



INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR

End-Autumn Semester Examination 2022-23

Date of Examination: 24.11.2022 Session: (FN/AN) AN Duration: 3 hrs. Full Mark: 50

Subject No.: KS 20203 Subject: Paninian Grammar from Computational Perspective

Department/Center/School: Centre of Excellence for Indian Knowledge System

Specific charts, graph paper, log book etc., required : Nil

Special Instructions (if any): Nil

Q1. Answer the following questions in 100 – 150 words (Any four)

(20 Marks)

1. Explain the insights that one gets about information coding from पाणिनि's work.
2. What is Natural Language Processing? List a few sub-fields of Natural Language Processing.
3. Write a note on some recent researches in NLP based on Pāṇinian Grammar.
4. Write a note on various types of प्रत्ययस in the अष्टाध्यायी.
5. Explain with examples the different levels at which व्याकरण operates.
6. Explain with examples, special meanings that पाणिनि has assigned to various cases (विभक्तis) for the purpose of preparing his सूत्रs.

Q2. Explain the following terms in 70 – 100 words (any five)

(15 marks)

1. अनुबन्धः
2. अनुवृत्ति
3. संहिता
4. कारक
5. प्रत्याहार
6. प्रत्याहारसूत्र
7. सम्प्रसारण

Q4. Answer any one of the following in detail

(10 marks)

1. Explain various types of सूत्रs found in the अष्टाध्यायी with examples.
2. Explain few techniques of conflict resolution adopted in the अष्टाध्यायी.

Q5. Answer the following questions in one sentence (any 5)

(5 marks)

1. Which वर्णs or sounds are included in प्रत्याहार 'झल्'?
2. What is the meaning of सप्तमी विभक्ति (locative case) in अचि
3. Which प्रत्याहार covers the sounds य, व, र् and ल्?
4. Give an example of Data Encapsulation in the अष्टाध्यायी.
5. Give an example of Subroutines in the अष्टाध्यायी.
6. State the 1.root, 2. suffix and 3. transformation process involved in the derivation of the word 'कार्य'.
7. Which type of सूत्रs can be called as Meta-rules?