BRAINWARE UNIVERSITY

Term End Examination 2021 - 22
Programme – Master of Computer Applications
Course Name – Mobile computing
Course Code - MCA403A
(Semester IV)

Time allotted : 1 Hrs.15 Min. **Full Marks : 60**

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question) 1 x 60=60

Choose the correct alternative from the following :

(1) Traffic channels in forward transmission of telephony, carrying digitized voice from the base station to the mobile stations are Channels 8 to 31 and

a) 32 to 40
b) 32 to 63
c) 32 to 60
d) 33 to 63

(2) The smallest of the short range wireless networks, designed to be embedded in mobile devices such as cell phones and credit cards

a) Pervasive Computing
b) Mobile Computing
c) Personal Area Network (PAN)
d) Near-Field Communication (NFC)

(3) The first collision free protocol is

a) Binary countdown
b) Basic bitmap
c) Reservation protocol
d) SAP

(4) DECT stands for

a) Digital European Cellular Telex
b) Digitized Emergency Cellular Telephone
c) Digital European Cordless Telephone
d) Digital European Cellular Telephone

(5) World's first cellular system was developed by

a) Nippon Telephone and Telegraph (NTT)
b) Bellcore and Motorola
c) AT&T Bell Laboratories
d) Qualcomm

(6) Paging systems could be used to

a) Send numeric messages
b) Send alphanumeric messages
c) Voice message
d) All of these

(7) IMT-2000 is a digital mobile system that functions as

a) Transmitter
b) Receiver
c) Transceiver
d) None of these

(8) Half duplex system for communication has

a) Communication in single direction
b) Communication in single direction at a time
c) Communication in both directions at the same time
d) None of these

(9) The process of transferring a mobile station from one base station to another is

a) MSC
b) Roamer
c) Hand off
d) Forward channel

(10) NADC is a 2G standard for

a) TDMA
b) CDMA
c) Both TDMA & CDMA
d) None of these

(11) Radio capacity may be increased in cellular concept by

a) Increase in radio spectrum
b) Increasing the number of base stations & reusing the channels
c) Both Increase in radio spectrum and Increasing the number of base stations & reusing the channels
d) None of these

(12) A wireless technology that allows manufacturers to attach tags with antennas and computer chips to goods and then track their movement through radio signals

a) Near-Field Communication (NFC)
b) Wireless Sensor Networks (WSN)
c) Wireless Fidelity (WiFi)
d) Radio-Frequency Identification (RFID) Technology

(13) A high-bandwidth wireless technology with transmission speeds in excess of 100 Mbps that can be used for applications such as streaming multimedia from, say, a personal computer to a television

a) Satellite Radio
b) Infrared
c) Ultra-Wideband (UWB)
d) Propagation Delay

(14) Chip technology that enables shirt-range connections between wireless devices

a) Wireless
b) Hotspot
c) Voice Portal
d) Bluetooth

(15) A portal that aggregate and provides content and services for mobile users

a) Mobile Portal
b) Mobile Wallet
c) Voice Portal
d) Mobile Computing

(16) Any delay in communications die to signal transmission time through a physical medium

a) Propagation Delay
b) Voice Portal
c) Mobile Portal
d) Mobile Wallet

(17) SDMA technique employs

a) Smart antenna technology
b) Use of spatial locations of mobile units within the cell
c) More battery consumption
d) Both Smart antenna technology and Use of spatial locations of mobile units within the cell are correct

(18) Disadvantages of packet radio are

a) Induced delays
b) Low spectral efficiency
c) Large spectrum required
d) Both Induced delays and Low spectral efficiency

(19) Pure ALOHA is a

a) Random access protocol
b) Scheduled access protocol
c) Hybrid access protocol
d) Demand access protocol

(20) OFDM is a technique of -1. Encoding digital data ,2. Multiple carrier frequencies,3. Wide band digital communication ,4. 4G mobile communication

a) 1,2 and 3 are correct
b) 2 and 3 are correct
c) 1, 2 and 4 are correct
d) All the four correct

(21) The troubles that OFDM faces over other spread spectrum techniques are -1. Sensitivity to Doppler shift ,2. Frequency synchronization problems ,3. Time synchronization problems ,4. Low efficiency due to guard intervals

a) 1,2 and 3 are correct
b) 2 and 3 are correct
c) 1, 2 and 4 are correct
d) All the four correct

(22) The shape of the cellular region for maximum radio coverage is

a) Circular
b) Square

c) Oval
d) Hexagon

(23) Centre excited hexagonal cells use

a) Sectored directional antennas
b) Omni directional antennas
c) Yagi uda antennas
d) None of these

(24) What layer in the TCP/IP stack is equivalent to the Transport layer of the OSI model?

a) Application
b) Host to host
c) Internet
d) Network Access

(25) You want to implement a mechanism that automates the IP configuration, including IP address, subnet mask, default gateway, and DNS information. Which protocol will you use to accomplish this?

a) SMTP
b) SNMP
c) DHCP
d) ARP

(26) Which of the following protocols uses both TCP and UDP?

