

Indian Institute of Technology
Department of Humanities and Social Sciences
HS5111: Technical Writing and Soft Skills

Time: 3 hours

Total Marks: 80

Answer all the questions. Follow the instructions carefully.

- I. 'AI is not suited for a rich country with human resources like India'. Write 5 statements either in support of or against the statement. [10 marks]

- destroy jobs
- environment factors
- societal impact
- false usage
- overreliance

- II. Read the given passage and answer the questions that follow:

I recently went to the doctor with an inexplicable stomach pain that had persisted for several days. After a brief examination, he provided his diagnosis: "It's probably stress". I have to admit that I was disappointed with the verdict as I was hoping that he would find a more concrete cause that could be easily resolved with prescription drugs. Instead, I was going to have to take a look at my life-style and try to make some changes. I began by reading some on-line articles about the causes of stress. According to my research, the main sources of stress in adults are money problems, job worries, relationships, and family problems. I do have a demanding new boss, and I have recently had a slight disagreement with a sibling, but I hadn't really considered myself to be stressed about either issue. When I think about it, I don't really know anybody who doesn't suffer from at least one of the four major causes of stress. Does that mean we are all stressed to a certain degree? My reading seemed to confirm that this is indeed the case. We all have problems that can make us feel stressed, but the difference is in how we manage that stress. Apparently, some of us are better at taking charge of our thoughts, feelings, schedule, and the way we deal with problems than others. Some people are able to remain calm and in control, despite the demands and pressures of everyday life. So how could I become one of those people? I went to talk to a life-style counsellor, who presented me with several suggestions. Firstly, I could try to take control of my environment by eliminating unnecessary stresses. Clearly, I wouldn't be able to eradicate my boss or my brother. However, I could avoid travelling in a cramped train carriage every morning by getting up 10 minutes earlier and catching a bus to work. I tried it for a few days, and surprisingly enough I already felt a little more in control. Secondly, I should try to adopt a healthier life-style. We all know that a healthy diet and regular exercise make us thinner and fitter, but I wasn't aware that they could also help to eliminate stress. I decided to start with some small changes, such as cutting out sweets and desserts, and taking the stairs instead of the lift. Again, I immediately felt that these small

changes were making a positive difference. Perhaps the most important advice of all was to learn to accept the things that I couldn't change. I started to think of my challenges as opportunities for personal growth. Neither my boss nor my brother were going to back down, so I had to learn to compromise. I would start to expect less of people and accept that no one is perfect, least of all myself. A couple of days ago, I met with my best friend Sandra and told her of the changes I had made to try to conquer my stress. She thought about it for a while before responding: "So, it now takes you longer to get to work, you don't allow yourself any treats, your boss and your brother are still problematic, yet you feel less stressed?". To be honest, as I hadn't really known that I was stressed in the first place, it was hard to compare my stress levels with what they had been before. But one thing was for sure, talking and laughing about it with Sandra made me feel far better than any of my other actions. Maybe it's OK to be stressed as long as there is a friend to share it with.

- (a) Summarize the main ideas of this passage in **your own words** (150 words).
[5]
- (b) Which of the following is **NOT** a type of stress mentioned by the writer? [1]
- (i) Lifestyle stress
 - (ii) Job worries
 - (iii) Money problems
 - (iv) Academic stress
- (c) Are relationship issues acute stress or chronic stress? [1]
- (d) If you were in place of the writer, how would you manage the problem the writer is facing? [3]

- III. IIT Patna is an institute of national importance and has been set up 30 Km outside the city of Patna. A major issue that the institute faces is heavy traffic jams. Using the 5 why technique, formulate 5 questions that you would ask to find a solution to this problem. [5 marks]

5 whys
 why 30 km away?
 why heavy traffic? Jam
 why construction
 why construction delayed?
 why workers strike
 how do we fulfil demand of worker

- IV. You are the principal of a school that has recently introduced AI-based learning tools to enhance classroom education. While many teachers and students appreciate the innovative approach, some parents are concerned about data privacy, over-reliance on technology, and potential job threats to teachers. Using Edward de Bono's concept of the white hat, analyze the situation to make an informed decision about continuing, modifying, or discontinuing the use of AI-based tools. [5 marks]

OR

A city is planning to introduce electric buses to its public transport system as part of a sustainable urban development initiative. Using Edward de Bono's concept of the black hat, state whether the city should proceed with the initiative or not.

