MARWADI UNIVERSITY

Faculty of Engineering/Technology

Computer Engineering/Information Technology

B. Tech   **SEM: 7**   **MU FINAL EXAM/ MU FINAL REMEDIAL**   **December: 2022**

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Subject: - Mobile Computing (01CE0701)   Date:- 06/12/2022

Total Marks:-100   Time: - 10:30 AM to 1:30 PM

Instructions:
1. **All Questions are Compulsory.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Question: 1.

(a)   Answer below the given MCQs   [10]

1) How Full duplex system is communicated?
   a) Communication in both directions at the same time
   b) Communication in single direction at a time
   c) Communication in single direction
   d) Communication in opposite direction

2) Frequency is measured in
   a) Bytes
   b) Herts
   c) Watt
   d) Mbps

3) Full form of AUC.
   a) Advanced Unit Center
   b) Advanced Union Center
   c) Authentication Center
   d) Authentic Unique Center

4) Which one is correct for GSM?
   a) Use CDMA technology
   b) Information store in handset
   c) Data rate is 3.6Mbps
   d) Support international roaming

5) HLR contains
   a) Equipment Information
   b) Spread Spectrum
   c) Encryption Algorithm
   d) User Profile

6) Which is the example of Line-of-Sight Propagation?
   a) Ham radio
   b) Data transfer through Bluetooth
   c) Infrared Transmission
   d) Television Broadcasting

7) Which method is used to retransmitting the lost data?
   a) Port forwarding
   b) Selective Retransmission
   c) Broadcasting
   d) Indirect TCP

8) Full form of AODV
   a) Ad-hoc On-demand Distance Vector
   b) Advanced On-demand Distance Vector
   c) Ad-hoc Optimal Destination Vector
   d) Advanced Optimal Destination Vector

9) What is the shape of cell?
   a) Square
   b) Circle
   c) Octagon
   d) Hexagon

10) Which Propagation mode follows the curvature of the earth surface?
    a) Electromagnetic propagation   b) Sky wave propagation
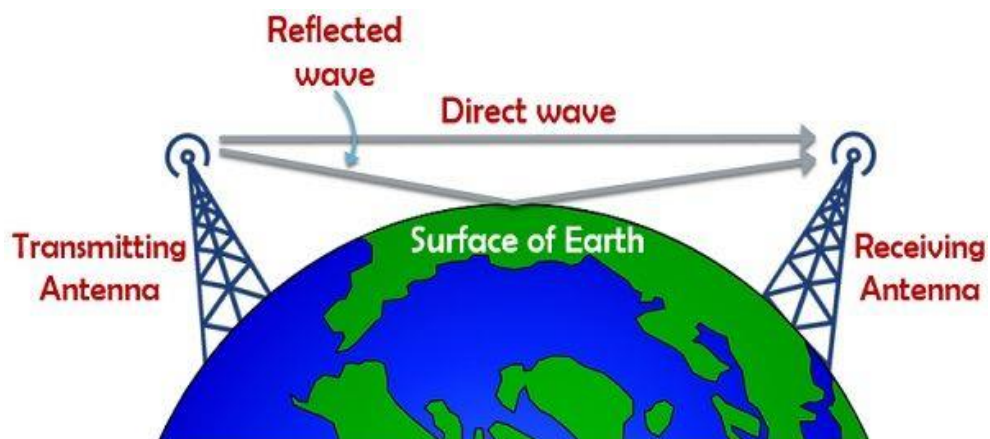   c) Line-of-sight propagation   d) Ground wave propagation

(b)   Answer the following questions.   [10]

1) Define Mobile Computing.

2) What is the full form of GPRS?

3) What is the abbreviation of WML?

4) In GSM, SIM stores all user related data. - True or False?

5) What is the equation to find size of cluster?

6) Frequency and wavelength are inversely proportional to each other. – True or False?

7) What is the full form of IMEI?

