18CS 32 Data structures Question Bank

MODULE-2

1. Define stack. Implement push and pop functions for stack using arrays (Jan 2018)
2. Write postfix expression form of the following expression: (Jan 2018)
   i)((6+(3-2)*4)^5+7) ii)ABC*D
3. Define queue. Implement Qinsert and Qdelete functions for queues using arrays (Jan 2018)
4. Define Recursion. Write Recursive program for i) factorial of a number ii) tower of Hanoi (Jan 2018)
5. Define stack, write the procedure for two basic operations associated with the stack (Jan 2019)
6. write a short note on priority queues (Jan 2019)
7. Define recursion. What are the properties of recursive procedure? Write the recursive procedure for i) tower of Hanoi ii) factorial of a number (Jan 2019)
8. Define queue? Write QINSET and QDELETE procedure for queues using arrays (Jan 2019)
9. write the postfix form of the following expression (Jan 2019)

   A+(B*C-D/E^ F)*G*H

10. write a short note on Ackermann's function (Jan 2019)
11. write the algorithm to implement the stack using dynamic array whose initial capacity is 1 and array doubling is used to increase stacks capacity (that is dynamically reallocate twice the memory) whenever an element is added to a full stack. Implement the operations-push, pop and display(Jan 2017)
12. write the algorithm for tower of Hanoi (Jan 2017)
13. write a note on Ackermann's function (Jan 2017)
14. List the advantages of linear queue and explain how is it resolved in circular queue. Give the algorithm to implement a circular queue with suitable example (Jan 2017)
15. convert the infix expression ((a/(b-c+d))*(c-a) to postfix expression. Write a function to evaluate the postfix expression and trace the given data a=6, b=3,c=1,d=2,e=4. (Jan 2017)
16. Define stack and write the ADT of stack. Implement push and pop functions for stack using arrays with Stack Full and Stack Empty conditions (July 2017)
17. What is an input restricted double ended queue? Implement the same with the supporting functions (July 2017)
18. Write the postfix form of the following expression using stack: (July 2017
    i)(a+b)*d+e/(f+a*d)+c ii) ((a/(b-c+d))*(c-a)*c)
19. write a function to evaluate a postfix expression and trace the same for the expression ab/c-de*+ac* where a=6, b=3,c=1,d=2,e=4. (July 2017)
20. Explain with suitable example how would you implement circular queue uding dynamically allocated arrays (July 2017)
21. write an algorithm to evaluate a postfix expression, Evaluate the following postfix expression abc+*de/- where a=5, b=6,c=2,d=12,e=4(July 2018)
22. Write an Algorithm for Ackermann's function, Evaluate A(1,2) using Ackermann function(July 2018)
23. with a neat diagram explain ONE-WAY list representation of a priority queue (July 2018)
24. Describe how you could model a maze where 0 represents open paths and 1 represents barriers. What move are permitted in the matrix model? Provide an example MAZE together with its allowable moves and table of moves(July 2018)