

General Instructions:

1. This paper is divided into three sections: A,B &C. (A-30marks,B-30marks,C-40marks)
2. All the sections are compulsory.
3. Read the instructions very carefully given with each section and question and follow them faithfully.
4. Do not exceed the prescribed word limit while answering the questions.

SECTION A

READING (30 Marks)

Q1. Read the passage and on the basis of your understanding of the passage and answer the questions given below:

1 .Tech titans Mark Zuckerberg and Elon Musk recently slugged it out online over the possible threat artificial intelligence (AI) might one day pose to the human race, although you could be forgiven if you don't see why this seems like a pressing question.

2. Thanks to AI, computers are learning to do a variety of tasks that have long eluded them - everything from driving cars to detecting cancerous skin lesions to writing news stories. But Mr. Musk, the founder of Tesla Motors and Space X, worries that AI systems could soon surpass humans, potentially leading to our deliberate (or inadvertent) extinction.

3. Two weeks ago, Mr. Musk warned U.S. governors to get educated and start considering ways to regulate AI in order to ward off the threat. "Once there is awareness, people will be extremely afraid," he said at the time. Mr. Zuckerberg, the founder and CEO of Facebook, took exception. In a Facebook Live feed recorded on Saturday in front of his barbecue smoker, Mr. Zuckerberg hit back at Mr. Musk, saying people who "drum up these doomsday scenarios"

are “pretty irresponsible.” On Tuesday, Mr. Musk slammed back on Twitter, writing that “I’ve talked to Mark about this. His understanding of the subject is limited.”

4. Back in 1956, scholars gathered at Dartmouth College to begin considering how to build computers that could improve themselves and take on problems that only humans could handle. That’s still a workable definition of artificial intelligence. An initial burst of enthusiasm at the time, however, devolved into an “AI winter” lasting many decades as early efforts largely failed to create machines that could think and learn or even listen, see or speak. That started changing five years ago. In 2012, a team led by Geoffrey Hinton at the University of Toronto proved that a system using a brain-like neural network could “learn” to recognize images. That same year, a team at Google led by Andrew taught a computer system to recognize cats in YouTube videos without ever being taught what a cat was. Since then, computers have made enormous strides in vision, speech and complex game analysis. One AI system recently beat the world’s top player of the ancient board game Go.

5. For a computer to become a “general purpose” AI system, it would need to do more than just one simple task like drive, pick up objects, or predict crop yields. Those are the sorts of tasks to which AI systems are largely limited today. But they might not be hobbled for too long. According to Stuart Russell, a computer scientist at the University of California at Berkeley, AI systems may reach a turning point when they gain the ability to understand language at the level of a college student. That, he said, is “pretty likely to happen within the next decade.” While that on its own won’t produce a robot overlord, it does mean that AI systems could read “everything the human race has ever written in every language,” Mr. Russell said. That alone would provide them with far more knowledge than any individual human.

6 .The question then is what happens next. One set of futurists believe that such machines could continue learning and expanding their power at an exponential rate, far outstripping humanity in short order. Some dub that potential event a "singularity," a term connoting change far beyond the ability of humans to grasp. No one knows if the singularity is simply science fiction or not. In the meantime, however, the rise of AI offers plenty of other issues to deal with.

7.AI-driven automation is leading to a resurgence of U.S. manufacturing but not manufacturing jobs. Self-driving vehicles being tested now could ultimately

displace many of the almost 4 million professional truck, bus and cab drivers now working in the U.S. AI is being created by a very elite few, and they have a particular way of thinking that's not necessarily reflective of society as a whole," says Mariya Yao, chief technology officer of AI consultancy Top Bots.

8. In his speech to the governors, Mr. Musk urged governors to be proactive, rather than reactive, in regulating AI, although he didn't offer many specifics. And when a conservative Republican governor challenged him on the value of regulation, Mr. Musk retreated and said he was mostly asking for government to gain more "insight" into potential issues presented by AI.

