

Roll No.

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Total No. of Pages : 02

Total No. of Questions : 18

**B.Tech. (Agriculture Engg./AI & ML/ AI & DS / Automation & Robotics. /
Automobile Engg. / Bio Technology / Civil Engg. / Computer Engg. / CSE
/ Cyber Security / Data Science / IOT / EEE / EE / ECE / Food Tech / IT /
ME) B.Tech. CSE (IOT & Cyber Security including Block Chain
Technology) / PIT B.Tech Computer Engg. / PIT B.Tech ECE
(Sem.-1,2)**

PROGRAMMING FOR PROBLEM SOLVING

Subject Code : BTPS-101-18

M.Code : 75346

Date of Examination : 13-07-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY** consisting of TEN questions carrying TWO marks each.
2. **SECTION - B & C** have FOUR questions each.
3. **Attempt any FIVE questions from SECTION B & C** carrying EIGHT marks each.
4. **Select atleast TWO questions from SECTION - B & C.**

SECTION-A

Write breifly :

- 1) What is a pointer and why it is used?
- 2) What is a link list and how it is different from an array?
- 3) What is the difference between a variable and a constant?
- 4) What is an array of structures? Define it.
- 5) What is the difference between declaration and definition?
- 6) What is the complexity of Selection sort and why?
- 7) What is the difference between logical and syntax errors.
- 8) What is an operating system?
- 9) What are object and executable code?
- 10) What is the difference between strings and arrays?

SECTION-B

- 11) Write a program for Selection sort.
- 12) Write a program using loops to find the sum of the numbers from 1 to 10.
- 13) Write a program to find the factorial of a number. The user will enter a number, and you have to calculate its factorial and display it.
- 14) Write a program using pointers to Swap two numbers entered by the user.

SECTION-C

- 15) What is the difference between call by value and call by reference? Explain with an example.
- 16) Why recursion is used in programming? Can we write any program written with recursion without using recursion as well?
- 17) What is the difference between user-defined and system-defined functions? Write any user- defined function to add two numbers.
- 18) Explain how we can use if-else statements and how they differ from switch statements?

NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC case against the Student.