SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

Ramapuram Campus, BharathiSalai, Ramapuram, Chennai - 600089

**FACULTY OF ENGINEERING AND TECHNOLOGY**

# DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

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**QUESTION BANK**

**DEGREE / BRANCH: B.TECH/CSE**

**VII SEMESTER**

**18CSE358T– PATTERN RECOGNITION TECHNIQUES**

**Regulation – 2018**

**Academic Year 2021-22**

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**Ramapuram Campus, BharathiSalai, Ramapuram, Chennai-600089**

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**QUESTION BANK**

**SUBJECTCODE/NAME : 18CSC305J–Artificial Intelligence**

**SEM/ YEAR: VI/III**

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| **UNIT V** | | | |
| Expert system-Architecture- Pros and Cons of expert system- Rule based systems- Frame based expert system- Natural language processing-Levels of NLP- Syntactic and Semantic Analysis- Information retrieval- Information Extraction- Machine translation- NLP Applications- Advance topics in Artificial Intelligence-Cloud Computing and intelligent agent- Business intelligence and analytics- Sentiment Analysis- Deep learning Algorithms- Planning and logic in intelligent agents | | | |
| **PART-A (Multiple Choice Questions)** | | | |
| **Q.**  **No** | **Questions** | **Course Outcome** | **Competence**  **BT Level** |
| 1 | MYCIN falls under the category of   1. Shell 2. **Rule-based expert system** 3. Frame based expert system 4. None of these | 5 | 1 |
| 2 | The core part of decision making for the expert system lies in the   1. **Knowledge base** 2. Explanations 3. Inference mechanism 4. Facts | 5 | 1 |
| 3 | A rule of ‘If you are wearing a cardigan, then it is cold’ falls under the semantics of   1. Recommendation 2. Heuristic 3. Relation 4. **Directive** | 5 | 1 |
| 4 | A when needed method is invoked in frame based expert system   1. By an event when changed 2. **In the decision making, as required** 3. By any action that need some data 4. All of the above | 5 | 1 |
| 5 | The interpreters in expert systems are termed as   1. Frames 2. Explanations 3. **Shells** 4. None of the above | 5 | 1 |
| 6 | The process of coding the knowledge in expert system is   1. Knowledge base 2. **Knowledge engineering** 3. Knowledge acquisition 4. None of the above | 5 | 1 |
| 7 | In fuzzy expert system, conversion is crisp value is done by   1. Inference mechanism 2. **Defuzzification** 3. Composition 4. Fuzzification | 5 | 1 |
| 8 | Semantic analysis is based on   1. Transitive networks 2. **Context sensitive grammars** 3. Any grammars 4. Knowledge representation | 5 | 1 |
| 9 | Which of the following checks the correctness of the sentence grammatically?   1. **ATN** 2. RTN 3. Indexing 4. Wrappers | 5 | 1 |
| 10 | In case grammar, the agent case is always a compulsory case with any verb.   1. It as to be with dative 2. The above statement is true 3. The case grammar can have instrumental case too 4. **It depends on the verb** | 5 | 1 |
| 11 | In which of the following, the context and the relations among the sentences are important?   1. Conceptual dependency 2. Case grammars 3. **Discourse and pragmatic processing** 4. None of the above | 5 | 1 |
| 12 | Suppose we want to identify fraud transactions in bank, under this scenario, we would look up on   1. High precision 2. **High Recall** 3. Precision and recall = 1 value 4. None of the above | 5 | 1 |
| 13 | Which of the text pre processing task would return ‘learn’ if the input word is ‘learnt’?   1. Text standardisation 2. Term stripping 3. **Stemming** 4. None of the above | 5 | 1 |
| 14 | Which of the following does not exist in the Boolean model?   1. **Ranking** 2. Weighting 3. Indexing 4. All of these | 5 | 1 |
| 15 | Pattern analytics intends to   1. Hide the meaningful patterns for processing 2. Select the useful patterns and study them 3. **Discover the meaningful patterns** 4. All the above | 5 | 1 |
| 16 | Sentiment analysis is not about   1. **Finding the opinion about the person on some product** 2. Determining the polarity from the text 3. Feature based sentiment classification 4. Finding sentiments in the text | 5 | 1 |
| 17 | Which of the statement is not true about big data?   1. It discovers hidden patterns from a variety of data 2. Analytics of big data helps in better business decisions 3. Hadoop, NoSQL and MapReduce are the technologies associated with it 4. **Social media activity, web logs are data sources for big data** | 5 | 1 |
| 18 | Which of the following includes major tasks of NLP?   1. Automatic summarization 2. Discourse analysis 3. Machine translation 4. **All the above** | 5 | 1 |
| 19 | What is meant by compositional semantics?   1. **Determining the meaning** 2. Logical connectives 3. Semantics 4. None of the above | 5 | 1 |
| 20 | What is meant by quasi logical form?   1. **Sits between syntactic and logical form** 2. Logical connectives 3. All the above 4. None of the above | 5 | 1 |
| 21 | Among the given options, which search algorithm requires less memory?   1. Optimal search 2. **Depth first search** 3. Breadth first search 4. Linear search | 5 | 1 |
| 22 | Which algorithm is used in the game tree to make decision of win/Lose?   1. Heuristic search algorithm 2. DFS/BFS algorithm 3. Greedy search Algorithm 4. **Min/Max algorithm** | 5 | 1 |
| 23 | The component of an expert system is   1. Knowledge base 2. Inference engine 3. User interface 4. **All the above** | 5 | 1 |
| 24 | Which rule is applied for the simple reflex agent?   1. Simple action rule 2. Simple and condition action rule 3. **Condition action rule** 4. None of the above | 5 | 1 |
| 25 | Which agent deals with happy and unhappy states?   1. simple reflex agent 2. model based agent 3. learning agent 4. **utility based agent** | 5 | 1 |
| **PART-B(4 MARKS)** | | | |
| **1** | Discuss the expert system frame work? | 5 | 1 |
| **2** | What are shells and explanations? | 5 | 1 |
| **3** | What are frame based expert systems? | 5 | 1 |
| **4** | List out the possible advantages of using semantic grammar | 5 | 1 |
| **5** | What is pattern analytics? Explain with an example? | 5 | 1 |
| **6** | Explain the factors than an intelligent agent needs to handle in concurrent engineering | 5 | 1 |
| **7** | What are frame based expert systems? | 5 | 1 |
| **8** | Can parsing be related to a search problem? Discuss | 5 | 1 |
| **9** | List out the benefits of expert systems? | 5 | 1 |
| **10** | Why is there a need to have efficient knowledge acquisition systems? | 5 | 1 |
| **PART-C (12 MARKS)** | | | |
| **1** | Develop an expert system for library that would recommend book for its project work. Assume suitable data. | 5 | 2 |
| **2** | Write a program to associate different news in newspaper and prioritise them with reference to your context. | 5 | 3 |
| **3** | Develop the retrieval system using indexing technique for some set of text documents. | 5 | 2 |
| **4** | Explain the different levels of natural language processing. | 5 | 3 |
| **5** | With a neat sketch, explain the architecture, characteristic features and roles of expert system. | 5 | 3 |
| **6** | Write in detail about the process of information extraction and Machine translation | 5 | 3 |
| **7** | Compare the convolutional neural networks, recurrent neural networks and summarize their pros and cons. | 5 | 3 |

**Note:**

1. **BT Level –** Blooms Taxonomy Level
2. **CO – Course Outcomes**

BT1 – Remember BT2 – Understand BT3 – Apply BT4 – Analyze BT5 – Evaluate BT6 – Create