[5 marks]

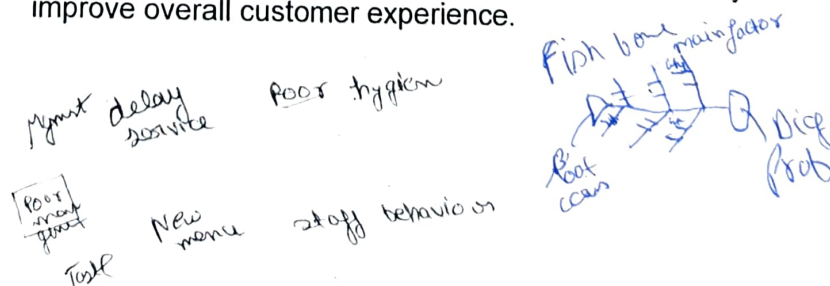
V. Write True/ False against the given statements:

[10 marks]

- Epistemological awareness in critical thinking involves recognizing the limitations of personal knowledge and the contextual nature of truth.
- In the Paul-Elder model, the intellectual standard of 'Precision' focuses on identifying the emotional impact of an argument rather than ensuring exactness in reasoning. **T**
- The 'head' of the Fishbone Diagram represents the root cause of the problem. **F**
- The yellow hat, in the Six Thinking Hats Technique, signifies creativity and innovations.
- Hofstadter's Law states that tasks should never take longer than expected, even if we account for this delay in advance. **F**
- The Fishbone Diagram is also known as the Pareto Chart. **F**
- Neuroticism is one of the big five personality traits. **T**
- The Id operates according to the reality principle and is concerned with rational decision-making.
- Stress is only caused by external factors, such as work pressure or family problems. **F**
- Procrastination management, in the 5 P's of Time Management, is the process of avoiding starting tasks until the last possible moment. **T**

VI. A restaurant that has been running successfully for the last 15 years is suddenly facing a financial crisis due to customer dissatisfaction. Draw a Cause and Effect Diagram to elaborate on the root causes contributing to the decline in customer satisfaction at the restaurant and how they can be addressed to improve overall customer experience.

[5 marks]



VII. Fill in the Blanks with the appropriate word.

[10 marks]

- i. Tasks that are not important and can be eliminated to save time are categorized under the ' _____ ' of Time Management. (Defer/ Delegate/ Delete)
- ii. Personality is shaped by the drive to meet basic and _____ needs, ultimately leading to self-actualization. (Safety/Esteem/Psychological)
- iii. Individuals with high _____ are more prone to stress and mood swings. (Conscientiousness/ Neuroticism/Agreeableness)
- iv. Competitiveness, perceived value, and discounts are aspects of product _____, not pricing. (quality/quantity/relativity)
- v. In the Pickle Jar Theory, the _____ represents trivial tasks or distractions that don't significantly contribute to your main goals. (Sand/ Water/ Pebbles)
- vi. Pareto's Principle monitors and reassesses the data to ensure the focus remains _____ and impactful. (Objective/Relevant/Subjective)
- vii. _____ involve numerous interconnected variables and are difficult to predict or control due to their many changing elements. (Complex problems/ Ill-defined problems/ Well-defined problems)
- viii. _____ technique that involves grouping thought-intensive work with short breaks in between. (Pomodoro/ Time blocking/ Priority matrix)
- ix. The order of deductive reasoning- _____ → Application to Specific Case → Specific Conclusion. (General Premise/ Specific Observations/ Pattern Recognition)
- x. _____ ability to think clearly, rationally, independently and understand the logical connection between ideas. (Inductive thinking/ Critical thinking/ Logical thinking)

VIII. For each question, choose the correct option and write the complete option in the answer booklet.

[15]

(a) What is the benefit of stress management?

