

**These are sample MCQs to indicate pattern,  
may or may not appear in examination.**

**Mahatma Education Society's  
Pillai HOC College of Engineering and Technology**

Program: BE Computer Engineering

Curriculum Scheme: Revised 2016

Examination: BE SEM VIII

Course Code:DL08012 and Course Name: Natural Language Processing

Time: 1hour

Max. Marks: 50

|   |                                                                                  |
|---|----------------------------------------------------------------------------------|
| Q | What is Machine Translation?                                                     |
| A | Converts one human language to another                                           |
| A | Converts human language to machine language                                      |
| A | Converts any human language to English                                           |
| A | Converts Machine language to human language                                      |
| Q | Which of the following is used to mapping sentence plan into sentence structure? |
| A | Text planning                                                                    |
| A | Sentence planning                                                                |
| A | Text Realization                                                                 |
| A | Sentence Realization                                                             |
| Q | _____ Is the Second Stage in NLP?                                                |
| A | Syntactic Analysis                                                               |
| A | Discourse Analysis                                                               |
| A | Semantic Analysis                                                                |
| A | Pragmatic Analysis                                                               |
| Q | Progmatic Analysis Is the _____ Stage in NLP?                                    |
| A | First                                                                            |
| A | Second                                                                           |
| A | Fifth                                                                            |
| A | Forth                                                                            |
| Q | Which Historical event is related to NLP                                         |
| A | First World War                                                                  |
| A | Second World War                                                                 |
| A | American Revolution                                                              |
| A | French Revolution                                                                |
| Q | When did first patent's for transating machine were applied for                  |
| A | In the mid of 1930                                                               |
| A | at the end of 1930                                                               |
| A | In the begining of 1930                                                          |
| A | In the mid of 1931                                                               |

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|---|---------------------------------------------------------------------------------------------------------|
| Q | In 1969 Roger schank introduced _____ dependency theory for NL understanding                            |
| A | Conceptual                                                                                              |
| A | Bilateral                                                                                               |
| A | Trilateral                                                                                              |
| A | Textual                                                                                                 |
| Q | Where did the first recognisable NLP application developed ?                                            |
| A | At Birkbeck College, London                                                                             |
| A | At IBM Research.                                                                                        |
| A | At Thomas College , Newyork                                                                             |
| A | At the University of America                                                                            |
| Q | In NLG _____ includes retrieving the relevant content from knowledge base.                              |
| A | Text planning                                                                                           |
| A | Sentence planning                                                                                       |
| A | Text Realization                                                                                        |
| A | Text Mapping                                                                                            |
| Q | _____ is mapping sentence plan into sentence structure.                                                 |
| A | Text planning                                                                                           |
| A | Sentence Planning                                                                                       |
| A | Text Realisation                                                                                        |
| A | Text Mapping                                                                                            |
| Q | Which of the following computer language is used for artificial intelligence?                           |
| A | FORTRAN                                                                                                 |
| A | PROLOG                                                                                                  |
| A | C                                                                                                       |
| A | COBOL                                                                                                   |
| Q | The area of AI that investigates methods of facilitating communication between people and computers is: |
| A | natural language processing                                                                             |
| A | symbolic processing                                                                                     |
| A | decision support                                                                                        |
| A | robotics                                                                                                |
| Q | What is full form of NLP?                                                                               |
| A | Natural Language Processing                                                                             |
| A | Natural Language Procedure                                                                              |
| A | Natural Language Process                                                                                |
| A | Natural Language pages                                                                                  |
| Q | A frequently used statistical model in nlp                                                              |
| A | Stochastic                                                                                              |
| A | Hybrid                                                                                                  |
| A | HMM                                                                                                     |
| A | Lengustic                                                                                               |
| Q | Components of NLP?                                                                                      |
| A | NLU,NLG                                                                                                 |
| A | NL simulator, NL analyser,NL scripting                                                                  |

