

Department of Humanities and Social Sciences
IIT BOMBAY

Entrance test paper for Ph.D. admission in CISTS

Time : 3 hrs

Marks : 70

Note: The question paper consists of TWO parts. While the questions in Part-B are compulsory, you may choose to answer any THREE from Part-A.

Part - A

(3 × 12 = 36 marks)

1. Define कारक and elaborate the concepts pertaining to six of them citing relevant examples.
2. Explain the concept of शाब्दबोध, citing its causes with specific examples. Also elaborate on how the शाब्दबोध of a sentence takes place as outlined by grammarians.
3. Explain the following concepts quoting relevant sutras: पद , अङ्ग, भ, प्रातिपदिक, धातु.
4. Describe in sufficient detail the various principles behind the rule based approach of Machine Translation.
5. Explain how Paninian grammar provides a theoretical framework/insight for doing the NLP.
6. What is a Wordnet? Describe in detail the effort of Indo-Wordnet and its function in Machine Translation.

Part - B

(14 + 2 × 10 = 34 marks)

1. Explain the following verse by giving word to word meaning. Also indicate how the compounds in this verse are constructed mentioning their names at each stage of the compound formation.

आरामाधिपतिर्विवेकविकलो नूनं रसा नीरसा
वात्याभिः परुषीकृता दश दिशः चण्डातपो दुस्सहः ।
एवं धन्वनि चम्पकस्य सकले संहारहेतावपि
त्वं सिञ्चन्नमृतेन तोयद कुतोऽप्याविष्कृतो वेधसा ॥

(Hints: Here are meanings of a few words (in context) that may be helpful: आराम – garden;
रसा – earth; धन्व – saline soil)

2. Write an essay (in about 20 sentences) in Sanskrit on any topic of your choice.
3. Write a detailed note on the topic of research that you would like to pursue for presenting your doctoral dissertation at IIT Bombay.