



Reg. No. :

Name :

Sixth Semester B.Sc. Degree Examination, April 2019

First Degree Programme under CBCSS

PHYSICS

Core Course

PY 1644 : Computer Science

(2013 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** questions, **each** carries 1 mark.

1. Convert the decimal number 165.57 to binary. Truncate infinite binary fraction to 8 bits.
2. What is a full adder circuit ?
3. What is Karnaugh map ?
4. Mention the concept of virtual memory.
5. What is variable and constant in C programming ?
6. Mention the function of 'return' statement in C language.
7. What is the function for setting text colour in C-programming ?
8. Write down any two string functions used in C programming.
9. What is VGA monitor ?
10. What is the disadvantage of Newton-Raphson method ? **(10×1=10 Marks)**

P.T.O.



SECTION - B

Answer **any eight**, each carries **2** marks.

11. How can AND and OR gates be implemented using the NAND gate ?
12. Neatly draw the gate circuit of RS flip flop.
13. Describe a master slave JK flip flop.
14. Explain a full subtractor circuit.
15. What is the purpose of the additional input on the gated RS flip-flop ?
16. Explain a non-volatile memory.
17. What is a touch pad ?
18. What is a multidimensional array ?
19. What are pointers in C ?
20. Write a C program to find smallest of two numbers.
21. What is a flash memory ?
22. Differentiate between interpolation and extrapolation. **(8×2=16 Marks)**

SECTION - C

Answer **any six**, each carries **4** marks.

23. Using K-map realize a full adder circuit.
24. Solve using 2's complement method

$$(1111)_2 - (1101)_2$$

25. Explain the principle of storing digital information on an optical disk.



26. What are combinational and sequential circuits ?
27. Explain the basic Boolean laws.
28. Explain the different data types used in C programming language.
29. What is a pointer ? How is it initialized ?
30. Describe Simpson's rule used in numerical integration.
31. Mention the algorithm for linear regression.

(6×4=24 Marks)

SECTION – D

Answer **any two**, each carries **15** marks.

32. With the help of a block diagram explain the functional units of a computer.
33. Using Karnaugh map realize a full adder circuit.
34. Explain the algorithm to find the solution for an equation using the method of successive bisection.
35. Explain the Runge-Kutta method to obtain solution to the differential equations.

(2×15=30 Marks)
