Reg.No.:												

VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 50005

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – NOV. / DEC. 2025
Seventh Semester
Computer Science and Engineering
U19CS731 – MOBILE COMPUTING
(Regulation 2019)

Time: Three Hours | Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	Why "MAC protocol designed for infrastructure based wireless network may not work satisfactory in infrastructure less environment" ?	2	K2	CO1
2.	Distinguish between Mobile Computing and Wireless Networking.	2	K2	CO1
3.	Why is the traditional IP cannot be used in a mobile network?	2	K2	CO2
4.	Define Foreign Agent (FA).	2	K1	CO2
5.	List out the different subsystems of GSM.	2	K1	CO3
6.	What are the services offered by GPRS?	2	K1	CO3
7.	List the traditional routing protocols for Mobile AdHoc Networks.	2	K1	CO4
8.	State the characteristics of AdHoc Networks.	2	K1	CO4
9.	Why is kernel mode called memory resident part?	2	K2	CO5
10.	Mention the requirements of Mobile OS.	2	K1	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.		Questions	Marks	KL	CO
11.	a)	Describe the various random assignment schemes and reservation-based schemes used in MAC protocol.	13	K1	CO1
		(OR)			
	b)	Discuss about the following:		K1	CO1
		i. Hidden terminal and Exposed terminal problem.	6		
		ii. Far and Near Terminal problem.	7		
12.	a)	Summarize the following key mechanisms in mobile IP:		K2	CO2
		i. Discovering and registering care of address.	6		
		ii. Tunneling care of address.	7		
		(OR)			
	b)	Explain about the architecture of mobile TCP/IP with neat diagram.	13	K1	CO2
13.	a)	Discuss UMTS architecture in detail. Interpret the functions of HLR and VLR in call routing and roaming.	13	K1	CO3
		(OR)			
	b)	Generalize the role of Handover in GSM. Develop the solutions for effective handover.	13	K2	CO3
14.	a)	Integrate the problems caused by dynamic topology in the design of routing protocol. How are these problems addressed in a popular MANET routing protocol?	13	K2	CO4
		(OR)			
	b)	Summarize the factors that make mobile ad hoc networks more vulnerable to security attacks compared to the traditional networks. Also, explain major types of security attacks that are possible in a mobile ad hoc network. Compose a solution to overcome from these types of attacks.	13	K2	CO4
15.	a)	Explain the special constraints and requirements, components of Mobile OS.	13	K1	CO5
		(OR)			
	b)	Describe in detail about Android OS, features, software stack, SDK and their layers.	13	K1	CO5

PART – C

(1 x 15 = 15 Marks)

Q.No.		Questions	Marks	KL	CO
16.	a)	Analyze the reasons as to why a mobile handset is compact and lightweight and yet provides a large number of features such as roaming, camera, audio and video play and record, Internet browsing, etc., while the traditional landline phone handsets are bulky and provide only limited features.	15	K3	CO5
		(OR)			
	b)	How does UMTS implement asymmetrical communication and different data rates? Explain OVSF code in UMTS.	15	K3	CO3