|   |                                                                                                          |
|---|----------------------------------------------------------------------------------------------------------|
| A | LR-Translator,LR-parser                                                                                  |
| A | NLB-simulator, NLB-aquatiser                                                                             |
| Q | _____ Is the Second Stage in NLP?                                                                        |
| A | Syntactic Analysis                                                                                       |
| A | Discourse Analysis                                                                                       |
| A | Semantic Analysis                                                                                        |
| A | Pragmatic Analysis                                                                                       |
| Q | _____ Is the Third Stage in NLP?                                                                         |
| A | Syntactic Analysis                                                                                       |
| A | Discourse Analysis                                                                                       |
| A | Semantic Analysis                                                                                        |
| A | Pragmatic Analysis                                                                                       |
| Q | Choose form the following areas where NLP can be useful                                                  |
| A | Automatic Question-Answering Systems                                                                     |
| A | Mobile Computing                                                                                         |
| A | Frontpage Designing                                                                                      |
| A | Web Development                                                                                          |
| Q | “ Bat is flying in the sky”<br>Identify the dependency checking to perform sense disambiguation of ‘Bat’ |
| A | Bat→ sky                                                                                                 |
| A | Sky→ fly                                                                                                 |
| A | Bat→ fly                                                                                                 |
| Q | Bat→ sky, fly                                                                                            |
| Q | Identify the artificial language                                                                         |
| A | Java                                                                                                     |
| A | Maori                                                                                                    |
| A | Kazakh                                                                                                   |
| Q | Zulu                                                                                                     |
| Q | What is morphology?                                                                                      |
| A | The study of the rules governing the sounds that form words                                              |
| A | The study of the rules governing sentence formation                                                      |
| A | The study of the rules governing word formation                                                          |
| A | The study of the rules governing sounds                                                                  |
| Q | Which best describes the English language?                                                               |
| A | English has complex morphology and less rigid syntax.                                                    |
| A | English has less complex morphology but more rigid syntax.                                               |
| A | English has complex morphology and rigid syntax.                                                         |
| A | English has complex morphology                                                                           |
| Q | In the English language derivational morphemes can be...                                                 |
| A | Prefixes ,Suffixes,Infixes                                                                               |
| A | Prefixes ,Suffixes                                                                                       |
| A | Infixes only                                                                                             |
| A | Suffixes only                                                                                            |
| Q | The joint probability can be calculated using the _____                                                  |
| A | conditional probability                                                                                  |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A | probability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| A | sentence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| A | word                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Q | "I went to the school, and they told me come on next day". What type of ambiguity present in the given sentence?                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| A | Syntactic ambiguity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| A | Anaphoric ambiguity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| A | Semantic ambiguity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| A | Lexical ambiguity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Q | Number of states require to accept string ends with 10.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| A | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| A | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| A | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| A | can't be represented.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Q | Trains two independent LSTM language model left to right and right to left and shallowly concatenates them                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| A | GPT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| A | BERT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| A | ULMFit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| A | ELMo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Q | Suppose a language model assigns the following conditional n-gram probabilities to a 3-word test set: $1/4$ , $1/2$ , $1/4$ . Then $P(\text{test-set}) = 1/4 * 1/2 * 1/4 = 0.03125$ . What is the perplexity?                                                                                                                                                                                                                                                                                                                                                                        |
| A | 0.25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| A | 0.03125                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| A | 32                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| A | 3.175                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Q | Given a set of unigram and bigram probabilities, what is the probability of the following sequence '<s> do Sam I like' according to the bigram language model?<br>$P(\text{do} \text{<s>}) = 2/11$ , $P(\text{do} \text{Sam}) = 1/11$ , $P(\text{Sam} \text{<s>}) = 4/11$ , $P(\text{Sam} \text{do}) = 1/8$ , $P(\text{I} \text{Sam}) = 4/11$ , $P(\text{Sam} \text{I}) = 2/9$ , $P(\text{I} \text{do}) = 2/8$ , $P(\text{I} \text{like}) = 2/7$ , $P(\text{like} \text{I}) = 3/11$ , $P(\text{do}) = 3/8$ , $P(\text{Sam}) = 2/11$ , $P(\text{I}) = 4/11$ , $P(\text{like}) = 5/11$ |
| A | $3/11 * 2/11 * 4/11 * 5/11$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| A | $2/11 * 1/8 * 4/11 * 3/11$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| A | $2/11 * 1/11 * 2/9 * 2/7$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| A | $2/11 + 1/11 + 2/9 + 2/7$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Q | In the sentence, "They bought <u>a blue house</u> ", the underlined part is an example of _____.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| A | Noun phrase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| A | Verb phrase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| A | Prepositional phrase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| A | Adverbial phrase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Q | Inflectional morphology have the scope of _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| A | unlimited applicability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| A | possibly literal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| A | no communicability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A | more base allomorph                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Q | How many DFA's exits with two states over input alphabet {0,1} ?                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| A | 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| A | 26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| A | 32                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| A | 64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Q | re.findall(r "^\d", " 3 is my favorite number")<br>the above regular expression do? What will                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| A | Will ignore all integers in text                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| A | Will search for digit at end                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| A | Will search for digit at the beginning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| A | Searches for a pattern                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Q | Is Inflectional morphology performed in google translation?                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| A | Performed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| A | Not performed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| A | Partly performed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| A | Depends on situation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Q | Morphological Segmentation?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| A | Does Discourse Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| A | Separate words into individual morphemes and identify the class of the morphemes                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| A | Is an extension of propositional logic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| A | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Q | In linguistic morphology, _____ is the process for reducing inflected words to their root form.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| A | Rooting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| A | Stemming                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| A | Text-Proofing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| A | Proofing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Q | Closed classes of POS are those with relatively fixed membership                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| A | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| A | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| A | Cannot Say                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| A | May be yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Q | Suppose we want to calculate a probability for the sequence of observations {'Dry','Rain'}. If the following are the possible hidden state sequences, then $P('Dry','Rain') = \text{-----}$ .<br>Transition probabilities:<br>$P('Low' 'Low')=0.3$ , $P('High' 'Low')=0.7$<br>$P('Low' 'High')=0.2$ , $P('High' 'High')=0.8$<br>• Observation probabilities :<br>$P('Rain' 'Low')=0.6$ , $P('Dry' 'Low')=0.4$<br>$P('Rain' 'High')=0.4$ , $P('Dry' 'High')=0.3$<br>• Initial probabilities:<br>$P('Low')=0.4$ , $P('High')=0.6$ |
| A | 0.1748                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| A | 0.2004                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

