

- (1) What are the six components of a computer-based information system? (6%)
- (2) Define each of the following terms: (3%×3=9%)
- a. Machine cycle
 - b. Instruction cycle
 - c. Execution cycle
- (3) Describe each of the following file types: (3%×4=12%)
- a. Program file
 - b. Data file
 - c. ASCII file
 - d. Image file
- (4) Define each of the following: (3%×5=15%)
- a. Booting
 - b. Platform
 - c. BIOS
 - d. GUI
 - e. Command-driven
- (5) Suppose a hash storage system is constructed using the division hash function with six storage buckets. For each of the following key values, identify the bucket in which the record with that key is placed. What goes wrong and why?
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|-------|-------|-------|-------|-------|
| a. 29 | b. 2 | c. 17 | d. 14 | e. 20 |
| f. 8 | g. 23 | h. 38 | i. 26 | j. 5 |
- (5%×2=10%)
- (6) What advantages does an indexed file have over a hash file? What advantages does a hash file have over an indexed file? (5%×2=10%)
- (7) What is the difference between system requirements and system specifications? (5%×2=10%)
- (8) What is the difference between an object and a class? (6%)
- (9) Describe the three major steps in the languages translation process. (10%)
- (10) Describe the working ideas of a queue and a list. (6%×2=12%)