



विश्वजीवनमृतं ज्ञानम्

ABV- Indian Institute of Information Technology & Management, Gwalior

Computer Organisation and Architecture (IT202)

Minor Examination (Session 2024-25)

Maximum Time: 1.5 Hours

Max Marks: 40

Note: Answer all questions. All questions carry equal marks.

1. Draw and explain the basic functional units of a computer. Highlight the roles of CPU, memory, and I/O units. (8 Marks)
2. (a) Define instruction set architecture (ISA). (b) Discuss the difference between RISC and CISC architectures with examples. (8 Marks)
3. (a) Represent $(-25)_{10}$ in 8-bit signed magnitude, 1's complement, and 2's complement forms. (b) Perform subtraction: $(101101)_2 - (1101)_2$ using 2's complement. (8 Marks)
4. (a) Explain microprogrammed control with a neat diagram. (b) Differentiate between hardwired and microprogrammed control units. (8 Marks)
5. A system has 16 KB main memory and 512 bytes cache with block size of 64 bytes. (a) Calculate the number of bits required for main memory address. (b) Show the address format for direct mapping. (8 Marks)