FACULTY OF INFORMATICS

M.C.A. (2 Years Course) III-Semester (CBCS) (Backlog) Examination, October/November 2023

Subject: Natural Language Processing (E-II)

Time: 3 Hours   **Max. Marks: 70**

Note: I. Answer one question from each unit. All questions carry equal marks.
II. Missing data, if any, may be suitably assumed.

Unit – I
1. (a) What is Probability theory? What are the types? Explain.
   (b) Write short notes on Linguistic essentials.

   (OR)
2. (a) What is Collocation in corpus linguistics? Explain.
   (b) List out some challenges of NLP.

Unit – II
3. (a) What is Statistical Inference? What are the types of Statistical Inference?
   (b) How do you detect and mitigate discrimination/bias in NLP?

   (OR)
4. (a) Explain the process of building an n-gram model.
   (b) What do you mean by Equivalence Classes? Explain briefly.

Unit – III
5. (a) Explain Bayesian Classification in detail.
   (b) What are Pseudo Words?

   (OR)
6. (a) Write about Supervised Disambiguation.
   (b) What is Unsupervised Learning in general?

Unit – IV
7. (a) How NLP techniques are evaluated? What are the metrics?
   (b) What is Mean Average Precision?

   (OR)
8. (a) What are the elements of Hidden Markov Model?
   (b) What is POS tagging?

Unit – V
9. (a) What is Distribution based Clustering?
   (b) What is Hierarchical Clustering?

   (OR)
10. (a) Explain Vector Space Model in detail.
    (b) Write short notes on context free grammar in NLP.

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