Indian Statistical Institute
Course Name: M.Tech(CS)
Name of the Subject: Introduction to Cognitive Science
Date: 24.11.2025 and Duration: 2 hours 30 minutes
Time: 2:30 P.M

Course: M.Tech Computer Science

Marks:50

Answer any **Three** of the following questions: **3x10=30**

1. Define and discuss the cognitive characteristic features of human speech.
2. Explain the historical development of cognitive science and how it relates to language and human interaction.
3. Describe how the ideas in embodied cognition help in constructing intelligent computer systems, such as Natural language processing and human-computer interaction.
4. Cognitive Science vividly contributes to the improvement of AI and ML applications. Elaborate.
5. How do dreams contribute to our understanding of mental representation, emotion, and consciousness?
6. Explain the theoretical foundations of Cognitive Grammar and how it redefines the relationship between meaning, structure, and conceptualisation.
7. What makes human language a uniquely generative system? Provide your answer with respect to Pinker's Perspective.
8. Discuss Wilson's six views of embodied cognition and address their implications for the role of the body in shaping thought and linguistic meaning.

Write short notes on any **Four** of the following topics: **4x5=20**

9. Hemispheric specialisation of the Human brain
10. Behaviouristic, Mentalistic, Socio-Interactional and Cognitive views of language
11. Digital Representations and Analogue Representations
12. Cognitive Grammar
13. Mental Imagery in Language
14. Relation between Cognitive Science and Computer Science
15. Dream as a reflection of mental activity
16. The role of emotion in language

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