2019

Time : As in Programme

Full Marks : 50

Answer **all** *questions. The figures in the right-hand margin indicate marks.*

1. (*a*) State the important features of C programming.   5

    (*b*) State the concept of operator precedence and associativity.   5

    (*c*) Differentiate between constant and variable. What are the different types of constants ? Explain each one in brief.   5

    (*d*) Write a C program to take the radius of circle through the key board and calculate the area and perimeter of that circle.   5

OR

(e) What are the different types of Loop control statements ? Explain each one in brief. 5

(f) Write a C program to enter a three digit number through the key board and display the sum of the digits. 5

(g) Determine the hierarchy of operation and evaluate the expression : 5

$$X = 5 + 6 - 4/4*2/2 - 1 + 4*3 + 5*1$$
$$- 8/2 + 3*5/3.$$

Assume X as integer.

(h) Convert the following arithmetic expression into C statement : 5

    (i) $xyz - pq^2r$

    (ii) $\sqrt{(b^2 - 4ac)}/uv$

2. Write a C program to calculate the Kinetic energy by using the following equation :

$$KE = \tfrac{1}{2} mv^2.$$

Also draw the flow chart. 15

OR

Write a C program to calculate the pressure by using van der Waals equation :

$$PV = nRT$$

Also draw the flow chart. 15

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3. (*a*) Differentiate between Compiler and Assembler. $7\frac{1}{2}$

(*b*) State the structure of a C program. $7\frac{1}{2}$

OR

(*c*) Differentiate between Application and System software. State the features of any one System software. $7\frac{1}{2}$

(*d*) State the features of MS Word and MS Excel. $7\frac{1}{2}$

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