9. Of course, the prosaic use of AI will almost certainly challenge existing legal norms and regulations. When a self-driving car causes a fatal accident, or an AI-driven medical system provides an incorrect medical diagnosis, society will need rules in place for determining legal responsibility and liability. With such immediate challenges ahead, worrying about super-intelligent computers "would be a tragic waste of time," said Andrew Moore, dean of the computer science school at Carnegie Mellon University. That's because machines aren't now capable of thinking out of the box in ways they weren't programmed for, he said. "That is something which no one in the field of AI has got any idea about."

(833 words)

(Courtesy-The Hindu)

Q 1.1 Answer each of the questions given below by choosing the appropriate option. (1*5=5)

(i) Choose the correct statement.

- a. Mark Zuckerberg believes that AI can pose a threat to humanity
- b. Elon Musk believes that AI can pose a threat to humanity.
- c. Mark Zuckerberg and Elon Musk believe that the AI can pose a threat to humanity.
- d. Mark Zuckerberg and Elon Musk denied that the AI can pose a threat to humanity.

(ii) According to Zuckerberg, "people who drum up doomsday scenarios "are _____"

- a.responsible
- b.irresponsible
- c. intelligent
- d.none of these.

(iii)Mr.Musk wants the governors to be _____in the issue of AI.

- a .proactive
- b. reactive
- c. inactive
- d. none of these

(iv)Go is the name of _____

- a. an AI
- b. a cat
- c.an ancient board game
- d.none of these

(v)A computer becomes a general purpose AI system when_____

- a. it does a simple task
- b.it does more than one simple task
- c.it would become a robot overlord
- d.none of these.

1.2.Answer the following questions briefly.(1*6=6)

- (i) What are the tasks that computers have learnt to do with the help of AI?
- (ii) Define AI?
- (iii) What caused the AI Winter?
- (iv) Mention two examples to prove that computers have made enormous strides in vision, speech and complex game analysis?
- (v) When will the AI reach a turning point?

(vi) How will self driving vehicles affect US manufacturing jobs?

1.3 Answer any three of the following in 25-30 words (2*3=6)

- (i) What difference of opinion did Mark Zuckerberg and Elon Musk hold regarding AI?
- (ii) “Some dub that potential event a “singularity,”-What is the potential event ? How can it become a singularity?
- (iii) How will the prosaic use of AI challenge existing legal norms and regulation?
- (iv) Why did Andrew Moore say that worrying about super intelligent computers is a tragic waste of time?

1.4. Pick out words or phrases which are similar in meaning to the following (1*3=3)

- (i) urgent or needing to be dealt with immediately (Para 1)
- (ii) give an unofficial name or nickname to. (Para 6)
- (iii) an increase or revival after a period of little activity, popularity, or occurrence. (Para 7)

Q.2. Read the passage and answer the questions given below:

Circadian rhythm regulates the periods of tiredness and wakefulness during the 24-hour cycle. Derived from the Latin “circa diem” meaning “approximately a day,” the body clock is calibrated by the appearance and disappearance of natural light in a 24-hour period.

The body responds primarily to light and darkness and is found in all living things — plants, animals (including microbes) and human beings. Studies using fruit flies have been key to finding the molecular gears of biological clocks and the cells that control circadian rhythms. According to the National Institute of General Medical Sciences (NIGMS), biological clocks are an organism’s innate timing device.

Very often the term biological clock is used interchangeably with circadian rhythms. Though related, they are not one and the same. Biological clocks produce circadian rhythms and regulate their timing. Like a switch, light can turn off and turn on genes that control the molecular structure of biological

clocks. Changing the light-dark cycles affects the sleep-wake cycle by speeding up, slowing down, or resetting biological clocks as well as circadian rhythm. Besides determining the sleep-wake cycle, circadian rhythms influences hormone release, body temperature, metabolism and other functions. The biological clock is generated by about 20,000 neurons that form a structure called the suprachiasmatic nucleus (SCN), which is found in the hypothalamus in the brain. These neurons receive signals from the eyes. Besides, light, exercise, hormones, and medications affect the SCN and the setting of the circadian clock. Circadian rhythms are synchronized with the earth's rotation by daily adjustments in the timing of SCN, following the exposure to light which indicates the time of the day.

