

FACULTY OF ENGINEERING**B. E. II – Semester (AICTE)(Main) Examination, May/June 2019****Sub: Programming for Problem Solving****Time: 3 Hours****Max. Marks: 70****Note: Answer all questions from Part- A & any five questions from Part-B****PART – A (20 Marks)**

- 1) What is a compiler?
- 2) Difference between object code and executable code?
- 3) What is the output for the following code?

```
int main
{ int i=5;
  printf("%d %d %d", i++, i, ++i);
  return 0;
}
```
- 4) In what way does an array differ from an ordinary variable?
- 5) Write a function to find the sum of digits of a given number.
- 6) Write the algorithm for binary search.
- 7) Define recursion, with an example.
- 8) How to access structure elements? Give some examples.
- 9) Bring out with examples. Differences between array name and pointer.
- 10) What is a stream?

PART – B (5 x 10 = 50 Marks)

11. a) Write the algorithm for determining the remainder of a division operation where the dividend and divisor are both integers. [5]
 b) Draw a flowchart for printing the sum of even terms contained within the numbers 0 to 20. [5]
12. a) Describe the different types of operators that are included in C. [4]
 b) Write a C program to convert the binary equivalent of an integer number without using array. [6]
13. Explain how arrays are passed to a function with an example. [10]
14. How do you define a structure within a structure? Explain with an example. [10]
15. a) Why pointers should have data types when their size is always 4 bytes (in a 32-bit machine), irrespective of the variable they are pointing to? [6]
 b) What are the primary advantages of using a data file? [4]
16. a) How is a structure data type different from an array? Explain with an example. [5]
 b) Write a program that uses a function to search a number within an array. [5]
17. Distinguish between the following with examples [10]
 - a) do- while and while loop
 - b) break and continue
