E 4270 (Pages : 2) Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, NOVEMBER 2016

First Semester

Vocational Course—COMPUTER FUNDAMENTALS

(For Vocational Subjects : Computer Applications of B.Sc. Physics—Model II)

[2013 Admission onwards]

Time : Three Hours Maximum : 80 Marks

Candidates can use Clark's tables and scientific non-programmable calculators.

Part A (Very Short Answer Questions)

Answer **all** *questions briefly.*
Each question carries 1 *mark.*

1. Why were the first and second generation computers more difficult and costlier to produce commercially than computers of subsequent generations ?
2. Name some representatives computer systems of each of the five computer generations.
3. List key software technologies used in building computers of each of the five generations.
4. Explain the differences between memory read and write operations.
5. What is a Cache memory ? How it is different from a primary memory ?
6. How are the viewing angles widened in LCD system ?
7. What are the major problems in keyboards built with mechanical switches ?
8. Write 4 bit BCD code for the decimal number 102.
9. Subtract the binary 0110111 from the binary 1101110 number.
10. List some key functions performed by the system software of a computer.

(10 × 1 = 10)

Part B (Brief Answer Questions)

Answer any **eight** *questions.*
Each question carries 2 *marks.*

11. Compare the architectural structures of a digital, analog and hybrid computers.
12. Describe the functions, merits and demerits of various types of RAM.
13. Distinguish between mainframe and super computer.
14. What is the role of a VL bus ?
15. Explain the various process takin place during disk booting.
16. Describe the working principle of a sheet fed scanner.

Turn over

17. Explain the working principle of a dye sublimation printer.
18. What happens when a number is divided by zero in a computer ? Explain.
19. Explain, with an example the method of subtraction by complementary method. What are the advantages of this method ?
20. Divide 0110111 by 0111.
21. A machine language instruction has two-part format. Identify these parts and discuss the function of each.
22. Distinguish between compiler and interpreter. When interpreter is prefered to compiler ?

(8 × 2 = 16)

Part C (Descriptive/Short Essay Type Questions)

Answer any **six** *questions.*
Each question carries 4 *marks.*

23. List the various computer generations along with the key characteristics of computers of each generation.
24. Differentiate among RAM, ROM, PROM and EPROM.
25. Explain the various registers in 80186 and their applications.
26. List the names of ICs found on the Pentium motherboard and their functions.
27. Why is the SCSI bus called as device independent bus ? Why do you terminate SCSI bus ?
28. Explain how the mouse communicates the user commands to the system.
29. Convert the following hexadecimal numbers into (i) Ocal ; (ii) decimal ; and (iii) binary (a) AB2 and (b) 625.
30. Perform the following binary operations :

    (i) 11010 × 1001.1 ; (ii) 11101.11 ÷ 10.11.
31. Explain the three different types of softwares used in computer. Describe their functions.

(6 × 4 = 24)

Part D (Long Essay)

Answer any **two** *questions.*
Each question carries 15 *marks.*

32. Explain, giving suitable examples, how computers are classified into micro, mini, main frame and super computers. Give the merits, demerits and field of application of each one.
33. Describe the principle of operation of different types of positioning and pointing type input devices used in computers.
34. Discuss the important features of Intel 80486.
35. Describe the high level, assembly level and low level language programming used in computers. Compare and contrast their features and performances.

(2 × 15 = 30)