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Reg. No.....

Name.....

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

First Semester

Vocational Course—COMPUTER FUNDAMENTALS

(For Vocational Subject : Computer Application of B.Sc. Physics — Model II)

[2013 Admission onwards]

Time : Three Hours

Maximum : 80 Marks

Part A (Very Short Answer Questions)

Answer all questions briefly.

Each question carries 1 mark.

1. Differentiate between Mini computers and Micro computers.
2. What are the fundamental differences between Analog and Digital Computers ?
3. What is "generation" in computer terminology ? How many generations are there till date ?
4. What is a flash memory ?
5. Why secondary memory is essential ?
6. What are the functions of BIOS ?
7. Name the four pins in 80286 that provides interfacing with coprocessor.
8. What is BCD code ? What are its merits and demerits ?
9. What is a machine language ? Why it is required ?
10. When would you prefer to use an interpreter than a compiler ?

(10 × 1 = 10)

Part B (Brief Answer Questions)

Answer any eight questions.

Each question carries 2 marks.

11. Differentiate between Mouse and Track Ball.
12. Describe the features of second generation computers.
13. Discuss the impact of computers in Educational field.
14. What is disk formatting ? Why it is needed ?
15. What is a ROM ? Why it is called so ? Write the uses of ROM ?
16. What is a mnemonic ? How it is helpful in the case of computer languages ? Give examples.
17. What are the different types of primary memories ?
18. Explain the differences among assembler, compiler and interpreter.

Turn over

19. Differentiate between Syntax errors and Logic errors. Which type of errors is more difficult to detect and correct? Why?
20. List the main features of high level languages. Name four high level languages.
21. What are the two-part formats of a machine language instruction? Explain the functions of each one.
22. How do you add two decimal numbers in the BCD form, if the sum is greater than 9? Explain with suitable examples.

(8 × 2 = 16)

Part C (Descriptive/Short Essays)

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

23. Explain the important features of a supercomputer.
24. Explain the working principle of a sheet fed image scanner.
25. Explain the basic functions of North Bridge and South Bridge of a motherboard.
26. With an example, explain the role of the control unit in the execution of an instruction.
27. What is EEPROM? Explain it how data is read, stored and modified? How it differs from EPROM?
28. Perform the following conversions :
 - (i) 1100.0011_2 to hexadecimal and decimal.
 - (ii) 1100.0011_{16} to Octal and decimal.
29. (a) Add the following decimal numbers using 2's complement method : - 69 and - 96.
(b) Subtract the following decimal numbers using 2's complement method : + 96 - (+ 69).
30. Differentiate between System software and Application software, giving examples.
31. Explain the characteristics of a good programming language.

(6 × 4 = 24)

Part D (Long Essays)

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

32. Describe the different hardware technologies used in the different generations of computers. Compare their performances and merits.
33. Explain the different components of a Pentium motherboard.
34. Describe the principle, performance and merits of the different types of primary and secondary memories used in present computers.
35. Explain the important features of the high level, machine level and assembly level languages. Explain how these three types of languages are used and in which circumstances, each type of language is used.

(2 × 15 = 30)