- ☒ i. Greater emotional resilience
- ii. Low productivity
- iii. Hypertension
- iv. Greater relationship stress

(b) Which is not a key component of stress management?

- i. Diet and sleep
- ii. Building resilience
- iii. Relaxation techniques
- iv. ✓ Caregiving responsibilities

(c) Which is not a personal and internal stressor?

- i. Unrealistic goals
- ii. Perfectionism
- iii. ✓ Information overload
- iv. ✓ Negative self-talk

(d) What is the purpose of a SWOT analysis in problem-solving?

- i. To prioritize tasks for a solution
- ii. To brainstorm creative solutions
- iii. ✓ To identify strengths, weaknesses, opportunities, and threats
- iv. To evaluate the efficiency of a chosen solution

(e) Which method uses a structured series of questions to explore a problem and challenge assumptions?

- i. Root cause analysis
- ii. ✓ Socratic questioning
- iii. Design thinking
- iv. ✓ Six Thinking Hats

(f) What is the final step in any effective problem-solving process?

- i. Identifying the problem
- ii. Generating solutions
- iii. Monitoring and evaluating the outcome
- iv. Implementing the solution

(g) What is the primary purpose of brainstorming in problem-solving?

- i. ✓ To evaluate the best solution
- ii. To generate multiple ideas
- iii. To implement a decision
- iv. To analyze root causes

(h) Which problem-solving technique focuses on identifying the root cause of a problem?

- i. SWOT analysis
- ii. ✓ Fishbone diagram
- iii. Pareto analysis
- iv. Decision matrix

(i) Which of the following is the first step in the problem-solving process?

- i. Implementing a solution
- ✓ ii. Defining the problem
- iii. Brainstorming ideas
- iv. Evaluating alternatives

(j) What is not a feature of the drill-down technique?

- i. Systematic
- ii. Decomposition
- iii. Feasibility
- iv. Focus

(k) What is a wicked problem?

- i. A problem that is morally challenging
- ii. A problem with a clear and definitive solution
- ✓ iii. A complex problem with no clear solution and conflicting requirements
- iv. A trivial problem that requires minimal effort

(l) What is the quality of Green Thinking?

- i. Impulsive
- ii. Probing
- iii. Self-correcting
- iv. Disciplined

(m) What is not a barrier to critical thinking?

- i. Relativism
- ii. Sociocentrism
- iii. Ecocentrism
- iv. Egocentrism

(n) Which is not a 4D of time management?

- i. Delete ✓
- ii. Delegate ✓
- iii. Determine ✓
- ✓ iv. Decipher

wa (o) What is a stumbling block in time management?

- i. Multitasking
- ii. Clear goals
- iii. Prioritisation
- iv. Time Blocking

IX. In each of the given sentences, do as is directed. Write the complete sentence in the answer booklet. [10]

1. Do you think we will be able to _____ this month without fellowship? (choose appropriate phrasal verb: get by/ get off)
 2. We are going to have to _____ our trip to Spain until February. (choose the appropriate phrasal verb: put up/ put off)
 3. I thought I would _____ for a cup of coffee. Is that fine with you? (choose appropriate phrasal verb: drop off/ drop in)
 4. These old shoes are starting to _____ completely. (choose the appropriate phrasal verb: fall apart/ fall off)
 5. The chef prepared a delicious meal for the guests. (Convert into passive voice)
 6. The homework was completed by the students on time. (Convert into active voice)
 7. He said, 'I will attend the meeting tomorrow.' (Convert into indirect speech)
 8. She said that she was reading a book. (Convert into direct speech)
 9. This is the bestest example of an interdisciplinary subject. (Find the errors and write the correct sentence)
 10. Some of the best wooden cravings is to be find in temples of South India (Find the errors and write the correct sentence)
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