

B.E (Information Technology) (Sem-VII) (Revised Course 2016 – 2017)

EXAMINATION DECEMBER/JANUARY 2020-21

Mobile Computing

Instructions:

- 1. Answer any five questions, two from part A, two from part B and one from part C.**
- 2. Make required assumptions if any.**

[Duration : 3 Hours]

[Max. Marks : 100]

PART A

- Q. 1 a) Explain with a neat diagram, the layers of Simplified Reference Model. **06**
- b) With the help of neat diagram, explain how Demand Assigned Multiple Access (DAMA) is better than Classical Aloha. **07**
- c) Differentiate between Space division multiplexing and Frequency division multiplexing. Also Define Guard space. **07**
- Q. 2 a) Explain the following w.r.t. GSM: **06**
1. Subscriber Authentication
2. Encryption
- b) Define handover w.r.t. GSM. Explain the 4 types of handovers in GSM. **07**
- c) Explain with the neat diagram the GSM architecture. **07**
- Q. 3 a) What is digital modulation? Explain how basic digital modulation is performed with amplitude, frequency and phase shift. **07**
- b) What is a cellular system? What are the advantages and disadvantages of having small sized cells? **07**
- c) Explain with the neat diagram, the hidden and exposed terminal problem in CSMA/CD used in mobile communication. **06**

PART B

- Q. 4 a) Explain what is optimization and various optimization messages in Mobile IP. **07**
- b) W.r.t. Mobile IP, define the following. **06**
1. Care of Address
2. Foreign Agent
3. Foreign Network
4. Home network
5. Correspondent Node
6. Mobile Node

	c) Explain the different types of handovers in satellite systems.	04
	d) Explain scatternet with a neat diagram.	03
Q. 5	a) Explain what is snooping TCP and the problems faced in snooping TCP.	06
	b) Explain the steps in IP packet delivery using Mobile IP.	06
	c) Write a note on	08
	1. Mobile IP Registration	
	2. Mobile IP agent discovery	
Q. 6	a) Explain with the neat diagram formation of piconets in Bluetooth.	07
	b) Explain the following terms w.r.t. satellite systems	06
	1. Inclination Angle	
	2. Perigee	
	3. Footprint	
	4. Van Allen Belt	
	5. HEO	
	6. Routing	
	c) Write a note on WML.	07

PART C

Q. 7	a) Explain the role of various protocols in Bluetooth protocol stack.	08
	b) How does MACA solve the hidden terminal problem and exposed terminal problem.	08
	c) List and explain the 4 applications of satellite systems.	04
Q. 8	a) Write a note on applications of mobile communications.	04
	b) Write a note on:	08
	1. Mobile originated call in GSM	
	2. Mobile terminated call in GSM	
	c) Write a note on indirect TCP.	08