|   |                                                                                                                                                                                                                                                                                   |
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| A | 0.1208                                                                                                                                                                                                                                                                            |
| A | 0.2438                                                                                                                                                                                                                                                                            |
| Q | It uses statistical methods to resolve some of the difficulties in symbolic approach. It does this by harnessing various mathematical techniques and often using large text corpora to develop approximately generalized models of linguistic phenomena based on actual examples. |
| A | Convolutional Neural Networks                                                                                                                                                                                                                                                     |
| A | Rule based Approach                                                                                                                                                                                                                                                               |
| A | Corpus based.                                                                                                                                                                                                                                                                     |
| A | Statistical Approach                                                                                                                                                                                                                                                              |
| Q | Syntactic $n$ -grams are $n$ -grams defined by paths in _____ dependency or constituent trees rather than the linear structure of the text                                                                                                                                        |
| A | Syntactic                                                                                                                                                                                                                                                                         |
| A | Semantic                                                                                                                                                                                                                                                                          |
| A | Symbolic                                                                                                                                                                                                                                                                          |
| A | Lexical                                                                                                                                                                                                                                                                           |
| Q | In HMMs, spaces are connected via _____ matrices {T,A} to represent the probability of _____ from one state to another following their _____                                                                                                                                      |
| A | Transitions, Transitioning, Connections                                                                                                                                                                                                                                           |
| A | Attribute, Changing, groups                                                                                                                                                                                                                                                       |
| A | Label, moving, sets                                                                                                                                                                                                                                                               |
| A | Transitions, Chaning, Sets                                                                                                                                                                                                                                                        |
| Q | It performs extensive analysis of linguistic phenomena through explicit representation of facts about language and well-understood knowledge representation schemas and associated algorithms. What is it?                                                                        |
| A | Convolutional Neural Networks                                                                                                                                                                                                                                                     |
| A | Rule based Approach                                                                                                                                                                                                                                                               |
| A | Corpus based.                                                                                                                                                                                                                                                                     |
| A | Hybrid                                                                                                                                                                                                                                                                            |
| Q | Syntactical analysis is done at _____ level                                                                                                                                                                                                                                       |
| A | Sentence                                                                                                                                                                                                                                                                          |
| A | Word                                                                                                                                                                                                                                                                              |
| A | Lexicon                                                                                                                                                                                                                                                                           |
| A | Symbol                                                                                                                                                                                                                                                                            |
| Q | Following property is of - _____ These taggers are knowledge-driven taggers                                                                                                                                                                                                       |
| A | Rule Based Tagging                                                                                                                                                                                                                                                                |
| A | Stochastic tagging                                                                                                                                                                                                                                                                |
| A | HMM POS Tagging                                                                                                                                                                                                                                                                   |
| A | Transformation-based Tagging                                                                                                                                                                                                                                                      |
| Q | In CFG, Each rule has a _____ side                                                                                                                                                                                                                                                |
| A | Right hand only                                                                                                                                                                                                                                                                   |
| A | Left hand only                                                                                                                                                                                                                                                                    |
| A | Right hand and left hand                                                                                                                                                                                                                                                          |
| A | Sub hand                                                                                                                                                                                                                                                                          |