When it's dark at night, the eyes send a signal to the hypothalamus that it's time to feel tired. The brain, in turn, sends a signal to your body to release melatonin hormone, which makes us feel drowsy. The onset of secretion of melatonin is about two hours before natural sleep time and peaks during the middle of the night. That's why the circadian rhythm tends to coincide with the cycle of daytime and night-time.

Circadian rhythm works best when there is regular sleep habit such as going to bed at night and waking up in the morning around the same time on all days, weekends included. Jet lag, daylight savings time, or staying awake can disrupt the circadian rhythm. Researchers are studying how shift work as well as exposure to light from mobile devices during the night may alter circadian rhythms and sleep-wake cycles.

Irregular rhythms have been linked to various chronic health conditions, such as sleep disorders, obesity, diabetes, depression, bipolar disorder, and seasonal affective disorder. People with delayed sleep phase disorder are not able to fall asleep at a normal time at night. They may stay awake until 2 a.m. or later. On the other hand, older people often tend to suffer from advanced sleep phase disorder. In this, old people tend to get very sleepy in the early afternoon and go to bed earlier than normal. As a result, they wake up too early in the morning and are unable to go back to sleep. The third category is people with an irregular sleep-wake rhythm. No matter how they try and how hard they work on it, people with irregular sleep-wake rhythm are unable to set a sleep pattern.

Cancer cells suppress the body's circadian clock by controlling protein synthesis, according to a study. "What a tumour cell is doing is taking a

pathway that is already in the cell and using it to its advantage,” said J Alan Diehl, senior researcher on the paper published in the journal Nature Cell Biology.

Researchers found that the UPR and circadian rhythm are linked together to lead the clockwork of the cell. The cancer cells use the UPR to manipulate the circadian clock. In their first set of experiments, the research team used chemicals to activate the UPR in osteosarcoma(a type of bone cancer) cells. They found that, when activated, the UPR changes levels of an important circadian protein called Bmal1.

Will living in complete darkness or being in light for 24 hours for the rest of our lives affect our circadian rhythm (sleep–wake cycles)? It is this crucial human health angle that has spawned a mushrooming body of science centred on understanding the linkages between sleep and normal metabolic activity, and the potentially deleterious effect of sleep deprivation. From “jet lag”, when people travel across different time zones challenging the internal biological clock, to the difficulties people engaged in shift-based jobs have in resetting their sleep-wake cycles, contemporary medical science acknowledges the hazards that lack of adequate sleep can pose. The ubiquitousness of the smartphone, tablet, computer and TV screens that may disrupt the circadian rhythm because of the light they emit is being studied extensively. The Nobel-winning researchers’ contributions have also led to an improved understanding of the link between peak physical performance in sport and the time of the day. Ultimately, the prospect that the circadian rhythm may well hold the key to future breakthroughs in the modulation and treatment of various diseases is truly tantalising. (847 words)

2.1 On the basis of your reading of the above passage make notes on it, using headings and sub-headings. Use recognizable abbreviations (wherever necessary – minimum four) and a format you consider suitable. Provide a suitable title.

(5)

2.2 Write a summary of the passage in about 100 words. **(5)**

SECTION B

ADVANCED WRITING SKILLS

(30 MARKS)

3. The Student Council of Good Samaritan Public School, Palakkad have decided to invite the renowned Malayalam writer Sri. M T Vasudevan Nair to inaugurate their literary fest .Imagine that you are the School Captain .Draft a formal invitation in about 80 words to invite the guest.

or

You are the Manager of Mehar Tours and Travels .You are organizing a 15-day tour to the holy cities of North India. Draft an advertisement for the classified columns of a popular daily mentioning discounts and offers. **(4)**

4. Urban Emissions, a research outfit tracking air quality ,estimates that about 5000 tonnes of crackers were burst on Diwali day in the capital city alone despite the efforts made by the government to reduce the pollution levels. You , Bhavjeet Kaur of 25/A, Defence Colony, New Delhi, were deeply distressed at the casual way in which Delhites have responded to air pollution which is a public health issue .You have decided to write a letter to the Editor of a popular daily and create awareness among the people. Write the letter in 100 -125 words.

