CN Program

LAN/WAN Networks

Q1 – X.25 technology data rate is

- a- 64 Kbps
- b- 64 KB
- c- 1.54 Mbps
- d- 1.5 MB

Q2 – ATM technology is a

- a- LAN example
- b- MAN example
- c- WAN example
- d- All the above

Q3 – Which of the following IP addresses is of class B?

- a- 116.112.0.0
- b- 136.120.10.10
- c- 236.125.0.1

True

True

d- 325.116.1.0

Q4 –Active directory at the server is a database that contains information about network users.

□ False

Q5 – In Classless addressing addresses are grouping in blocks

	False
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Network Programming

1)	newCachedThreadPool() creates pool with fixed number of threads.	(F)
2)	A filter is needed to write an integer to a binary file.	(T)
3)	I/O and networking programs do not need exception handling.	(F)
4)	A socket connection is a full-duplex.	(T)
5)	openStream() method is used to connect to the server specified in the URI	_ (T)
6)	Several servers can listen to one port at the same time	(F)
7)	Two separate classes for UDP socket and UDP server socket exist.	(F)
8)	Destination address within UDP communication is stored in the packet.	(T)
1		-

1) IOException is a subclass of Exception class	Т
2) You can use URL class to connect to a website	Т

	-
3) Using Network layers hides network communication complexity	Т
from developers and end users	
4) Transport lover lies below Internet Lover	
4) Transport layer lies below internet Layer.	F
5) TCD is an application layor protocol	С
5) TEP is an application layer protocol	Г
6) IPv6 uses 6 Bytes address	F
7) IPv4 address consists of 4 Bytes	Т
, ,	
8) Datagrams are data sent over the network with infinite size.	F
9) Each datagram contains header and payload	Т
10) Sockets hide low level details from programmer such as error	т
detection packet sizes and notwork address	•
detection, packet sizes and network address	
11) A socket connection is a full-duplex.	Т
12) You can use getOutputStream() method to write on a Socket.	Т
13) ServerSocket listens for clients' connections	т
	•
14) Data in DatagramPacket is an array of integers.	F
	-
15) Destination address within UDP communication is stored in the	т
nacket.	
16) got All By Name (String Hoct Name) returns an array of String for	г
10) getAlibyNallie(Stillig HostiNallie) returns all array of Stillig for	F
an names of the nost name	
17) Most Java notwork programs lies in application Javar	т
17) Most Java hetwork programs lies in application layer	1
18) Internet lavers are 6 lavers	F
	·
19) TCP java Sockets are used to program peer to peer network	F
programs	
r	
20) Each port is identified by a number between 1 to 65,535	Т

Network protocols

- 1. Current wireless MACs are based on
 - A. CSMA/CD
 - B. <mark>CSMA/CA</mark>
 - C. Hybrid technique depending on traffic
 - D. Hybrid technique with fixed time partitions

- 2. The initialization vector (IV) is used in the framework of
 - A. WEP security protocol
 - B. 802.11 MAC
 - C. Slotted Aloha networks
- 3. Low battery level will cause a mobile device to
 - A. Avoid competing for contention slots
 - B. Shift to receive-only mode
 - C. Shut down altogether
- 4. Advanced TCP window control is especially relevant
 - A. On circuit switching optical networks
 - B. On wireless networks
 - C. On TDM multiplexers
- 5. The "cocktail party" effect in cellular networks can be prevented by
 - A. Code modulation
 - B. Flattening the spectrum of the transmitted signal
 - C. A collision avoidance wireless MAC

Wireless Networks

- Q 1: HSPA stands for _____.
 - A) High Speed Packet Access
 - B) High Signal Packet Access
 - C) High stream Packet Access
 - D) High Spread Packet Access

Q 2: A user needs to send 3 bits using DSSS, if the user has spreading code consists of 8 bits what is the total transmitted bits?

- A) 3 bytes
- B) 8 bytes
- C) 24 bytes
- D) 12 bytes
- Q 3: Which of the following technologies has the highest data rate?
 - A) UMTS
 - B) LTE
 - C) HSPA
 - D) HSPA+
- Q 4: UMTS technology does not use Internet Protocol
- Q 5: In CDMA all users' data transmitted simultaneously over one channel .

🗆 Yes 🗆 No

Q 6: Loss of data is one of wireless technology disadvantage. □ <mark>Yes</mark>

🗆 No

Network Planning and Administration

Q1 - Which of the following operating systems is (are) open source

- A. Mac OS ver. 10.6
- B. Solaris Ver. 10
- C. MS 2008 R12
- D. All the above

Q2 - Which of the following is a function of DHCP

a- Assign IP addresses

- b- Assign Physical Addresses
- c- Assign Port addresses
- d- All the above

Q3 - Which of the following procedures is (are) part of the post-installation process

- a. Set the computer name
- b. Configure the IP address
- c. Add roles and features
- d. All of the above

Q4 – When you buy server OS, Microsoft requires _____ (CAL).