|   |                                                                                                                                                       |
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| Q | _____ transfers linear sequences of words into structure.                                                                                             |
| A | Semantic Analysis                                                                                                                                     |
| A | Tokens                                                                                                                                                |
| A | Lexical analysis                                                                                                                                      |
| A | Discourse                                                                                                                                             |
| Q | Elements of Semantic analysis                                                                                                                         |
| A | Hyponymy                                                                                                                                              |
| A | Homonymy                                                                                                                                              |
| A | Polysemy                                                                                                                                              |
| A | Hyponymy, Homonymy, Polysemy                                                                                                                          |
| Q | WordNet is the _____ database                                                                                                                         |
| A | Symbol                                                                                                                                                |
| A | Word                                                                                                                                                  |
| A | Lexical                                                                                                                                               |
| A | Annotation                                                                                                                                            |
| Q | Which is not type of Sentiment Analysis?                                                                                                              |
| A | Emotion Detection                                                                                                                                     |
| A | Aspect based                                                                                                                                          |
| A | Word based                                                                                                                                            |
| A | Bilingual                                                                                                                                             |
| Q | _____ tools allow businesses to identify customer sentiment toward products, brands or services in online feedback.                                   |
| A | Lexical analysis                                                                                                                                      |
| A | Syntactical analysis                                                                                                                                  |
| A | Hybrid analysis                                                                                                                                       |
| A | Sentiment Analysis                                                                                                                                    |
| Q | _____ is the process of understanding if a given text is talking positively or negatively about a given subject (e.g. for brand monitoring purposes). |
| A | Syntactical analysis                                                                                                                                  |
| A | Hybrid analysis                                                                                                                                       |
| A | Sentiment Analysis                                                                                                                                    |
| A | Lexical analysis                                                                                                                                      |
| Q | How to use WordNet to measure semantic relatedness between words:                                                                                     |
| A | Measure the shortest path between two words on WordNet                                                                                                |
| A | Count the number of shared parent nodes                                                                                                               |
| A | Measure the difference between their depths in WordNet                                                                                                |
| A | Measure the difference between the size of child nodes they have.                                                                                     |
| Q | Which is not method of WSD?                                                                                                                           |
| A | Supervised learning                                                                                                                                   |
| A | Dictionary method                                                                                                                                     |
| A | Unsupervised learning                                                                                                                                 |
| A | Sem-supervised learning                                                                                                                               |
| Q | Hyponym is                                                                                                                                            |
| A | Parent node                                                                                                                                           |
| A | Child node                                                                                                                                            |