8) Write the abbreviation of VoLTE.

9) FDMA is digital transmission technology. – True or False?

10) Size of the cluster N = 7 and total frequency of the cluster is K = 343 MHz. Calculate the frequency of each cell of the cluster.

Question: 2.

(a) List types of propagation modes. Discuss propagation modes given in below figure.   [08]

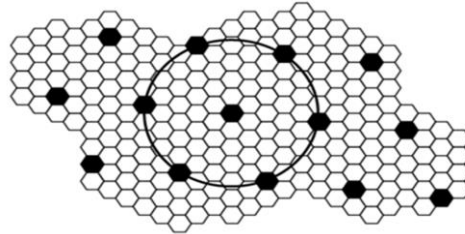(b) Sketch & discuss architecture of Mobile Computing.   [08]

OR

(b) Define Channel Allocation. List and explain types of channel allocation strategies.   [08]

Question: 3.

    (a) Sketch the block diagram of GSM architecture and explain all the entities.   [08]

    (b) What are the components of mobile computing. Write Benefits and limitation of mobile computing. List the application of mobile computing.   [04]

    (c) Explain how to find cluster size? calculate the cluster size of below cellular network. [04]

OR

    (a) Explain TDMA, FDMA and CDMA with example.   [08]

    (b) Write and discuss application of GPRS.   [04]

    (c) Explain routing in GPRS with diagram.   [04]

Question: 4.

    (a) Sketch and discuss architecture of GPRS.   [08]

    (b) Explain the concept of GSM handoff in detail. Discuss the types of handoff.   [08]

OR

    (a) Briefly explain mobile originated & PSTN originated call routing.   [08]

    (b) Enlist and explain the different types of IP handoff in detail.   [08]

Question: 5.

    (a) Differentiate GSM and CDMA   [06]

    (b) Sketch and explain WAP architecture in detail with diagram.   [06]

    (c) Discuss Route Establishment and Route Maintenance in DSDV protocol.   [04]

OR

    (a) Draw and explain WAP protocol stack.   [06]

    (b) Explain different phases of Mobile IP.   [06]

    (c) Write short note on: i) Selective Retransmission   ii) Transaction Oriented TCP.   [04]

Question: 6.

    (a) Discuss RREQ, RREP and RERR message in AODV. Explain working of AODV routing protocol in detail. [08]

    (b) Differentiate AODV and DSDV. [04]

    (c) List & discuss application of 4G. [04]

OR

    (a) Explain 4G network architecture with diagram. [08]

    (c) Briefly explain snooping TCP and indirect TCP in classical TCP improvement. [04]

    (d) What is MANET? Give Classification of MANET. Write applications of MANET. [04]

---Best of Luck---

– Bloom'S Taxonomy Report –

Sub: Mobile Computing (01CE0701)
Sem. 7th
Branch: Computer/IT

Que. Paper weightage as per Bloom's Taxonomy

LEVEL	% of weightage	Question No.	Marks of Que.
Remember/Knowledge	15.70	Q – 1(A), Q – 1(B) (1-9), OR Q – 3(B), Q – 6(C)	27
Understand	53.49	OR Q- 2 (B), Q – 3 (B), OR Q – 3(A), Q – 3(C), Q – 4(B), OR Q – 4(A), OR Q – 4(B), Q – 5 (C), OR Q – 5(A), OR Q – 5(B), OR Q – 5(C), Q – 6(A), OR Q – 6(A), OR Q – 6(B), OR Q – 6(C),	92
Apply	22.67	Q – 1(B)(10), Q – 2(A), Q – 2(B), Q - 3(A), Q - 4 (A), Q – 5 (B)	39
Analyze	5.81	Q – 5(A), Q – 6(B)	10
Evaluate	2.33	Q - 3(C)	4
Higher order Thinking/ Creative	0.00		0

Chart/Graph of Bloom's Taxonomy