GATE 2024 Computer Science (CSE) Answer Key

1. An array (82, 101, 90, 11, 111, 75, 33, 131, 44, 93) Heapified. Find first three elements of Heapified array.

    Ans: (131, 111, 90)

2. There are 105 distinct elements within the min heap. K is the index of the maximum element. Find the number of possible leaves.

    Ans: 53

3. An urn contains 10 red balls and 15 blue balls. Two balls are drawn at random, if the first ball is red, then what is the probability that the second ball is also red?

    Ans: 3/8

4. Given two regular expressions r= 0*=1* s=01*+10*. Find the number of strings of length <=5 which are not present in both r and s.

    Ans: 44

5. L1 and L2 are regular languages and L3 is not a regular language (A) L1 U L2 is regular (B) L3 is not regular (C) L1=L2 iff L1 intersection L2= mu (D) L1 U L2 is regular.

    Ans: (B) L3 is not regular

6. Which of the following is True for Threads?

    Ans: (D) all threads belonging to a process have their own stack.

7. Which of the following state transitions is/are NOT possible?

    Ans: Waiting---->Running

8. Consider a memory management system with a page size of 2 KB. The page numbers 0,1,2,3 are stored in frame numbers 0,1,2,3 are stored in frame numbers 1,3,2,0 respectively. If the given logical address is 2500 (in decimal) then the physical address (in decimal) is....

    Ans: 6596

9. Consider an array of size 'n', check whether array is sorted or not in only one pass and by comparing one element with next (Adj) the w.c time to check this?

   Ans: Minimum time is Omega (n) and maximum time is Order of (n)

10. Total number of spanning trees possible in a complete graph with 4 verities labelled A,B,C,D?

    Ans: 16

11. $(224)5=?$

   a) $(121)7$ b) $(50)16$ c) $(100)8$ d) $(39)10$

   Ans: b) (50)16 and d) (39)10

12. Which Boolean expression is false?

   a) $x.1=x$ b) $x+x'=1$ c) $1+x=x$ d) $x.x=0$

   Ans: c) 1+x=x and d) x.x=0

13. IP address 10.12.2.0 to 10.12.3.255

   b) 10.12.2.0/24   b) 10.12.2.0/22   c) 10.12.2.0/23   d) 10.12.0.0

   Ans: c) 10.12.2.0/23

14. int main (){

       double a[2]={20.0, 25.0}. *p.*q;

      p=a;

       q=p+1;

      printf (%d, %d',(int)(q-p))

      int (*q-*p);

       c) 4,8   b) 8,5   c) 1,5   d) 1,8

   Ans: c) 1,5