|   |                                                                                                             |
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| A | Root node                                                                                                   |
| A | Part of centre node                                                                                         |
| Q | "Monkey ate the banana as it was ripe"<br>Identify the dependency checking to resolve the ambiguity of 'it' |
| A | Monkey, banana                                                                                              |
| A | Banana, ripe                                                                                                |
| A | Monkey, ripe                                                                                                |
| A | Ate, banana                                                                                                 |
| Q | Natural language processing is divided in ____ feilds.                                                      |
| A | 5                                                                                                           |
| A | 6                                                                                                           |
| A | 3                                                                                                           |
| A | 2                                                                                                           |
| Q | Which of the below are NLP use cases?                                                                       |
| A | Detecting objects from an image                                                                             |
| A | Facial Recognition                                                                                          |
| A | Text Summarization                                                                                          |
| A | Speech Biometric                                                                                            |
| Q | Which is the true in NLP study?                                                                             |
| A | Machine learning is a subdivision of deep learning.                                                         |
| A | Shallow learning is the simplest form of deep learning.                                                     |
| A | Deep learning is a subdivision of machine learning.                                                         |
| A | NLP is the acronym for Neural Language Processing.                                                          |
| Q | Select the correct statements related to "Grammatical polarity"                                             |
| A | The grammatical category associated with affirmative and negative is called polarity                        |
| A | The process of converting affirmative to negative is called negation                                        |
| A | All of the mentioned                                                                                        |
| A | None of the mentioned                                                                                       |
| Q | What do you by Sequence Learning?                                                                           |
| A | Sequence learning is a method of only teaching in a logical manner                                          |
| A | Sequence learning is a method of teaching and learning in a logical manner.                                 |
| A | All of the mentioned                                                                                        |
| A | None of the mentioned                                                                                       |
| Q | One of the main challenges of NLP Is _____.                                                                 |
| A | Handling Ambiguity of Sentences                                                                             |
| A | Handling Tokenization                                                                                       |
| A | Handling POS-Tagging                                                                                        |
| A | All of the mentioned                                                                                        |
| Q | Choose from the following areas where NLP can be useful.                                                    |
| A | Automatic Text Summarization                                                                                |
| A | Automatic Question-Answering Systems                                                                        |
| A | Information Retrieval                                                                                       |
| A | All of the above                                                                                            |
| Q | Morphological Segmentation _____                                                                            |

|   |                                                                                  |
|---|----------------------------------------------------------------------------------|
| A | Does Discourse Analysis                                                          |
| A | Separate words into individual morphemes and identify the class of the morphemes |
| A | Is an extension of propositional logic                                           |
| A | Is an extension of propositional limit                                           |
| Q | Natural language understanding is used in:                                       |
| A | natural language interfaces                                                      |
| A | natural language front ends                                                      |
| A | text understanding systems                                                       |
| A | All of the mentioned                                                             |
| Q | Which of the following NLP tasks use sequential labeling technique?              |
| A | POS tagging                                                                      |
| A | Named Entity Recognition                                                         |
| A | Speech recognition                                                               |
| A | All of the above                                                                 |
| Q | Which of the following algorithms is widely used for text classification?        |
| A | Decision tree                                                                    |
| A | Support vector machine                                                           |
| A | Naive Bayes                                                                      |
| A | All of the mentioned                                                             |
| Q | What is the role of NLP in recommendation engines like Collaborative Filtering?  |
| A | Extracting features from text                                                    |
| A | Measuring semantic similarity                                                    |
| A | Constructing feature vector                                                      |
| A | All of the mentioned                                                             |
| Q | Which of the following is an application of NLP?                                 |
| A | Summarizing a text or article                                                    |
| A | Designing mobile computing                                                       |
| A | front page designing                                                             |
| A | Database designing                                                               |
| Q | What is tokenization?                                                            |
| A | Breaking sentences into words                                                    |
| A | Creating a set of dictionaries                                                   |
| A | Removing repetition                                                              |
| A | printing words                                                                   |
| Q | Which of these techniques is used for normalization in text mining?              |
| A | Rooting                                                                          |
| A | Stop words removal                                                               |
| A | Removing stopwords                                                               |
| A | Text wrapping                                                                    |
| Q | Which is the correct order for preprocessing in Natural Language Processing?     |
| A | tokenization->stemming->lemmatization                                            |
| A | lemmatization->tokenization->stemming                                            |
| A | stemming->tokenization->lemmatization                                            |

