Code No: **RT41053** **R13** **Set No. 1**

IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017

MOBILE COMPUTING

(Common to Computer Science and Engineering and Information Technology)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
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PART–A *(22 Marks)*

1.	a)	Bring out the limitations of mobile devices.	[4]
	b)	How does CSMA minimize fading?	[3]
	c)	How does a mobile node discover it has moved?	[4]
	d)	What is Snooping TCP?	[4]
	e)	Differentiate symmetric and asymmetric communication system.	[4]
	f)	State the challenges of a MANET.	[3]

PART–B *(3x16 = 48 Marks)*

2.	a)	Discuss the protocol architecture of GSM.	[10]
	b)	What are the functions of authentication and encryption in GSM?	[6]
3.		What are the motivations for a specialized MAC? Discuss in detail the multiple access with collision avoidance techniques.	[16]
4.	a)	Explain the basic requirements of mobile IP.	[8]
	b)	Explain how tunneling works in general and especially for mobile IP using IP-in-IP, minimal, and generic routing encapsulationrespectively. Discuss the advantages and disadvantages of these three methods.	[8]
5.	a)	Explain the concept behind the traditional TCP. What are the improvements that are made into the classical TCP?	[8]
	b)	Why do we go for ITCP? What the advantages and disadvantages of it.	[8]
6.	a)	Explain the operation of selective tuning and indexing techniques.	[10]
	b)	Describe domain-dependent specific rules for data synchronization.	[6]
7.	a)	Explain the WML script used in mobile devices.	[8]
	b)	Discuss MAC layer Bluetooth system.	[8]

Code No: **RT41053** **R13** **Set No. 2**

IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017

MOBILE COMPUTING

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Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
*****

PART–A *(22 Marks)*

1.	a)	How much of the original GSM network does GPRS need? Which elements of the network perform the data transfer?	[4]
	b)	Why do Hidden and Exposed terminal problems arise?	[4]
	c)	What is need for tunneling and encapsulation?	[3]
	d)	What happens to standard TCP in the case of disconnection?	[3]
	e)	List out the advantages and disadvantages of pull based mechanisms.	[4]
	f)	How does WSP solve HTTP problems in wireless mobile environments?	[4]

PART–B *(3x16 = 48 Marks)*

2.	a)	Describe the mobile computing architecture with a neat diagram.	[8]
	b)	Discuss about the mobile services and data services in GSM.	[8]
3.	a)	Discuss the protocol architecture of IEEE 802.11.	[8]
	b)	What is MAC? Differentiate between Near and Far terminals in MAC?	[8]
4.	a)	Explain mechanism for IP packet delivery using mobile IP.	[8]
	b)	Explain DHCP in detail.	[8]
5.	a)	Explain about hoarding techniques that are used in database.	[8]
	b)	Describe query processing in detail.	[8]
6.	a)	Discuss in detail about communication asymmetry with an illustrate example.	[8]
	b)	Describe in detail about selective tuning techniques.	[8]
7.	a)	Explain about Dynamic source routing protocol inMANETs.	[8]
	b)	Brief out the features and need about the XML.	[8]

Code No: **RT41053** **R13** **Set No. 3**

IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017

MOBILE COMPUTING

(Common to Computer Science and Engineering and Information Technology)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
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PART–A *(22 Marks)*

1.	a)	Explain the role of HLR entity of a GSM network.	[3]
	b)	What could be quick 'solutions' and why don't they work?	[3]
	c)	Explain in brief about route optimization in mobile networks.	[4]
	d)	Write the advantages and disadvantages of mobile TCP.	[4]
	e)	Describe data synchronization.	[4]
	f)	What are the routing metrics in wireless adhoc network?	[4]

PART–B *(3x16 = 48 Marks)*

2.	a)	Explain about the novel applications and limitations of mobile computing.	[8]
	b)	Explain the security services of GSM.	[8]
3.	a)	Tabulate SDMA, TDMA, FDMA and CDMA.	[8]
	b)	Explain in detail hidden and exposed terminals.	[8]
4.	a)	Discuss in detail about generic routing encapsulation in mobile IP.	[8]
	b)	Discuss about different ways of registration depending on the location of the COA.	[8]
5.	a)	Explain in detail different cache invalidation mechanisms.	[8]
	b)	Describe in detail about quality of service issues.	[8]
6.	a)	Explain the concept of push based data dissemination mechanism and focus on its advantages and disadvantages.	[8]
	b)	Discuss in detail about communication asymmetry.	[8]
7.	a)	Describe the Bluetooth protocol stack with neat diagram.	[8]
	b)	List and explain the applications of adhoc networks.	[8]

Code No: **RT41053** **R13** **Set No. 4**

IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017

MOBILE COMPUTING

(Common to Computer Science and Engineering and Information Technology)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
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PART–A *(22 Marks)*

1.	a)	Explain how mobility management is done in GSM.	[4]
	b)	Discuss SDMA in detail.	[3]
	c)	Define care of address (COA) and what are the two different possibilities forthe location of COA?	[3]
	d)	Write the advantages and disadvantages of Indirect-TCP.	[4]
	e)	Explain directory method.	[4]
	f)	Write the packages in J2SE.	[4]

PART–B *(3x16 = 48 Marks)*

2.		Explain in detail GPRS.	[16]
3.	a)	Explain why do MAC scheme in wired network fail in wireless networks and how does the multiple access with collision avoidance scheme work?	[8]
	b)	Explain in detail about Code division multiple access (CDMA).	[8]
4.	a)	Explain how agent advertisement is done in mobile IP.	[8]
	b)	Describe the process of optimization in mobile IP with a suitable timeline diagram.	[8]
5.	a)	Explain transaction oriented TCP. How does the integration of connection establishment, data transfer and close functions?	[8]
	b)	Explain fast transmission and fast recovery.	[8]
6.	a)	Explain different types of synchronization.	[8]
	b)	Explain in detail push based data delivery methods/	[8]
7.	a)	Explain in detail DSDV routing algorithm for MANETS with an example.	[8]
	b)	Write about J2ME in briefly.	[8]