- a. Configuration AD List
- b. Client Access List
- c. Client Access License
- d. Creation of AD License

Q5 – A Domain Controller (DC) is a server

- a) allowing users in the network to run and use web applications
- b) that is responsible for allowing host access to domain resources
- c) used to store websites
- d) Not a part of AD

Multi Media Networks

1 Which of the following is NOT TRUE in streaming live multimedia?

- A Internet radio talk show is an example of streaming live multimedia
- B Rewind and pause are possible
- C Fast forward is possible
- D It requires playout buffer

2 An analog signal is sampled for 32 seconds at constant rate of 8000 samples/sec with 16-bit per sample, what is the size of the generated data?

- A 500 MB
- B 500 KB
- C 160 KB
- D 300 Byte

3 How server handles different client receive rate capabilities?

- A Server sends data according to minimum receive rate.
- B Server sends data according average receive rate.
- C Server sends data according to maximum receive rate.
- D Server stores, transmits multiple copies of video, encoded at different rates.

4 Which of the following is an example of real-time interactive MM application?

- A PC-2-PC phone
- B PC-2-phone
- C Videoconference with Webcams
- D All of the above

5 Which of the following is NOT TRUE about packet loss and delay on Internet phone?

- A IP datagram lost due to network congestion (i.e., router buffer overflow)
- B Packet loss is not acceptable on Internet Phone.
- C Typical maximum tolerable delay is 400 msec
- D Packet loss rates between 1% and 10% can be tolerated.

6 Which of the following is FALSE about SIP?

- A All telephone calls and video conference calls take place over the Internet.
- B People are identified by names or e-mail addresses.

C People are identified by phone numbers.

D Can reach the callee, no matter where the callee roams, no matter what IP device the callee is currently using.

7 FIFO scheduling means :

- A Randomly choose next packet to send on link
- B Send packets in order of arrival to queue
- C Send the last packets first
- D None of the above

8 The priority discards policy means if packet arrives to full queue

- A Drop all arriving packet
- B Drop/remove on priority basis
- C Drop/remove randomly

D Transmit highest-priority queued packet

9 Which of the following is FALSE about WFQ

- A Stands for Weighted Fair Queuing.
 - B Generalized Round Robin.
 - C Cyclically scan class queues, serving one from each class (if available)
 - D Each class gets weighted amount of service in each cycle.

10 Which of the following is true regarding MM networking applications?

- A loss intolerant and delay intolerant
- B loss intolerant and delay tolerant
- C loss tolerant and delay intolerant
- D loss tolerant and delay tolerant

11 In a fixed playout delay of *q* msec:

- A large *q* means less packet loss
- B large *q* means more packet loss
- C q has no effects on the packet loss
- D small q means bad interactive experience

12 The simple FEC technique usually send _____, where *n* is the number of chunks.

- A 2^{*n*}
- B *n*
- C *n* + 1
- D *n* -1

13 The interleaving technique for recovery from packet loss usually has

- A redundancy overhead
- B no redundancy overhead
- C no playout delay
- D decrease playout delay

Information Network Security

- 1) Which of the following is FALSE about hash functions
- A. Can be applied to any sized message M
- B. Produces fixed-length output h
- ← It is easy to compute h=H(M) for any message M

Given h, it is feasible to find x, where (H(x)=h)

(2) A dedicated appliance or software running on a device installed between the internal network of a system and public networks (Internet) to forward some packets and filter out others is known as:

A Router B Firewall

- C. Switch
- D. Gateway



- Dormant, propagation, triggering, execution
- B. Propagation, triggering, execution, dormant
- C. Dormant, execution, triggering, propagation
- D. Dormant, triggering, propagation, execution
- (4) The policy in which the firewall shall drop all packets arrive to it regardless of destination port number they want to communicate with is called:
- A. Default drop policy
- B. Default accept policy
- C. Specified accept policy
- D. Random drop policy

(5) Digital signature provides_____

- A. Authentication
- A Nonrepudiation
- Both (A) and (B)
- D. Neither (A) nor (B)

(6) Malicious code embedded in legitimate program is called

- A. Trap door
- B. Logic bomb
- ح. Zombie
- D. Trojan horse

(7) A piece of self-replicating code attached to some other code is referred to as:

- A. Worms
- (B. Viruses
- C. Zombies
- D. Trapdoors

(8) Which of the following is FALSE about Trojan horse?