|   |                                                                                                                                                                                                                                                                       |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A | tokenization->lemmatization->stemming                                                                                                                                                                                                                                 |
| Q | In text mining, how the words 'lovely' is converted to 'love'-                                                                                                                                                                                                        |
| A | By stemming                                                                                                                                                                                                                                                           |
| A | By tokenization                                                                                                                                                                                                                                                       |
| A | By lemmatization                                                                                                                                                                                                                                                      |
| A | By rooting                                                                                                                                                                                                                                                            |
| Q | Stop words are-                                                                                                                                                                                                                                                       |
| A | words that frequently found in a document                                                                                                                                                                                                                             |
| A | long sound words                                                                                                                                                                                                                                                      |
| A | words that are not important for text wrapping                                                                                                                                                                                                                        |
| A | Creating a set repeting words                                                                                                                                                                                                                                         |
| Q | Which of the following is a kind of text summarization?                                                                                                                                                                                                               |
| A | Topic-based summarization                                                                                                                                                                                                                                             |
| A | Extraction-based summarization                                                                                                                                                                                                                                        |
| A | History-based summarization                                                                                                                                                                                                                                           |
| A | Summarizing a text or article                                                                                                                                                                                                                                         |
| Q | How many uni-grams phrases can be generated from the following sentence, after performing following text cleaning steps: Stop word Removal and Replacing punctuations by a single space<br>i. "Delhi is the capital of but Mumbai is the financial capital of India." |
| A | 8                                                                                                                                                                                                                                                                     |
| A | 7                                                                                                                                                                                                                                                                     |
| A | 6                                                                                                                                                                                                                                                                     |
| A | 5                                                                                                                                                                                                                                                                     |
| Q | Which one of the following is not a pre-processing technique in NLP                                                                                                                                                                                                   |
| A | Stemming and Lemmatization                                                                                                                                                                                                                                            |
| A | Sentiment analysis                                                                                                                                                                                                                                                    |
| A | Removal of stop words                                                                                                                                                                                                                                                 |
| A | Converting to lowercase                                                                                                                                                                                                                                               |
| Q | Which of the options is not a NLP application?                                                                                                                                                                                                                        |
| A | Sentiment analysis                                                                                                                                                                                                                                                    |
| A | Translation from English to French                                                                                                                                                                                                                                    |
| A | Translation from C++ to Java                                                                                                                                                                                                                                          |
| A | Named entity recognition                                                                                                                                                                                                                                              |
| Q | In Sentiment analysis                                                                                                                                                                                                                                                 |
| A | List the topics that a document deals with                                                                                                                                                                                                                            |
| A | Assess the emotional content of a document                                                                                                                                                                                                                            |
| A | Compress a document as much as possible without losing meaning, producing another document                                                                                                                                                                            |
| A | Given a question in natural language, provide an appropriate answer in natural language                                                                                                                                                                               |
| Q | What is the term frequency of a term which is used a maximum number of times in that document?                                                                                                                                                                        |
| A | t4 - 2/6                                                                                                                                                                                                                                                              |
| A | t1 - 2/6                                                                                                                                                                                                                                                              |
| A | t3 - 3/6                                                                                                                                                                                                                                                              |
| A | t6 - 2/5                                                                                                                                                                                                                                                              |

