

大同大學 九十六 學年度資工系在職碩士班入學考試試題

第 1/2 頁

考試科目：計算機概論 班別：資工系在職碩士班

註：本次考試不可參考書籍及筆記；不可使用計算器；不可使用字典

I. Spell out the following acronyms. (ex. AI: Artificial Intelligence). (20 points)

- | | | | | |
|--------|--------|--------|-----------|---------|
| 1. RAM | 2. DSL | 3. GIS | 4. XML | 5. IRC |
| 6. LCD | 7. LAN | 8. SSL | 9. TCP/IP | 10. ALU |

II. Explain the following key terms IN DETAIL. Please note that full points will be rewarded for detailed description. (30 points)

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|--|---------------------------------------|
| 1. Client-server model | 2. Disk fragmentation |
| 3. Graphical user interface | 4. Machine cycle |
| 5. Network hub | 6. Machine-independent language |
| 7. Run-time error | 8. Pseudocode |
| 9. Call by value | 10. WYSIWYG editor |
| 11. Interpreter | 12. Global positioning system |
| 13. Uniform Resource Locator | 14. Peer-to-peer collaboration system |
| 15. Personal information management (PIM) software | |

III. Single choices: select the right answer among the given choices. Please note that no point will be rewarded and 2 points will be deducted from the score in this section for each wrong answer (每題答錯倒扣兩分，倒扣至本大題總分為零止). (30 points)

1. A(n) _____ translates one line of source code into object code at a time.
(a) interpreter. (b) compiler. (c) assembler. (d) scripter. (e) 3GL.
2. A knowledge-based system is also known as a(n)?
(a) genetic algorithm. (b) neural network. (c) expert system. (d) geographic information system. (e) decision support system.
3. A device that connects computers into a network, and also connects dissimilar networks together is called? (a) a switch. (b) a router. (c) a hub. (d) a GPS.
(e) none of the above.
4. A(n) _____ is an object that contains all of the properties and methods a programming object can possess. (a) object property. (b) object method (c) programming framework. (d) OOP. (e) object class.
5. _____ require a programmer to write code to tell the software what it should accomplish and not how it should accomplish it. (a) 3GLs: (b) Procedural languages. (c) Machine languages. (d) Assembly languages. (e) Nonprocedural languages.
6. The phase of the systems development life cycle (SDLC) in which you model systems from a logical point of view is the? (a) systems investigation phase. (b) systems analysis phase. (c) systems design phase. (d) systems construction phase. (e) systems implementation phase.
7. A virus hoax is? (a) a worm that pretends to do damage. (b) e-mail distributed with the intention of frightening people about a non-existent virus. (c) software that cannot be damaged by a virus. (d) the spreading of a virus. (e) none of the above.
8. The specification that enables all Web clients to interact with all Web servers is called?
(a) ASP. (b) PHP. (c) CGI. (d) CSS. (e) WML.

< 背面繼續 >

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第 2/2 頁

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9. The wireless standard used for networks over distances up to 300 feet is called?
(a) Bluetooth. (b) WiFi. (c) IrDA. (d) RFID. (e) GSM.
10. A carrier's cellular telephone coverage area is divided into? (a) counties. (b) states.
(c) hexagonal cells. (d) square cells. (e) rectangular cells.
11. A _____ is a small text file containing specific information about you that a Web site stores on your computer's hard disk.
(a) cookie. (b) folder. (c) device letter. (d) compressed file. (e) filename.
12. Hard disk space that the CPU uses as RAM when there's not enough RAM is called?
(a) virtual memory. (b) flash memory. (c) random access memory. (d) electronic memory.
(e) none of the above.
13. The CPU (a) executes system software instructions. (b) executes application software instructions. (c) is not necessary for wireless devices. (d) is both a and b. (e) is both b and c.
14. The _____ determines how small a compressed file will be relative to its uncompressed size. (a) encryption algorithm. (b) file compression ratio. (c) file compression algorithm. (d) encryption algorithm. (e) FAT.
15. Firewire is? (a) a type of cache. (b) a type of CPU. (c) a type of connector.
(d) a type of RAM. (e) none of the above.

IV. Essay questions: Answer following questions in detail.

1. Write a pseudocode that simulates card shuffling. (8 points)
2. Explain the von Neumann architecture. (4 points)
3. Given that the base-R number system has n digits, it is represented as $d_n * R^{n-1} + d_{n-1} * R^{n-2} + \dots + d_2 * R + d_1$, where d_i represents the digit in the ith position in the number. (4 points)
(a) Convert 754 in octal (base 8) into decimal.
(b) Convert ABC to decimal.
4. Present $X = (A \bullet B)$ in the form of both logic diagram symbol and truth table. (4 points)