

Mid-West University Examinations Management Office Surkhet, Nepal End Semester Examinations -2078	
Bachelor level/B.Sc CSIT /3rd Semester Time: 3 hrs	Full Marks : 60 Pass Marks : 30
Subject : Computer Organization and Architecture (COM432)	

Candidates are required to give their answers in their own words as far as practicable. Figures in the margins indicate marks.

GROUP “A”

Very short answer questions (attempt all)

[8 x 2 = 16]

1. Define the function of ALU.
2. Define memory hierarchy in computer system?
3. What is the main purpose of data register?
4. What is the use of complement in computer system?
5. What is the meaning of MOV K, 11?
6. Why compiler is needed for high level language?
7. Define least significant bit (LSB).
8. Explain parallel processing.

GROUP “B”

Short answer questions (attempt any five)

[5 x 4 = 20]

9. Explain instruction cycle in brief with appropriate diagram.
10. What is the importance of studying Computer Organization and Architecture in computer science?
11. Convert the following decimal number to the base indicated.
 - a. 3345 to octal
 - b. 4367 to hexadecimal
 - c. 443 to binary
12. What are the major difference between hardwired control unit and microprogrammed control unit?
13. Describe the interrupt cycle flowchart with appropriate diagram.
14. Write short note on following:
 - a. Strobe
 - b. Handshaking

GROUP “C”

Long answer questions (attempt any three)

[3 x 8 = 24]

15. Why cache memory is used in computer system? Explain hit-ratio and miss-ratio.
16. What do understand by memory organization. Explain various cache mapping techniques used in computer organization with example.
17. What is pipelining? Explain specialized arithmetic hardware pipelining with appropriate diagram and tracing for $X_i * Y_i + Z_i$ for $i = 1, 2, 3, \dots, 7$
18. Explain cache mapping technique with example and appropriate diagram.

THE END