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| Q | The area of AI that investigates methods of facilitating communication between people and computers is:                                                                                                                                                        |
| A | natural language processing                                                                                                                                                                                                                                    |
| A | symbolic processing                                                                                                                                                                                                                                            |
| A | decision support                                                                                                                                                                                                                                               |
| A | robotics                                                                                                                                                                                                                                                       |
| Q | "He <u>was running</u> quickly into the stadium". What type of phrase is this?                                                                                                                                                                                 |
| A | Noun phrase                                                                                                                                                                                                                                                    |
| A | Verb phrase                                                                                                                                                                                                                                                    |
| A | Prepositional phrase                                                                                                                                                                                                                                           |
| A | Adjectival phrase                                                                                                                                                                                                                                              |
| Q | Which of the text parsing techniques can be used for noun phrase detection, verb phrase detection, subject detection, and object detection in NLP.                                                                                                             |
| A | Part of speech tagging                                                                                                                                                                                                                                         |
| A | Skip Gram and N-Gram extraction                                                                                                                                                                                                                                |
| A | Continuous Bag of Words                                                                                                                                                                                                                                        |
| A | Dependency Parsing and Constituency Parsing                                                                                                                                                                                                                    |
| Q | In NLP, The algorithm decreases the weight for commonly used words and increases the weight for words that are not used very much in a collection of documents                                                                                                 |
| A | Term Frequency (TF)                                                                                                                                                                                                                                            |
| A | Inverse Document Frequency (IDF)                                                                                                                                                                                                                               |
| A | Word2Vec                                                                                                                                                                                                                                                       |
| A | Latent Dirichlet Allocation (LDA)                                                                                                                                                                                                                              |
| Q | identify the odd one out                                                                                                                                                                                                                                       |
| A | nlTK                                                                                                                                                                                                                                                           |
| A | scikit learn                                                                                                                                                                                                                                                   |
| A | SpaCy                                                                                                                                                                                                                                                          |
| A | BERT                                                                                                                                                                                                                                                           |
| Q | Which of the following models can be estimated by maximum likelihood estimator?                                                                                                                                                                                |
| A | Support Vector Machines                                                                                                                                                                                                                                        |
| A | Maximum Entropy Model                                                                                                                                                                                                                                          |
| A | k Nearest Neighbor                                                                                                                                                                                                                                             |
| A | Naive Bayes.                                                                                                                                                                                                                                                   |
| Q | Assume a corpus with 350 tokens in it. We have 20 word types in that corpus ( $V = 20$ ). The frequency (unigram count) of word types "short" and "fork" are 25 and 15 respectively. Which of the following is the probability of "short" ( $PMLE("short")$ )? |
| A | 25/350                                                                                                                                                                                                                                                         |
| A | 26/370                                                                                                                                                                                                                                                         |
| A | 26/350                                                                                                                                                                                                                                                         |
| A | 25/370                                                                                                                                                                                                                                                         |

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| Q | Assume a corpus with 350 tokens in it. We have 20 word types in that corpus ( $V = 20$ ). The frequency (unigram count) of word types "short" and "fork" are 25 and 15 respectively. If we are using the Laplace smoothing, which of the following is $PLaplace("fork")$ ? |
| A | 15/350                                                                                                                                                                                                                                                                     |
| A | 16/370                                                                                                                                                                                                                                                                     |
| A | 30/350                                                                                                                                                                                                                                                                     |
| A | 31/370                                                                                                                                                                                                                                                                     |
| Q | Which of the following is/are the input(s) to k-means algorithm?                                                                                                                                                                                                           |
| A | Number of clusters                                                                                                                                                                                                                                                         |
| A | Class labels                                                                                                                                                                                                                                                               |
| A | Distance metric                                                                                                                                                                                                                                                            |
| A | Number of centroids                                                                                                                                                                                                                                                        |
| Q | Which of the following best describes grammar induction?                                                                                                                                                                                                                   |
| A | Supervised learning problem                                                                                                                                                                                                                                                |
| A | Maximum-A-Posteriori (MAP) estimation problem                                                                                                                                                                                                                              |
| A | Conditional Random Field problem and Unsupervised learning problem                                                                                                                                                                                                         |
| A | Reinforcement Learning                                                                                                                                                                                                                                                     |
| Q | "I went to the school, and they told me come on next day". What type of ambiguity present in the given sentence?                                                                                                                                                           |
| A | Syntactic ambiguity                                                                                                                                                                                                                                                        |
| A | Anaphoric ambiguity                                                                                                                                                                                                                                                        |
| A | Semantic ambiguity                                                                                                                                                                                                                                                         |
| A | Lexical ambiguity                                                                                                                                                                                                                                                          |
| Q | Given a sentence $S = "w_1 w_2 w_3 \dots w_n"$ , to compute the likelihood of S using a bigram model. How would you compute the likelihood of S?                                                                                                                           |
| A | Calculate the conditional probability of each word in the sentence given the preceding word and add the resulting numbers                                                                                                                                                  |
| A | Calculate the conditional probability of each word in the sentence given the preceding word and multiply the resulting numbers                                                                                                                                             |
| A | Calculate the conditional probability of each word given all preceding words in a sentence and add the resulting numbers                                                                                                                                                   |
| A | Calculate the conditional probability of each word given all preceding words in a sentence and multiply the resulting numbers                                                                                                                                              |
| Q | The words 'there' and 'their' causes which of the following type of ambiguity?                                                                                                                                                                                             |
| A | Syntactic                                                                                                                                                                                                                                                                  |
| A | Semantic                                                                                                                                                                                                                                                                   |
| A | Phonological                                                                                                                                                                                                                                                               |
| A | Pragmatic                                                                                                                                                                                                                                                                  |
| Q | Which of the following instances the regular expression $\backslash b(one two three)\backslash b$ can recognize?                                                                                                                                                           |
| A | "one"                                                                                                                                                                                                                                                                      |
| A | "onetwo"                                                                                                                                                                                                                                                                   |
| A | "TWO"                                                                                                                                                                                                                                                                      |
| A | "THREE"                                                                                                                                                                                                                                                                    |

