STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 600 086
(For candidates admitted from the academic year 2023 – 2024 and thereafter)

M.Sc. DEGREE EXAMINATION – APRIL 2026
INFORMATION TECHNOLOGY

SECOND SEMESTER

COURSE : ELECTIVE
PAPER : MOBILE COMPUTING
SUBJECT CODE : 23CS/PE/MC15
TIME : 3 HOURS **MAX. MARKS: 100**

Q. No.	SECTION A Answer all questions (10 x 2=20)	CO	KL
1.	Define Communication Technology.	CO1	K1
2.	List the types of telecommunication networks.	CO1	K1
3.	Recall any two components of wireless communication system.	CO1	K1
4.	List the fixed assignment schemes used in MAC protocols.	CO1	K1
5.	Define MAC Protocol.	CO1	K1
6.	Explain the concept of Mobile IP.	CO2	K2
7.	Summarize the key mechanisms of Mobile IP.	CO2	K2
8.	Describe the purpose of Route Optimization in Mobile IP.	CO2	K2
9.	Describe the operation of TCP.	CO2	K2
10.	Differentiate between Mobile IP and DHCP.	CO2	K2
Q. No.	**SECTION B** **Answer all the questions (4 x 5=20)**	**CO**	**KL**
11.	a) Apply the concepts of transaction processing to illustrate how ACID properties are maintained in a mobile environment. **(OR)** b) Utilise the roll back process in mobile transaction models with a suitable example.	CO3	K3
12.	a) Apply the working of AODV protocol in an example. **(OR)** b) Apply a suitable routing strategy for a MANET and justify your choice.	CO3	K3

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13.	a) Analyze the differences between WSN and MANET with suitable examples. **(OR)** b) Differentiate various WSN routing protocols based on their characteristics.	CO4	K4
14.	a) Examine the responsibilities of operating systems in mobile devices. **(OR)** b) Compare commercial mobile operating systems (Windows, iOS, Android) based on features.	CO4	K4
Q. No.	**SECTION C** **Answer all the questions (6 x 10=60)**	**CO**	**KL**
15	a) Apply the process of data dissemination and data replication in mobile databases to improve system performance. **(OR)** b) Use query processing techniques to explain how efficient data retrieval is achieved in mobile databases.	CO3	K3
16	a) Apply traditional routing protocols (Link State and Distance Vector) and compare their functioning in mobile ad hoc networks. **(OR)** b) Apply security mechanisms to prevent common attacks in MANET and illustrate suitable counter measures.	CO3	K3
17	a) Examine the characteristics and challenges of Wireless Sensor Networks with appropriate diagrams. **(OR)** b) Analyse how IoT integrates with Wireless Sensor Networks with an example.	CO4	K4
18	a) Examine the responsibilities and constraints of mobile operating systems in resource-limited environments. **(OR)** b) Distinguish the differences between traditional OS and mobile OS with suitable examples.	CO4	K4
19	a) Assess the architecture of Wireless Application Protocol (WAP) and justify its suitability for mobile communication. **(OR)** b) Evaluate the advantages and limitations of LiFi technology and defend its potential as an alternative to WiFi.	CO5	K5
20	a) Evaluate Business-to-Business (B2B) mobile applications and recommend strategies to improve their efficiency. **(OR)** b) Justify the security mechanisms used in mobile payment systems.	CO5	K5

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