A Program with hidden side-effects

- B. Activated when specified conditions met
- C. When run performs some additional tasks, for example allowing attacker to indirectly gain access they do not have directly
- D. Used to propagate a virus/worm or install a backdoor

(9) A virus spreads using E-mail with attachment containing a macro virus is called

- A. Macro virus
- B E-mail virus
- C. Worms
- D. Trojan horse

(10) An authentication technique involves the use of a secret key to generate a small fixed-size block of data is known as:

A. Message authentication code (MAC)

- B. Encryption
- C. Decryption
- D. Digital signature

(11) A secret entry point into a program allows those who know access bypassing usual security procedures is



- B. Logic bomb
- C. Zombie

O

D. Trojan horse

Wireless Application Networks

1- The Definition of Loaders is:

A) loaders make it easy to synchronously load data in an activity or fragment.

B) loaders make it easy to asynchronously load data in an activity or fragment.

C) loaders does not make it easy to asynchronously load data in an activity or fragment.

D) none of the above.

2- Which are the screen sizes in Android?

A) small
B) normal
C) large
D) all of the above

3- What is the difference between Activity context and Application Context?

- A) <u>The Activity instance is tied to the lifecycle of an Activity. while the</u> application instance is tied to the lifecycle of the application,
- B) The Activity instance is tied to the lifecycle of the application, while the application instance is tied to the lifecycle of an Activity.
- C) The Activity instance is tied to the lifecycle of the Activity, while the application instance is tied to the lifecycle of an application.
- D) none of the above

4- Parent class of Activity?

• C A) object



5- You can shut down an activity by calling its _____ method

- A) onDestory()
 B) finishActivity()
 C) finish()
- D) none of the above

6- Layouts in android?

- A) Frame Layout
- B) Linear Layout
- C) Relative Layout

D) All of the above

7- What year was the Open Handset Alliance announced?

- ^(C) A) 2005
- [©] B) 2006
- ^C C) 2007
- ^O D) 2008

8- If the UI begins to behave sluggishly or crash while making network calls, this is likely due to...



9- The XML file that contains all the text that your application uses.



10- Dialog classes in android?

- A) AlertDialog
- B) ProgressDialog
- C) DatePickerDialog
- ^O <u>D) All of the above</u>

11- How is a simulator different from an emulator?

- A) Emulators are only used to play old SNES games, simulators are used for software development
- B) The emulator is shipped with the Android SDK and third party simulators are not
- C) The emulator can virtualize sensors and other hardware features, while the simulator cannot
- D) The emulator imitates the machine executing the binary code, rather than simulating the behaviour of the code at a higher level

12- Creating a UI (User Interface) in Android requires careful use of...

- A) Java and SQL
- B) XML and Java
- C) XML and C++
- D) Dream weaver

13- What file is responsible for glueing everything together, explaining what the application consists of, what its main building blocks are, ext....?

- C A) Layout file
- ^C B) Strings XML



14- The Emulator is identical to running a real phone EXCEPT when emulating/simulating what?

A) Telephony
 B) Applications
 C) Sensors
 D) The emulator can emulate/simulate all aspects of a smart phone.

15- Intents:

- A) are messages that are sent among major building blocks
- B) trigger activities to being, services to start or stop, or broadcast
- C) are asynchronous
- O
 D
 D
 all of those

16- What built-in database is Android shipped with?

- ^O A) SQLite
- B) Apache
- C) MySQL
- D) Oracle

17- The emulated device for android

A) Runs the same code base as the actual device, all the way down to the machine layer

- B) Is more of a simulator, and acts as a virtual machine for the Android device
- C) Runs the same code base as the actual device, however at a higher level
- D) An imaginary machine built on the hopes and dreams of baby elephants

18- What was the first phone released that ran the Android OS?



🔍 🔍 D) HTC Hero

19- What is a funny fact about the start of Android?

- A) It was orginally going to be called UFO
 B) <u>The first version of Android was released without an actual phone on the</u> market
- C) Androids main purpose was to unlock your car door when you left the keys inside of it
- D) Was going to be a closed source application to make more money for its company

20- When an activity doesn't exist in memory it is in



21- The ______ file specifies the layout of your screen?