Or

You have come across an advertisement put forth by NIT Kozhikode inviting applications for the post of Assistant Professor in the Department of Mechanical Engineering. You are a post graduate in Mechanical Engineering with five years of experience in teaching. Write an application enclosing your resume to the Director. **(6)**

5 Social media and emerging mobile technologies have changed the interaction of the human landscape. Though it has made life comfortable it is funny to note that in our obsession with a data driven world human relationships have taken a back seat. Man is a social animal and he needs to interact with his fellow beings. Write an article in about 150-200 words for the school magazine emphasising the importance of better interaction within the family and the society which will help the individual to lead a happy and healthy life.

Or

The students of KV No.2 Kasaragod were lauded by the larger community outside as they have distributed 1000 cloth bags to the students and staff to reduce the use of plastic carry bags. Inspired by the noble venture you and your

friends have decided to carry out the project in your school. Draft a speech for the morning assembly in 150-200 words to create awareness against plastic and to seek the co-operation of your friends and teachers for the successful implementation of the project.

(10)

6. You were part of the Scout team of your school which helped in the rescue work in flood affected areas of your district. You helped in evacuating people and worked in the community kitchen in one of the relief camps. Write a report in 150-200 words about the rescue operation highlighting the organisational aspect, the duties given to the volunteers and how these were discharged for publication in your school magazine

or

“Smart classrooms cannot replace a smart teacher”. Participate in the debate and present your views in 150-200 words either for or against the motion.

(10)

SECTION C

40 MARKS

LITERATURE: TEXT BOOKS AND LONG READING TEXT

Q7. Read the extract and answer the following questions briefly (1x4=4)

“Unless, governor, inspector, visitor,

This map becomes their window and these windows

That shut upon their lives like catacombs.”

(a) Why does the poet invoke ‘governor, ‘inspector’ and ‘visitor’?

(b) How can ‘this map’ become ‘their window’?

(c) What do you understand by catacombs?

(d) Which literary device has been used in the last line? Explain.

Or

Perhaps a huge silence

might interrupt this sadness
of never understanding ourselves
and of threatening ourselves with
death

- a) Name the poem and the poet
- b) What does the poet expect the huge silence to achieve?
- c) How can we achieve the huge silence?
- d) How do human beings threaten themselves with death?

Q8. Answer any four the following questions in 30-40 words: (3x4=12)

- (i) Describe the lesson in writing that M. Hamel undertook during the last lesson.
- (ii) “As soon as he gets clean and dressed up, you will see something different.” How did this statement of the ironmaster prove to be true?
- (iii) What kind of relationship did Sophie share with her brothers?
- (iv) How do you know that Japanese rulers are selfish and autocratic in their attitude?
- (v) What basic tale did Jack follow in his story telling sessions?
- (vi) What advice did Annan give to Bama? How did it help her?

Q 9. Answer any one of the following in 120-125 words (6 marks)

- (i) The bangle makers of Firozabad welded colourful bangles for the women of the land. But their lives were not as colourful as the bangles they made. Examine the reasons for the same.(Lost Spring)
- (ii) How did Douglas attain the confidence to walk the trails and climb the peaks?(Deep Water)
- (iii) How did Gandhi intertwine politics and help to the poor people of India in Champaran?(Indigo)

Q 10. Answer any one of the following in 120-150 words (6 marks)

- (i) The Tiger King’s quest for tigers was full of hurdles and challenges. Justify the statement. (Tiger King)

- (ii) How did the meeting with the old man become instrumental in the transformation of the teenager?(On the Face of it)
- (iii) Evans' escape plan is revealed to the reader in the conversation between Evans and the Governor in the hotel room. Describe the plan.(Evans Tries an O Level)

Q 11. Answer any one of the following in 120-150 words (6 marks)

- (i) Bunting the Vicar and Dr. Cuss , the physician have been portrayed as humorous characters in the novel .Elucidate
- (ii) The transformation that happens to the vagabond is indeed surprising- Elaborate the changes that you find in the character of Thomas Marvel.

Q 12. Answer any one of the following in 120-150 words (6 marks)

- (i) Griffin got into the Omniums empty handed and left empty handed. How did his plan fail?
- (ii) How did the people at the 'Jolly Cricketers Pub' react when Mr Marvel came running to them asking for refuge?