a) FTP
b) SMTP
c) Telnet
d) DNS

(27) Length of Port address in TCP/IP is _____

a) 4bit long
b) 16bit long
c) 32bit long
d) 8 bit long

(28) TCP/IP layer is equivalent to combined Session, Presentation and _____

a) Network layer
b) Application layer
c) Transport layer
d) Physical layer

(29) Virtual terminal protocol is an example of _____

a) Network layer
b) Application layer
c) Transport layer
d) Physical layer

(30) A device operating at network layer is called ____

a) Router
b) Equalizer
c) Bridge
d) Repeater

(31) Several protocols for upper layers in bluetooth use _____

a) UDP
b) HSP
c) ITC
d) L2CAP

(32) Checksum is used in Internet by several protocols although not at the _____

a) Session layer
b) Transport layer
c) Network layer
d) Data link layer

(33) Network layer at source is responsible for creating a packet from data coming from another _____

a) Station
b) Link
c) Node
d) Protocol

(34) A computer network used for communication among computer devices close to one person

a) Personal Area Network (PAN)
b) Wireless Sensor Networks (WSN)
c) Wireless Local Area Network (WLAN)
d) Mesh Network

(35) A network composed of motes in the physical environment that "wake up" at intervals to transmit data to their nearest neighbor mote

a) Mobile Portal
b) Mesh Network
c) Bluetooth
d) Hotspot

(36) A technology that allows users to make purchases with a single click from their mobile devices

a) Mobile Wallet
b) Mobile Computing
c) Voice Portal
d) Mobile Portal

(37) Commonly used mode for 3G networks is

a) TDMA
b) FDMA

c) TDD
d) FDD

(38) CDMA is -1. Spread spectrum technology ,2. Using same communication medium,3. every user stays at a certain narrowband channel at a specific time period ,4. each user has unique PN code

a) 1,2 and 3 are correct
b) 2 and 3 are correct
c) 1, 2 and 4 are correct
d) All the four correct

(39) Global Positioning System uses

a) CDMA
b) TDMA
c) SDMA
d) FDMA

(40) FHMA is-1. Spread spectrum technology ,2. Using same communication medium ,3. every user has assigned unique frequency slot ,4. each user has unique PN code

a) 1 and 2 are correct
b) 1, 2 and 4 are correct
c) 2 and 4 are correct
d) All the four correct

(41) CDMA2000 1xEV provides high speed data access with channel allocation of

a) 5MHz
b) 50 MHz
c) 1.25 MHz
d) 4MHz

(42) In TD-SDMA, there is a frame of _____ milliseconds and the frame is divided into _____ time slots.

a) 5, 7
b) 7, 5
c) 2, 5
d) 5, 2

(43) Spectrum Efficiency of a cellular network is

a) The traffic carried by whole network
b) The traffic carried per cell divided by the bandwidth of the system and the area of a cell
c) Expressed in Erlang /MHz /km2
d) Both The traffic carried per cell divided by the bandwidth of the system and the area of a cell and Expressed in Erlang /MHz /km2

(44) In Handoff

a) Process of transferring the call to the new base station
b) Transfers the call
c) New channel allocation is done
d) All of these

(45) In a fixed channel assignment strategy

a) Each cell is assigned a predetermined set of frequencies
b) The call is served by unused channels of the cell
c) The call gets blocked if all the channels of the cell are occupied
d) All of these

(46) Advantage of using Dynamic channel assignment is

a) Blocking is reduced
b) Capacity of the system is increased
c) Both Blocking is reduced & Capacity of the system is increased
d) None of these

(47) What is the full form of UMTS?

a) Universal Mobile Telephone System
b) Ubiquitous Mobile Telephone System
c) Ubiquitous Mobile Telemetry System
d) Universal Machine Telemedicine System

(48) UMTS does not has backward compatibility with ____

a) GSM
b) IS-136
c) IS-95
d) GPRS

(49) How much packet data rate per user is supported by W-CDMA if the user is stationary?

a) 2.048 Kbps
b) 100 Mbps
c) 2.048 Mbps
d) 1 Gbps

(50) Which of the following is not a characteristic of 3G network?

a) Communication over VoIP
b) Unparalleled network capacity
c) Multi-megabit Internet access
d) LTE based network

(51) What is the term used by ITU for a set of global standards of 3G systems?

a) IMT 2000
b) GSM
c) CDMA
d) EDGE

(52) What is 3GPP2?

a) Project based on W-CDMA
b) Project based on cdma2000
c) Project based on 2G standards
d) Project based on 2.5G standards

(53) Which of the following is/are the main part(s) of basic cellular system.

a) A mobile Unit
b) A cell Site
c) A mobile Telephone Switching Office
d) All of these

(54) The basic GSM is based on _____ traffic channels

a) connection oriented.
b) connection less.
c) packet switching.
d) circuit switching

(55) GPRS needs the following parts of a typical GSM

a) Does not need any part of GSM
b) The packet-switched core for data transmission
c) The circuit-switched core for localization and authentication
d) None of these

(56) What is the access point (AP) in a wireless LAN?

a) device that allows wireless devices to connect to a wired network
b) wireless devices itself
c) both device that allows wireless devices to connect to a wired network and wireless devices itself
d) all the nodes in the network

(57) In wireless ad-hoc network _____

a) access point is not required
b) access point is must
c) nodes are not required
d) all nodes are access points

(58) A wireless network interface controller can work in _____

a) infrastructure mode
b) ad-hoc mode
c) both infrastructure mode and ad-hoc mode
d) WDS mode

(59) Mostly _____ is used in wireless LAN.

a) time division multiplexing
b) orthogonal frequency division multiplexing
c) space division multiplexing
d) channel division multiplexing

(60) What is WPA?

a) wi-fi protected access
b) wired protected access
c) wired process access
d) wi-fi process access