

NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR, HIMACHAL PRADESH

End Semester Theory Examination (December 2023)

Communication Skills (Course Code: HS-101)

B.Tech. 1<sup>st</sup> Year, 1<sup>st</sup> Semester (Sections: A, B, C, D & E)

Max. Marks: 50

QUESTION PAPER

Time: 3 hours

**Instructions:**

- This exam has three parts: Part A, Part B, & Part C
- Read all the questions from each part and answer as directed.

**PART: A**

Read the following passage and answer the given questions.

(10 marks)

If you believe some AI watchers, we are racing towards the Singularity – a point at which artificial intelligence outstrips our own and machines go on to improve themselves exponentially. If that happens – and it's a big if – what will become of us? In the last few years, several high-profile voices, from Stephen Hawking to Elon Musk and Bill Gates, have warned that we should be more concerned about possible dangerous outcomes of supersmart AI. And they've put their money where their mouth is: Musk is among several billionaire backers of OpenAI, an organization dedicated to developing AI that will benefit humanity. But for many, such fears are overblown. As Andrew Ng at Stanford University, who is also chief scientist at Chinese internet giant Baidu, puts it: fearing a rise of killer robots is like worrying about overpopulation on Mars. That's not to say our increasing reliance on AI does not carry real risks, however. In fact, those risks are already here. As smart systems become involved in ever more decisions in arenas ranging from healthcare to finance to criminal justice, there is a danger that important parts of our lives are being made without sufficient scrutiny. What's more, AIs could have knock-on effects that we have not prepared for, such as changing our relationship with doctors to the way our neighbourhoods are policed.

What exactly is AI? It's machines doing things that are considered to require intelligence when humans do them: understanding natural language, recognizing faces in photos, driving a car, or guessing what other books we might like based on what we have previously enjoyed reading. It's the difference between a mechanical arm on a factory production line programmed to repeat the same basic task repeatedly and an arm that learns through trial and error how to handle different tasks by itself. How is AI helping us? Right now, the leading approach to AI is machine learning, in which programs are trained to pick out and respond to patterns in large amounts of data, such as identifying a face in an image or choosing a winning move in board games. This technique can be applied to all sorts of problems, such as getting computers to spot patterns in medical images. Google's artificial intelligence company DeepMind is collaborating with the UK's National Health Service on a handful of projects, including ones in which their software is being taught to diagnose cancer and eye disease from patient scans. Others are using machine learning to catch early signs of conditions such as heart disease and Alzheimers.

So what's the problem? Rather than worrying about a future AI takeover, the real risk is that we can put too much trust in the intelligent systems we are building. Recall that machine learning works by training software to spot patterns in data. Once trained, it is put to work analyzing fresh, unseen data. But when the computer generates an answer, we typically cannot see how it got there. There are obvious problems here. A system is only as good as the data it learns from. Take a system trained to learn which patients with pneumonia had a higher risk of death so they might be admitted to the hospital. It inadvertently classified patients with asthma as being at lower risk. This was because, in typical situations, people with pneumonia and a history of asthma go straight to intensive care and, therefore, get the kind of treatment that significantly reduces their risk of dying. The machine learning took this to mean that asthma + pneumonia = lower risk of death. Since so much of the data we feed to AIs is imperfect, we should not always expect perfect answers. Recognizing that is the first step in managing the risk. Decision-making processes built on top of AIs need to be made more open to scrutiny. Since we are building artificial intelligence in our own image, it is likely to be both as brilliant and as flawed as humans.

1. Read the following sentences and write the synonym of the underlined word in each sentence. (2 marks)
  - A) Musk is among several billionaire backers of OpenAI.
  - B) Decision-making processes built on top of AIs need to be made more open to scrutiny.
2. Use any one note-making method (outline, mind-map, or tabular/charting) and prepare comprehensive notes on the given passage. Summarize all the main ideas of the passage in 100-120 words and give a suitable title to the passage. (4 marks)
3. "Artificial Intelligence enhances creativity and innovative minds in education." Do you agree with the statement? State your opinion on the statement and justify your stance with logical reasons and suitable examples in about 100-120 words. (4 marks)

**PART: B**

Answer the following questions in about 200-250 words.

(10X3= 30 marks)

4. Explain the concept of technical report writing and different types of reports with suitable examples.
5. Define communication with its various channels and levels. Also, explain the possible barriers to communication at each stage that can cause miscommunication.
6. You are going to face a job interview next month for a four-month internship in an international project in your field. This project is an excellent opportunity for you to improve your profile. Prepare your SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis and discuss the factors you want to incorporate in your interview. Also, prepare your one-page resume.

**PART: C**

Answer the following questions

(5X2= 10 marks)

7. Write a short paragraph on Any One (A or B) of the following topics. Also, in your paragraph, identify parts (Introduction, Topic Sentence, Supporting Details, and Conclusion) of the paragraph in about 150-200 words.
  - A. Reasons for the Indian Team's failure in World Cup 2023
  - B. Role of students in building drug-free educational institutions
8. Analyze the following questions and complete the given task. Attempt Any One (A or B)
  - A. You see a job advertisement while reading *The Hindu* newspaper in the morning. The advertisement is for an internship position for B.Tech. students at a reputed university. The prerequisites for the position advertised are provided in the box below. The candidate needs to complete the online application and upload a copy of their cover letter in the application. **Write a cover letter.**

<p><b>Position:</b> Intern for national-level research project on Data Science and Artificial Intelligence</p> <p><b>No. of Positions:</b> 10</p> <p><b>Project Sponsored:</b> AICTE, India</p> <p><b>Selection Process:</b> Online interview</p>	<p><b>Essential Qualifications:</b>                  B.E/B.Tech. in any field of specialization with at least 7.0 CPGA on 10-point scale or 70% marks in B.Tech. or class 12 or proceeding technical course semester                  The First Year and First Semester B.Tech. candidates are also eligible.</p>	<p><b>Duration:</b> 01/02/2024 to 01/03/2024</p> <p><b>Last date to apply:</b> 15/01/2024. Shortlisted candidates for the online interview will be informed by email.</p>
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-OR-

B. The graph below shows India and China's population figures since 2000 and predicted population growth up until 2050. Write a brief report (describing the context, finding and analyzing the patterns with a suitable conclusion) by interpreting the information given in the graph in about 150-200 words.

