced "some extracts" allegedly taken from his computer that pointed to his links with Maoists, he said. He disowned them, saying they were "fabrications" that were "stealthily" put into his computer. His advanced age, health complications, and the raging pandemic would make it difficult for him to travel to Mumbai, he told the detectives. He hoped "human sense would prevail", he said.

Despite his deteriorating health, Father Swamy never missed an opportunity to speak up for tribespeople. He has survived a bout of cancer and three surgeries. His hands shake uncontrollably - doctors have not been able to make a diagnosis yet - and food is always served to him. He sips his favourite tea through a straw from a cup placed in front of him. A few years ago, he participated in a march to protest against a spate of lynchings, trying to hold a placard with his shaking hands. "Such is his spirit and commitment," said Siraj Dutta, a local activist.

Jean Dreze, a Belgian-born Indian development economist who's known Father Swamy for over a decade, described him as a "gentle and honest man, always on time, secular and committed to his causes".

"He might have helped people with association or sympathy with Maoists, which is not uncommon in a place like Jharkhand. That doesn't make him a Maoist. His arrest is part of a larger effort to undermine opposition," Dr Dreze said. "He is now being treated like the people he has been trying to defend all his life."

Much of Father Swamy's activism, his friends say, was seeded during his time at the University of Manila. He told friends how he was inspired by the people's movement to overthrow the corrupt and brutal regime of President Ferdinand Marcos. As a postgraduate student in Brussels, he met the radical Brazilian educator, Paulo Freire, an advocate of teaching critical thought in schools. And even after returning to India, he kept in touch with people's movements in Latin America and read voraciously.

The son of a farmer father and homemaker mother from the southern state of Tamil Nadu, he led a school for training leaders of marginalised communities in Bangalore for more than a decade. "For Stan, people were more important than anything else. He leapt across the wall of church institutions to be with the people," Xavier Dias, a friend and activist, told me.

He was also stoical about loss. Two months ago, his nephew died of Covid-19 in Chennai. A few days later, his nonagenarian sister passed, of "sorrow, possibly", according to Father Swamy. "This is my personal loss, but when so many people are dying of the disease, we have to think about their losses too," he told Mr Dias.

At a dinner at Mr Dias's home, weeks before the NIA came for him, the two discussed the future and fears about an impending arrest.

"My bags are packed and I am ready to go," Father Swamy told his host.

[9m]

3. Read the following article.

With this information, what are the three options will you bring to the decision table( stating your Payoff in each case), if you are,

- (a) a student.
- (b) a teacher.
- (c) Prime minister

On 26 October, over seventy people staged a protest outside the office of Vijayanta Arya, the deputy commissioner of police for North West Delhi, in response to the police's failure to register an FIR into the alleged rape and murder of a 17-year-old domestic worker at her employer's house in Model Town.

"It is very scary, something like this could happen to anyone," Urmila Chauhan, a member of the civil-society collective Women Against State Repression and Sexual Violence, or WSS, said. She was among over seventy people from various students' and women's organisations, who staged a protest outside the office of Vijayanta Arya, the deputy commissioner of police for North West Delhi, on 26 October. The protest was in response to police's failure to register a first-information report against a complaint alleging the rape and murder of a 17-year-old domestic worker at her employer's house in the posh Model Town locality. "The women who do domestic work are among the most vulnerable in the country, if they don't register a case now, it will set a very dangerous precedent," Urmila added.

The 17-year-old resided in the nearby Gurmandi locality, situated at the edge of a drainage canal in the area. Most inhabitants of their locality are from Dalit and lower-caste communities and the teenager was from the Nishad community, which is considered an Extremely Backward Class in Uttar Pradesh and a backward class in Delhi. The 17-year-old had joined work on 25 September at the house of a senior citizen named Drupadi Bansal. On 4 October, within days of joining Bansal's employment, the teenager called her foster mother Kusum to say that Drupadi had asked her asked to sleep in the driver's room. "I don't want to go there," Kusum recalled her foster daughter had said. "Please take me with you, I don't like it here."

It was the last time they spoke. Just hours later, Kusum was summoned to the Bansal home, told over the phone that her foster daughter had locked herself up in a room. But when she reached, Kusum found the 17-year-old hanging from a ceiling fan in the driver's room. Kusum accused the Bansal family and the driver of rape and murder. But the officials from the Model Town police

station ruled the death a suicide without waiting for the results of the forensic examination, and then forced the family into a hurried cremation without letting them observe their funeral rituals. Three days after her death, the family members and Kusum's neighbours protested outside the Bansals' home to demand an FIR. They said the police responded by brutally beating and threatening them inside Model Town police station. The police denied all allegations of impropriety.

On 16 October, the family had protested outside the Model Town police station with student activists. Once again, the police detained the family and activists inside the station. They also detained me with the protesters as I was reporting from the site at the time. The police then brutally assaulted me and other student activists, led by the assistant commissioner of police, Ajay Kumar. Ten days later, on 26 October, family members, neighbours and student activists assembled outside yet another police building—the DCP's office this time—to demand an FIR. None of them appeared undeterred by the previous police excesses.

At around 6.30 pm, the ACP Subudhi stepped up to the barricade with a speakerphone and told the crowd, "We will conduct an impartial enquiry and also wait for the Forensic Lab results, and we will tell you the results within seven days." After his announcement, the crowd accepted his demands with open cynicism, and yet relieved to have arrived at some promise. As everyone began to leave, I heard Kusum tell one of the student activists, "I will keep coming here again and again. I cannot rest until I know what happened to my daughter." [9m]

4. As the final quarter of the nineteenth century approaches, you, Thomas Edison, foresee coming era of greater and greater use of machines, particularly those that use electricity. As a result, you are planning on going into business developing those machines. Not only are you very talented, but you have always been able to keep your eye on the ball—when you were young, you saved the life of a railway station official's child and asked for lessons in telegraphy as a reward. Despite the fact that you have little or no formal schooling, you have already developed several improvements to the telegraph, and this has given you a modest amount of seed money. As a result, you are nearly at the point where you can start your own company developing inventions. You already have several inventions in mind, but in order for your business to become prosperous, you want to make sure that all your ducks are in a row. The two inventions that you believe have top priority are a stock quotations printer and an electric light. Should you

- a. Develop the stock quotations printer first, as there is an immediate demand for it, although the market is small?
- b. Develop the electric light first because the market for it is so phenomenally large that it is certain to make you rich once electricity is widely available?
- c. Share work on both projects initially and then concentrate your efforts on whichever project is coming along best?

[9m]

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