

PADASALAI.NET'S - HIGHER SECONDARY FIRST YEAR

STD: 11	COMPUTER SCIENCE	TIME : 2.30 HRS
	QUARTERLY MODEL QUESTION PAPER	MAX MARKS : 70

Part – I

Choose the correct answer:

15 * 1 = 15

1. In common ANN implementation, the synapse signal is a real number, and the output of each neuron is calculated by a ----- of the sum of its inputs.
 - a) Linear functions
 - b) Non-linear functions
 - c) Numeric functions
 - d) I/O functions
2. Who developed the mechanical mouse for the German company in 02/10/1968?
 - a) Telefunken
 - b) Steve Kirsch
 - c) Bill Gates
 - d) Steve Jobs
3. Unicode scheme is denoted by ----- numbers.
 - a) Binary
 - b) Octal
 - c) Decimal
 - d) Hexadecimal
4. In 1903, ----- patents electrical logic circuits called “gates” or “switches”.
 - a) Baron Jons Jacob Berzelius
 - c) Nikola Tesla
 - b) John Bardeen
 - d) Walter Brattain
5. The ----- devices are used to store data that is of larger size which can be accessed later.
 - a) Cache memory
 - b) Register memory
 - c) Primary memory
 - d) Secondary memory
6. The system performance is good if the given task is finished within this timeline, if it is not done, the situation is called -----
 - a) Deadline
 - b) Deadline Overrun
 - c) Overrun
 - d) Overrun deadline
7. ----- was conceived in 2004 by Mark Shuttleworth, a successful South African entrepreneur and his company Canonical Ltd.
 - a) Unix
 - b) iOS
 - c) Windows
 - d) Ubuntu
8. ----- is an assignment operator.
 - a) =
 - b) ==
 - c) :=
 - d) =:
9. ----- is the process of hiding or ignoring the details irrelevant to the task so as to model a problem only by its essential features.
 - a) Specification
 - b) Abstraction
 - c) Composition
 - d) Decomposition
10. which of the following properties is true after the assignment (at line 3)?
 - a. $---i+j=0$
 - b. $i,j:=i+1,j-1$
 - c. $--?$
 - a) $i+j>0$
 - b) $i+j<0$
 - c) $i+j=0$
 - d) $i=j$
11. How many times the loop is iterated?


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i:=0
while i≠5
i:=i+1
      
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 - a) 4
 - b) 5
 - c) 6
 - d) 0
12. We wish to cover a chessboard with dominoes, the number of black squares and the number of white squares covered by dominoes respectively, placing a domino can be modelled by ----
 - a) $b:=b+2$
 - b) $w:=w+2$
 - c) $b,w:=b+1,w+1$
 - d) $b:=w$
13. Using this recursive definition $a^n = \begin{cases} 1 & \text{if } n=0 \\ a \times a^{n-1} & \text{otherwise} \end{cases}$

How many multiplications are needed to calculate a^{10} ?

 - a) 11
 - b) 10
 - c) 9
 - d) 8
14. ----- Step breaks the problem into sub-problems of smaller size, assumes solutions for sub-problems are given by recursive calls, and constructs solution to the given problem.
 - a) Iteration
 - b) Recursion
 - c) Flowchart
 - d) Pseudo code

15. In ----- the size of input to a sub-problem must be strictly smaller the size of the given input.

- a) Iteration b) Recursion c) Flowchart d) Pseudo code

Part – II

Answer to any SIX questions

6 * 2 = 12

Question number 22 is compulsory

16. Write a note on finger print scanner.
 17. Write the 1's complement procedure.
 18. Write a short note on XNOR gate.
 19. What is decoder?
 20. What is Time sharing?
 21. List the specific features of Windows7.
 22. If $\sqrt{2}=1.414$, and the square_root() function returns -1.414, does it violate the following specification?
 --square_root(x)
 --inputs: x is a real number, $x \geq 0$
 --outputs: y is a real number such that $y^2=x$
 23. What is decomposition?
 24. Define factorial of a number recursively

Part – III

Answer to any SIX questions

6 * 3 = 18

Question number 32 is compulsory

25. What are the Characteristics of Impact Printers?
 26. Convert 91_{10} to binary using the sum of powers of 2 method.
 27. Write a note on Blu-Ray Disc.
 28. What are the differences between Windows and Linux Operating System?
 29. Are there any difficulties you face while using Ubuntu? If so, mention it with reasons.
 30. What is the format of specification of algorithm?
 31. What is alternative statement?
 32. Draw a flowchart for -3 case analysis using alternative statements.
 33. There are 7 tumblers on a table, all standing upside down. You are allowed to turn any 2 tumblers simultaneously in one move. Is it possible to reach a situation when all the tumblers are right side up? (Hint: The parity of the number of upside down tumblers is invariant.)

Part – IV

Answer All questions

5 * 5 = 25

34. Explain Non-impact printers with example. (OR)
 Find 1's complement and 2's complement for the following Decimal Number.
 a) -98 b) -135
 35. How AND and OR can be realized using NAND and NOR gate. (OR)
 Explain bus connectivity between CPU and memory with neat diagram.
 36. Explain advantages and disadvantages of Open Source Operating System. (OR)
 Explain the versions of Windows Operating System.
 37. Draw and compare the icon equivalence in Windows and Ubuntu.(OR)
 illustrates a recursive process. Let us represent the sequence of 5 customers A, B, C, D and E as [A,B,C,D,E]
 38. Explain the building blocks of algorithm. (OR)
 Decanting problem. You are given three bottles of capacities 5 ,8, and 3 litres. The 8L bottle is filled with oil, while the other two are empty. Divide the oil in 8L bottle into two equal quantities. Represent the state of the process by appropriate variables. What are the initial and final states of the process? Model the decanting of oil from one bottle to another by assignment. Write a sequence of assignments to achieve the final state.

***** All the Best *****

Prepared by

*N.Gunasekaran MCA., B.Ed
 PG Asst in Computer Science,
 Srinivasa Matric Hr.Sec.School,
 Kollidam, Nagai Dist.
 Cell: 9894953079*