18CSC301T - FORMAL LANGUAGE AND AUTOMATA

YEAR / SEM: III / V & BATCH: 2020-2024

UNIT 4 – MODIFICATIONS OF TURING MACHINE

QUESTION BANK

MCQ -5

1) The difference between a read-only Turing machine and a two-way finite state machine is
   a) Head Movement
   b) Finite Control
   c) Storage Capacity
   d) Power

2) Which of the following is true for two stack Turing machines?
   a) one read only input
   b) two storage tapes
   c) one read only input & two storage tapes
   d) two read only input & two storage tapes

3) If instead of moving left or right on seeing an input, the head could also stay at one position without moving anywhere is called as _____
   a) Turing Machine with Fixed Tape
   b) Turing Machine with Stay option
   c) Turing Machine with Semi-infinite tape
   d) Offline Turing machine

4) In standard Turing machine the input symbol can be changed to blank, but if we remove this facility of changing the input symbol to blank then such type of Turing machine is called as _____
   a) Non erasing Turing Machine
   b) Jumping Turing Machine

c) Always writing Turing Machine

d) Offline Turing machine

5) A_____ is one whose tape alphabet consists of exactly two symbols.

a) Alphabet based Turing Machine

b) Binary Turing Machine

c) Count based Turing Machine

d) Symbols based Turing Machine

Descriptive Question:

1) Whether it is possible to increase the number of languages accepted by performing some modifications in Standard Turing Machine? If Yes, Justify the ways of modifications.

Scenario Based Question:

1) A Turing machine with doubly infinite tape is similar to an ordinary Turing machine, but its tape is infinite to the left as well as to the right. The tape is initially filled with blanks except for the portion that contains the input. Computation is defined as usual except that the head never encounters an end to the tape as it moves leftward. Show that this type of Turing machine recognizes the class of Turing-recognizable languages.

Worksheet Question:

1. Design a Multi tape Turing Machine for $L= a^n b^n c^n$