

**JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT**

**TEST -3 EXAMINATION- December 2024**

**Ph.D. I Semester (Research Methodology – Module 3)**

**COURSE CODE(CREDITS): 18PIWGE101 (3)**

**MAX. MARKS: 25**

**COURSE NAME: Research Methodology (Module 3)**

**COURSE INSTRUCTORS: Prof. RK Bajaj & Dr. Vikas Baghel**

**MAX. TIME: 2 Hours**

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*Note: (a) All questions are compulsory.*

*(b) Marks are indicated against each question in square brackets.*

*(c) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems.*

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1. Explain some applications of fuzzy set theory in speech recognition. (5)
2. Discuss the role of fuzzy membership function in feature extraction while identifying vowel and consonants. (5)
3. In the field of pattern matching in speech recognition, using fuzzy rules, describe the method to decide the best match for words in a spoken sentence. (5)
4. Define a hypergraph with its visualization, various terminologies and example. (5)
5. Demonstrate various types of sub-hypergraphs with examples. What is the concept of adjacency in these graphs? (5)

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