E 7518   (Pages : 3)   Reg. No...............................

Name.....................................

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2014

Sixth Semester

Core Course—COMPUTATIONAL PHYSICS

(Common for Model-I B.Sc. Physics, Model-II B.Sc. Physics and B.Sc. Physics – E.E.M)

Time : Three Hours   Maximum Weight : 25

Part A

Answer **all** *questions.*
Objective type questions.
Weight 1 for each bunch.

BUNCH I

1. A group of four bits is ————.

    (a) byte.

    (b) bit.

    (c) nibble.

    (d) word.

2. ———— device is commonly used as a driver for the address bus in a bus oriented system.

    (a) Line receiver.

    (b) octal bus transceiver.

    (c) interfacing devices.

    (d) buffer device.

3. ———— is place In between the CPU and the main memory.

    (a) CCD memory.

    (b) cache memory.

    (c) Magnetic core memory.

    (d) flash memory.

4. By default ,member of the class in a, C++ program is ————.

    (a) public.

    (b) private.

    (c) protected.

    (d) none of these.

BUNCH II

5. # Include <string .h> is a :

    (a) pre processor directive.

    (b) header file.

    (c) string handling function.

    (d) none of these.

6. The command used in 8085 micro processor to step the execution and enters the wait state :

    (a) MVI.

    (b) NOP.

    (c) HLT.

    (d) OUT.

Turn over

7. EPROM stands for :

    (a) Electrically programmable ROM.

    (b) Erasable programmable ROM.

    (c) Evolutionary programmable ROM.

8. The first order R-K method is known as ————.

BUNCH III

9. The _____ is not on entry controlled loop.

    (a) do..... while.   (b) while.

    (c) if.....else.   (d) none of these.

10. Class is ————.

    (a) Built in data type.   (b) derived data type.

    (c) user-defined data type.   (d) none of these.

11. Which instruction enables the programmer to set up continuous loops in 8085.

    (a) Unconditional jumb.   (b) Call instructions.

    (c) Return instructions.   (d) Restart instructions.

12. Which one of the following is a volatile memory ?

    (a) RAM.   (b) ROM.

    (c) Magnetic memory.   (d) none of these.

BUNCH IV

13. In C++, The function within a class is called :

    (a) Member function.   (b) private function.

    (c) derived function.   (d) none of these.

14. The binding of data and function together in to single class type variable is a referred to as a :

    (a) dynamic binding.   (b) Encapsulation.

    (c) polymorphism.   (d) inheritance.

15. Group of bidirectional lines used to transfer data between the CPU and peripherals.

    (a) Address bus.   (b) data bus.

    (c) control bus.   (d) none of these.

16. The ———— is a logic circuit that amplifies the current or power.

$(4 \times 1 = 4)$

Part B

*Answer any **five** questions.*
Short answer questions (weight 1 each).

17. What is absolute and partial encoding ?

18. Explain the advantages of an assembly language over high-level language.

19. Explain the difference between a compiler and an interpreter.

20. Draw a schematic diagram of a digital computer.

21. State the difference between while and do......... while loop.

22. How is a function of a class defined ?

23. Explain RAM.

24. State trapezoidal rule.

$(5 \times 1 = 5)$

Part C

*Answer any **four** questions.*
Short Essay / Problems (weight 2 each).

25. Explain about dynamic debugging in 8085.

26. What is meant by 2 address format, 1 address format and 0 address format ?

27. What do you understand by main memory, second memory and cache memory ?

28. Differentiate array and a structure.

29. What are objects ? How are they created ?

30. Find the real root of equation $f(n) = x^3 - x - 1$ using bisection method.

$(4 \times 2 = 8)$

Part D

*Answer any **two** questions.*
Essay (weight 4 each).

31. Explain different types of instructions in 8085.

32. Write a c^{++} program to sort an array using class.

33. Evaluate $\sqrt{12}$ to 4 places of decimal using N-R Method.

$(2 \times 4 = 8)$