- C A) Layout file
- ^C B) Manifest file
- C) Strings XML
- D) R file

Computer Organization and Architecture

Which of the following register points to the address of next instruction to be executed

 a) IP register

- b) BX register c) SP register
- d) AX register

2. Which of the following defines a constant Max

(a) Max db 80

(b) <mark>Max equ 80</mark>

(c) Max dw 80

(d) mov Max, 80

3. The effect of the following code

mov Ah,1 int 21h

is to

- (a) read a character into AL
- (b) read a character into DL
- (c) display the character in AL
- (d) display the character in DL

4. The physical address is (10350 h) and the content of (IP= 350 h) , The content of CS will be

- a) 10000 h
- b) 3A67h
- c) <mark>1000h</mark>
- d) 650h

5. The Program that write by a programmer contains:

- a) Data Segment and Code Segments Only.
- b) Stack Segment and Data segments Only.
- c) Stack and Code Segments.
- d) stack segment only
- 6. The Maximum numbers of bytes allowed for the programmer to be written in one code segment is:
- a) 128 Kbyte
- b) 32 Kbyte
- c) 256 Kbyte
- d<mark>) 64 Kbyte</mark>

7. State which of the following buses is unidirectional

- a) data bus
- b) control bus
- c) address bus
- d) data + control

8. which of the following register can be divided into two half's

- a) CS
- b) IP
- c) SP
- <mark>d) Bx</mark>

9. Which of the following an 8086 instruction clear the content of Ax?

a) Mov Ax, 1 b) ADD Ax, Ax c) <mark>Xor Ax,Ax</mark> d) Or Ax, Ax

10. Which of the following an 8086 instruction clear the MSB of Ax ?

a) Or Ax, 7FFFh b) Test Ax, 7FFFh c) Sub Ax, 7FFFh d) AND Ax, 7FFFh

Numerical Analysis

1. The	second Taylor polynomial for $f(x) = e^{-\frac{1}{2}}$	e ^x cos x abo	out $x_0 = 0$ is
a.	$P_2(x) = 1 + x$	c.	$P_2(x) = 1 + 2x$
b.	$P_2(x) = 1 + x^2$	d.	$P_2(x) = 1 + 2x^2$

2.	Using three-digit rounding arithmetic $\frac{\frac{13}{14} - \frac{6}{7}}{2e - 5.4}$ is	equal:	
a.	1.00	с.	2.20
b.	1.80	d.	1.90

3. The first iteration P_1 to approximate $\sqrt{3}$ using the fixed-point iteration with $g(x) = 0.5\left(x + \frac{3}{x}\right)$ and $P_0 = 1.0$ is: a. 1 b. 3 b. 4

4. For a function *f* the forward divided-differences are given by:

		$f[x_0]$	$x_0 = 0$
	$f[x_0,x_1]$		
$f[x_0, x_1, x_2] = \frac{50}{7}$		$f[x_1]$	$x_1 = 0.4$
	$f[x_1, x_2] = 10$		
		$f[x_2] = 6$	$x_2 = 0.7$

The missing entries in the table are:

a.
$$f[x_0] = 1, f[x_1] = 3 \text{ and } f[x_0, x_1] = 5$$
 c.
=0.5
b. $f[x_0] = 2, f[x_1] = 4 \text{ and } f[x_0, x_1] = 6$ d.
=0.6

$$f[x_0] = 0.1, f[x_1] = 0.3 \text{ and } f[x_0, x_1]$$

$$f[x_0] = 0.2, f[x_1] = 0.4 \text{ and } f[x_0, x_1]$$

5. Using three-point formula and the following table

1.4	1.3	1.2	1.1	x
16.44465	13.46374	11.02318	9.025013	f(x)

the appr	voximate value of $f'(1.2) =$		
a.	22.012354	c.	21.548120
b.	20.245874	d.	22.193635

-

6. Us	sing the two-point formula to a	pproximate $f'(1.8)$ for $f(x) = \ln x$ we	h = 0.1 is:
a.	0.5406722	с.	0.4574854
b.	0.3548725	d.	0.2654874
7. U	sing the Trapezoidal rule, the a	pproximate value of $\int_{1.5}^{1.5} x^2 dx$ is:	
a.	0.325487	с.	0.154872
b.	0.228074	d.	0.451230

8. Using Simpson's rule, the approximate value to $\int_{1}^{1.5} x^2 \ln x dx$ is:

a.	0.165432	c.	0.182541
b.	0.175412	d.	0.192245

9. The number π has an infinite decimal expansion of the form $\pi = 3.14159265...$, the fivedigit rounding of π is:

a.	0.31415	c.	3.1415
b.	0.31416	d.	3.1416

10. If $p = 0.3000 \times 10^1$ and the approximate value of p is $p^* = 0.3100 \times 10^1$. Then the absolute error is:

a.	0.1	с.	0.0
b.	0.2	d.	0.02