

**333832(33)**

**B. E. (Eighth Semester) Examination,  
April-May 2021**

**(New Scheme)**

**(Information Technology Engg. Branch)**

**MOBILE COMPUTING and APPLICATIONS**

***Time Allowed : Three hours***

***Maximum Marks : 80***

***Minimum Pass Marks : 28***

***Note : Part (a) of each question is compulsory and carries 2 marks. Attempt any two parts from (b), (c) and (d) and carry 7 marks each.***

**Unit-I**

1. (a) Why cells are hexagonal in shape? 2
- (b) Why we need specialized MAC in wireless systems?  
Discuss the problem of: 7

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- (i) Hidden and Exposed terminals
- (ii) Near and FAR terminal
- (c) Explain modulation and demodulation of DSSS in detail. 7
- (d) Compare SDMA, TDMA and CDMA. 7

**Unit-II**

- 2. (a) What are the different interfaces used in GSM with their required data rate and capabilities. 2
- (b) What are the different types of GSM call? Explain each with example and flow diagram. 7
- (c) What are the different layers used in GSM? Explain the working of each layers in details. 7
- (d) What are the different types of channels used in GSM? What is the basic difference between physical and logical channels? 7

**Unit-III**

- 3. (a) What is Beacon? 2
- (b) Discuss protocol architecture of IEEE 802.11. 7

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- (c) Write short notes on any two : 7
  - (i) HIPER LAN
  - (ii) JAVA CARD
  - (iii) WiMAX
  - (iv) RFID
- (d) Explain DFWMAC in detail. 7

**Unit-IV**

- 4. (a) What are the capabilities provided by Mobile IP? 2
- (b) Describe the mobile IP protocol. Explain with a diagram, how a correspondent mobile node on a visit sends and receives IP packets to and from another mobile node. 7
- (c) Explain DHCP. How does a DHCP server finds a mobile IP address? 7
- (d) Explain I-TCP. Why and how I-TCP isolate problems on wireless link? What are the main drawback of this solution? 7

**Unit-V**

- 5. (a) What does a gateway do? 2
- (b) Explain the paradigm shifts in third generation systems. 7
- (c) Describe briefly WAP model architecture. 7
- (d) Explain WAP user agent profile. How casching is done in user agent profile? 7