

考試科目	計算機概論 51521	系所別	數位內容碩士學位學程 資訊技術組	考試時間	2 月 19 日(日) 第 1 節
------	----------------	-----	---------------------	------	-------------------

1. Describe three different multimedia presentations you have experienced. List the various media types that were used in the presentation. (3%) Describe how the presentation was structured: which portions of the presentations were linear, which were interactive, and how it was linked as hypermedia. (3%) Describe how you experienced it and why a multimedia presentation might be more compelling, interesting, or engaging than a presentation that does not use multimedia. Use specific examples from your own experience. (4%)

2. When a multimedia file is too complex for a computer to render, what are the possible approaches that a program designer can do? (5%) Can you briefly describe the technical characteristics that determine the size of a digitized audio file and the size of a digitized video file. (5%)

3. Briefly discuss bitmap images: how they are represented, what types of image they are most suitable for and why, and any advantages or disadvantages. Give three examples of bitmap file types. (5%) Briefly discuss vector images: how they are represented, what types of image they are most suitable for and why, and any advantages or disadvantages. (5%)

4. Briefly describe what HTML, CSS, JavaScript, and plug-ins are, and how they and multimedia elements are incorporated into a web page. (10%)

5. One of the most expensive and time-consuming tasks in organizing a multimedia project is often the content acquisition. List three multimedia project examples and briefly discuss how their content acquisition processes were achieved. (10%)

備

註

- 一、作答於試題上者，不予計分。
- 二、試題請隨卷繳交。

考試科目	計算機概論 51521 (網路與多媒體)	系所別	數位內容碩士學位學程 資訊技術組	考試時間	2月19日(日)第1節
------	-------------------------	-----	---------------------	------	-------------

以下問題可用中文或英文回答。

1. (15 points; 1 points for each) Single Selection Questions

- 1) Which one of the following binary numbers is equivalent of the Octal value 112?
(a) 1100110; (b) 1001101; (c) 1001001; (d) 1001010
- 2) What is the smallest integer represented by 8 bits in two's complement format?
(a) -127; (b) -128; (c) -255; (d) -256
- 3) What is the largest integer represented by 8 bits in two's complement format?
(a) 127; (b) 128; (c) 255; (d) 256
- 4) Typically speaking, there are five steps to transform a C program stored in a file into a program running in memory: Preprocessing, Assembling, Compiling, Linking, and Loading.
(a) True; (b) False
- 5) Data structures queue and stack behave in the same way, and they both allow data items to be inserted into as well as removed from a collection in a First-In, First-Out (FIFO) order.
(a) True; (b) False
- 6) Which the following expressions will be TRUE if A and C are both TRUE and B is FALSE?
(a) A XOR (B XOR C); (b) B XOR A; (c) B OR (NOT A AND C); (d) C AND B
- 7) Which one of the following techniques is the most similar to the technique of web proxy?
(a) Cache; (b) Virtual machine; (c) Multi-core processors; (d) Cloud computing
- 8) Which one of the following sorting algorithms is the most efficient one in the worst case?
(a) Selection sort; (b) Quick sort; (c) Merge sort; (d) Insertion sort
- 9) Which one of the following methods is the best way to select a pivot key for quick sort?
(a) Mode; (b) The largest number; (c) The smallest number; (d) Median
- 10) Which one of the following programs is NOT a compiler?
(a) GNU Compiler Collection; (b) Firefox; (c) Javac; (d) Psycho
- 11) Which one of the following programming languages is NOT an object-oriented programming language?
(a) Java; (b) Fortran; (c) C#; (d) Python
- 12) Which one is not a UNIX-based operating system?
(a) FreeBSD; (b) Solaris; (c) Windows; (d) Mac
- 13) Which one is not an editor of Linux systems?
(a) Emacs; (b) Pico; (c) Notepad; (d) Vim

備註

- 一、作答於試題上者, 不予計分。
- 二、試題請隨卷繳交。

考試科目	計算機概論 51521 (網路與多媒體)	系所別	數位內容碩士學位學程 資訊技術組	考試時間	2月19日(日)第1節
------	-------------------------	-----	---------------------	------	-------------

14) Why the IP address, 140.119.70.256, is INCORRECT?

- (a) It has too few parts;
- (b) It contains an invalid value;
- (c) The numbers should add up to an even number;
- (d) The last number should end with 254.

15) In the OSI (Open Systems Interconnection), there is 7-layer reference model for communication systems, on which of the following layers are Wi-Fi (IEEE 802.11) and HTTP (Hypertext Transfer Protocol) working respectively?

- (a) Physical Layer and Application Layer
- (b) Physical Layer and Transport Layer
- (c) Network Layer and Application Layer
- (d) Network Layer and Transport Layer

2. (15 points; 3 points for each) Term Explanations. Describe the technical terms in detail.

- 1) Internet Browsers
- 2) Operating Systems
- 3) CPU (Central Processing Unit)
- 4) VPN (Virtual Private Network)
- 5) DNS (Domain Name System)

3. (6 points) What are the three characteristics of object-oriented programming? Please also describe each of the characteristics in detail.

4. (6 points) Model-View-Controller (MVC) is a popular software architectural pattern for implementing web applications. Please describe the concepts of the design pattern in detail.

5. (4 points; 2 points for each) Digitization.

- 1) What is the main difference between Bitmap and Vector images?
- 2) Calculate the file size of a true color (24-bit) in Full HD.
(Hint: 1KB = 1024 bytes; Full HD = 1920 x 1080 pixels)

6. (4 points) Basic Computer Knowledge.

Please draw the basic PC architecture, which is usually called Von Neumann architecture, and briefly describe each component of the architecture in detail.

備註

- 一、作答於試題上者，不予計分。
- 二、試題請隨卷繳交。