



JAYAM MATRIC HR. SEC. SCHOOL, Elampillai.

CLASS: XI

COMPUTER SCIENCE

MARK: 50

Date : 12.10.2018

II - Unit Test (Vol : 1)

TIME: 1.30 Hours

I. Choose the correct answer:**10X1=10**

1. are named boxes for storing data
 - a) Variables
 - b) Process
 - c) Functions
 - d) Procedure
2. The Parts of an algorithm are known as
 - a) Procedure
 - b) Decomposition
 - c) Abstraction
 - d) Function
3. if $i=5$ before the assignment $i:=i-1$ after the assignment, the value of i is:
 - a) 5
 - b) 4
 - c) 3
 - d) 2
4. There are important control flow statements
 - a) 2
 - b) 3
 - c) 4
 - d) 5
5. The variant of alternative statement is called a ----- statement
 - a) sequential
 - b) alternative
 - c) iterative
 - d) control
6. Algorithm is made up of:
 - a) Sequence to print data
 - b) selection
 - c) repetition
 - d) all of above
7. which of the following is not an invariant of the assignment? $m, n := m2 +, n3 +$
 - a) $m \text{ mode } 2$
 - b) $n \text{ mode } 3$
 - c) $3xm - 2xn$
 - d) $2xm - 3xn$
8. who coined the phrase “structured programming”?
 - a) Charles Babbage
 - b) Douglas Engelbart
 - c) George Boole
 - d) Dijkstra
9. The loop invariant is true in crucial points in a loop.
 - a) two
 - b) three
 - c) four
 - d) five
10. There must be at least base value
 - a) one
 - b) two
 - c) three
 - d) four

II. Answer any 5 question. Question no.14 is compulsorily answered**5x2=10**

11. what are variables?
12. Define an algorithm?
13. Why is function an abstraction?
14. What is Pseudo code?
15. Define a loop invariant?
16. Define recursion?
17. What is base case?

III. Answer any 5 question. Question no.21 is compulsorily answered**5x3=15**

18. What is abstraction?
19. Write a note on Decomposition?
20. What is case analysis?
21. Draw a flowchart for -3 case analysis using alternative statements?
22. 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)
23. Show that $p-c$ is invariant of the assignment.
24. write short notes on variant of alternative statement?

IV. Answer any 3 detail questions.**3x5=15**

25. Write the specification of an algorithm hypotenuse whose inputs are the length of the two Shorter sides of a right angled triangle, and the output is the length of the third side?
26. Explain the algorithm design techniques.
27. Draw the different types of boxes used in the flow chart. Explain each one of its rules.
28. Explain in detail the Recursion problem solving technique.

----- **K.Vijayan. M.Sc.,B.Ed.,M.Phil., P.G.Asst.in Computer Science.** -----