

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, NOVEMBER 2016**First Semester****Vocational Course—COMPUTER FUNDAMENTALS**

(For B.Sc. Mathematics—Model II)

[2013 Admission onwards]

Time : Three Hours

Maximum Marks : 80

Part A (Very Short Answer Questions)*Answer all questions briefly.**Each question carries 1 mark.*

Fill in the blanks using appropriate words :

1. The BCD code corresponding to the decimal 25 is _____.
2. Two basic units of the CPU of the computer are _____ and _____.
3. $10101100_2 + 11001010_2 =$ _____.
4. $1101_2 \times 1010_2 =$ _____.
5. _____ is a volatile memory.
6. _____ memory is an extremely fast and small memory between CPU and main memory.
7. _____ is a graphic input device.
8. _____ language program is machine independent.
9. The electronic mail (e-mail) facility was introduced in _____ generation of Computers.
10. _____ is a hardware device, that allows a computer to be connected to a network, both functionally and physically.

(10 × 1 = 10)

Part B (Brief Answer Type Questions)*Answer any eight questions.**Each question carries 2 marks.*

11. Name the secondary storage media popularly used in the (a) Second ; and (b) Fifth generation of computers.
12. What are the differences between weighted and non-weighted codes ? Give *one* example each.

Turn over

13. Convert 1250 octal number into (a) Hexadecimal ; (b) Decimal ; and (c) Binary equivalents.
14. How a light pen is used as an input device ?
15. Name two output devices used for producing soft copy output and two output devices used for producing hard copy output :
16. Differentiate between direct and random access storage devices. In which category does a magnetic disk fall ? Justify your answer.
17. How many types of software are there ? Give *two* examples each.
18. What are the advantages and limitations of flowcharting ?
19. Why high level languages are easier to learn and use ? What are their drawbacks ?
20. What is a Coaxial cable ? Write its practical uses.
21. Why are communication protocols needed in a computer network ?
22. List *four* characteristics of Internet and define them.

(8 × 2 = 16)

Part C (Short Essays/Descriptive Type Questions)

Answer any six questions.

Each question carries 4 marks.

23. Explain the applications of computers in industry and Society.
24. Perform the following subtraction using : (i) 1's complement ; and (ii) 2's complement methods ; and (iii) Direct method :
11101010—10110111.
25. Describe the working principle of any *two* pointing type input devices used in computer.
26. Explain the memory hierarchy in Pentium Computer.
27. Explain the functioning of ALU showing how typical Arithmetic and Logical operations are performed ?
28. Explain the role of compiler, assembler and interpreter.
29. Draw a flow chart to read a six-digit decimal number and to find the sum of all digits in it, to display the result.
30. What is routing ? Differentiate between source routing and hop-by-hop routing methods.
31. What is internet working ? What are the issues in it ? Explain difference among the following :—
(i) Bridge. (ii) Router.
(iii) Gateway.

(6 × 4 = 24)

Part D (Long Essays)

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

32. With a neat functional block diagram, explain how the various units of a digital computer are organised ? Explain the characteristics of digital computers.
33. Discuss the evolution of the five generations of computers, emphasising on the important hardwares and softwares used in each generation.
34. Giving appropriate examples, explain the programming in (a) Machine language, (b) Assembly language ; and (c) High level language. Compare and contrast the above three mentioning in which circumstances each *one* is suitable ?
35. With neat diagrams, describe any *five* types of network topologies used in Computer Communication. Bring out their features, merits and demerits.

(2 × 15 = 30)