國立彰化師範大學九十六學年度碩士班招生考試試題

系所：數位學習研究所   科目：計算機網路

★★請在答案紙上作答★★

壹、多選題（60%）

(1) Which three options are network management functional area? (Choose three)

    (a) Server management   (b) Security management   (c) Licensing management

    (d) Accounting management   (e) Performance management

(2) Which are two Internet IP protocol functions? (Choose two)

    (a) translation   (b) service use   (c) route selection   (d) connection services

    (e) session administration   (f) address/name resolution

(3) What are the practical limitation of the OSI Reference Model?   (Choose two)

    (a) The OSI model was developed before many popular protocols were developed.

    (b) Protocols do not always fit well into the OSI model's conceptual framework.

    (c) Some protocols correspond to more than one layer or skip part or all of another

    (d) The protocols are revised too often for the OSI model to provide a consistent conceptual framework

(4) Which are three examples of performance management tasks? (Choose three)

    (a) Scan for Virses   (b) Evaluate trends   (c) Mirror hard drives   (d) Identify bottlenecks

    (e) Replace a faulty network board.   (f) Collect network cost information   (g) Make predictions of future network   performance   (h) Document your applications and driver version numbers

(5) Which two topics are associated with the OSI Presentation layer   Choose two

    (a) encryption   (b) translation   (c) service use   (d) dialog control   (e) segment development

    (f) service advertisement   (g) session administration   (h) address/name resolution

(6) Session administration can split into which three tasks? (Choose three)

    (a) data transfer   (b) route selection   (c) error correction   (d) connection release

    (e) segment synchronization   (f) connection establishment

(7) Which two subtasks are related to connection establishment?

    (a) Acknowledging data receipt

    (b) Verify user login names and passwords

    (c) Resuming interrupted communications

    (d) Agreeing which services are required and for what duration

(8) Which four statements are true about the OSI Data Link layer   Choose four

    (a) It controls data flow   (b) It identifies computers on the network.

    (c) It detects and sometimes corrects errors   (d) It organizes the Physical layer's Bits into frame

    (e) It moves data between multiple independent internetworks

    (f) It defines the bit transmission encoding and timing rules.

(9) Which three topics are associated with the ISO Network layer   Choose three

    (a) switching   (b) addressing   (c) encryption   (d) translation   (e) media access

    (f) local topology   (g) route discovery

（10）Which three topics are associated with the OSI Network layer　　Choose three

(a) encryption　　(b) translation　　(c) media access　　(d) local topology　　(e) route selection

(f) gateway services　　(g) connection services

（11）Which of the following are methods of transmission synchronization used to

determine how networks coordinate frame transmission　　Choose three

(a) Synchronous　　(b) Asynchronous　　(c) Sochronous　　(d) Asochronous　　(e) Isochroous

（12）Which of the following topics are addressed at the LLC sublayer of the OSI Data Link layer　　Choose

Two

(a) Bit synchronization　　(b) Transmission synchronization

(c) Connection services　　(d) Switching

（13）Which of the following are analog signal encoding schemes that use current state measurement　　Choose

Two

(a) Amplitude-shift keying　ASK　　(b) Phase-shift keying　PSK

(c) Frequency-shift keying　FSK　　(d) Polarity-shift keying　POSK

（14）Which of the following topics are addressed in the MAC sublayer of the OSI data Link layer　　Choose

Three

(a) Physical topology　　(b) Logical topology　　(c) Media access

(d) Addressing　Physical device　　(e) Bit synchronization

（15）Which three are physical layer topics　　Choose three

(a) Addressing　　(b) Connection types　　(c) Digital signaling　　(d) Bit synchronization

(e) Connection services　　(f) Transmission synchronization

（16）Which three are Physical layer topics　　Choose three

(a) Addressing　　(b) Switching　　(c) Multiplexing　　(d) Bandwidth use

(e) Analog signaling　　(f) Gateway services　　(g) Connection services

(h) Transmission synchronization

（17）Which three terms describe connectivity hardware devices that provide a central point of connection

between media segments? (Choose three)

(a) Hubs　　(b) Modems　　(c) Bridges　　(d) Transceivers　　(e) Multiplexers

(f) Concentrators　　(g) Multiport repeaters

（18）Which three statements are true about UTP? (Choose three)

(a) It is easy to install　　(b) It suffers from rapid attenuation　　(c) It is not susceptible to eavesdropping

(d) It supports data transfer rates from 1-100Kbps.

(e) Its cost is extremely low compared with other transmission media.

(19) Which three functions are considered part of file services? (Choose three)

　　(a) Queuing 　　(b) Replication 　　(c) File storage 　　(d) Data migration 　　(e) Archiving or backup

　　(f) Workgroup application

(20) What are the three basic networking elements? (Choose three)

　　(a) Protocol 　　(b) Network Links 　　(c) Address database 　　(d) Network service

　　(e) Transmission media

貳、問答題(40%)

一、 試述架設網路應考慮哪些因素，請詳述之。

二、 請問 255.255.240.0 這個子網路遮罩最多可將 132.114.0.0 這個網路分割為幾個有效的子網路？每個子網路中最多可以有幾台主機？

三、 在 Class C 等級網路中若至少要分割出 28 個子網路，則子網路遮罩為何？

四、 試詳述如何減少網路信號傳輸之衰減、雜音、串音、與 NEXT？