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| Q | If your training loss increases with number of epochs, which of the following could be a possible issue with the learning process?                                                                                                                             |
| A | Regularization is too low and model is overfitting                                                                                                                                                                                                             |
| A | Regularization is too high and model is underfitting                                                                                                                                                                                                           |
| A | Step size is too large                                                                                                                                                                                                                                         |
| A | Step size is too small                                                                                                                                                                                                                                         |
| Q | Assume that there are 10000 documents in a collection. Out of these, 50 documents contain the terms "difficult task". If "difficult task" appears 3 times in a particular document, what is the TFIDF value of the terms for that document?                    |
| A | 8.11                                                                                                                                                                                                                                                           |
| A | 15.87                                                                                                                                                                                                                                                          |
| A | 0                                                                                                                                                                                                                                                              |
| A | 81.1                                                                                                                                                                                                                                                           |
| Q | Assume a corpus with 350 tokens in it. We have 20 word types in that corpus ( $V = 20$ ). The frequency (unigram count) of word types "short" and "fork" are 25 and 15 respectively. Which of the following is the probability of "short" ( $PMLE("short")$ )? |
| A | 25/350                                                                                                                                                                                                                                                         |
| A | 26/370                                                                                                                                                                                                                                                         |
| A | 26/350                                                                                                                                                                                                                                                         |
| A | 25/370                                                                                                                                                                                                                                                         |
| Q | Which of the following measurements are used to evaluate the quality of entity recognition?                                                                                                                                                                    |
| A | Recision                                                                                                                                                                                                                                                       |
| A | Recall                                                                                                                                                                                                                                                         |
| A | Measure                                                                                                                                                                                                                                                        |
| A | R-measure                                                                                                                                                                                                                                                      |
| Q | Polysemy is defined as the coexistence of multiple meanings for a word or phrase in a text object. Which of the following models is likely the best choice to correct this problem?                                                                            |
| A | Random Forest Classifier                                                                                                                                                                                                                                       |
| A | Convolutional Neural Networks                                                                                                                                                                                                                                  |
| A | Gradient Boosting                                                                                                                                                                                                                                              |
| A | Classification                                                                                                                                                                                                                                                 |
| Q | What is the right order for a text classification model components 1. Text cleaning 2. Text annotation 3. Gradient descent 4. Model tuning 5. Text to predictors                                                                                               |
| A | 12345                                                                                                                                                                                                                                                          |
| A | 13425                                                                                                                                                                                                                                                          |
| A | 12534                                                                                                                                                                                                                                                          |
| A | 13452                                                                                                                                                                                                                                                          |
| Q | Uses unidirectional language model for producing word embedding                                                                                                                                                                                                |
| A | BERT                                                                                                                                                                                                                                                           |
| A | GPT                                                                                                                                                                                                                                                            |
| A | ELMo                                                                                                                                                                                                                                                           |

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| A | Word2Vec |
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