SRM VALLIAMMAI ENGINEERING COLLEGE

SRMNagar, Kattankulathur – 603203

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

QUESTIONBANK



VI SEMESTER 1904601–MOBILE COMPUTING Regulation–2019

Academic Year 2022–23

Prepared by

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SUBJECT : 1904601 MOBILE COMPUTING

SEM / YEAR: VI/III

UNIT I -INTRODUCTION

Basics of Mobile Computing – Mobile Computing Vs Wireless Networking – Hand off and Hand over-Hidden Terminal Problem-Mobile Computing Applications – Characteristics of Mobile computing – Structure of Mobile Computing Application. MAC Protocols – Wireless MAC Issues – Fixed Assignment Schemes – Random Assignment Schemes – Reservation Based Schemes.

PART A				
Q.No	Questions	BT Level	Competence	
1.	Define Mobile computing.	BTL1	Remember	
2.	Tabulate the wireless networking standards used in Mobile Computing.	BTL1	Remember	
3.	Differentiate Mobile Computing and Wireless Networking.	BTL2	Understand	
4.	List the applications of Mobile Computing.	BTL1	Remember	
5.	Point out the challenges faced by Wireless Communication.	BTL4	Analyze	
6.	Give the advantages of mobile computing.	BTL2	Understand	
7.	What are the limitations of mobile computing?	BTL1	Remember	
8.	List the random assignment schemes.	BTL1	Remember	
9.	Point out the issues of Wireless MAC Protocol.	BTL4	Analyze	
10.	Define Ad-Hoc networks.	BTL1	Remember	
11.	Illustrate the structure of mobile computing applications.	BTL3	Apply	
12.	Classify the MAC Protocols.	BTL4	Analyze	
13.	Distinguish between infrastructure-based network and infrastructure-less Network.	BTL2	Understand	
14.	Give the characteristics of mobile computing.	BTL2	Understand	
15.	Show the schematic operation of CDMA scheme.	BTL3	Apply	
16.	Classify Hidden Terminal and Exposed Terminal Problem with the help of a diagram.	BTL3	Apply	
17.	Compose a role which is played by Radio/Infrared signals play in Mobile Computing.	BTL6	Create	
18.	Assess why is the MAC protocol designed for infrastructure-based wireless network may not work satisfactory in infrastructure-less environment. Justify your answer.		Evaluate	
19.	Develop a MACA Protocol? In which environment is it suitable? Justify your answer.	BTL6	Create	
20.	Formulate a reason why Collision Detection based protocol is not suitable for wireless networks.	BTL5	Evaluate	
21.	Give the various features of mobile computing	BTL2	Understand	
22.	Show the effect of Hidden terminal problem	BTL3	Apply	

23.	Classify CTS and RTS	BTL4	Analyze
24.	Assess on the terms FDMA and TDMA	BTL5	Evaluate
	PART – B		
1.	(i) Analyze the various applications of mobile computing in the realworld scenario. (7) (ii) Explain in detail about Mobile Computing. (6)	BTL4	Analyze
	Describe in detail about the random assignment schemes that are used in CDMA protocol.(13)	BTL2	Understand
3.	 (i)Compare and contrast mobile computing and wireless networking. (7) (ii)Analyze the properties required for MAC Protocols.(6) 	BTL4	Analyze
4.	(i) Demonstrate the working principle of CDMA scheme.(7) (ii) Demonstrate the working principle of FDMA scheme.(6)	BTL3	Apply
5.	(i)How does MAC protocol for Wireless networks differ from wired network?Justify your Statement.(7) (ii)Identify the use of MAC Protocols.(6)	BTL1	Remember
6.	Explain the fixed assignment MAC protocols with neat diagram(13)	BTL1	Remember
7.	Differentiate between TDMA,FDMA and CDMA.(13)	BTL2	Understand
8.	(i) Classify the MAC protocols for adhoc networks.(7) (ii) Examine how the contention free protocols overcome the short comings of contention based protocols.(6)	BTL3	Apply
9.	Generalize the role of pseudo random generator in the working of CDMA Protocol.(13)	BTL6	Create
10.	(i) Examine the characteristics of mobile computing.(7) (ii) Describe the 3 tier structure of mobile computing application.(6)	BTL1	Remember
11.	Explain the different categories of MAC protocols in detail.(13)	BTL4	Analyze
12.	Discuss: (i)Hidden terminal problem.(7) (ii) Exposed terminal problem.(6)	BLT2	Understand
13.	(i) Describe the role of MAC protocol. In which layer of OSI model the MAC protocols operated?(7) (ii) Identify the role of CSMA /CA in wireless network.(6)	BTL1	Remember
14.	Summarize the issues of Wireless MAC Protocols.(13)	BTL5	Evaluate
15.	Discuss on the Architecture of mobile telecommunication.(13)	BTL2	Understand
16.	Examine the difference between wireless and mobile computing with suitable example.(13)	BTL3	Apply
17.	Characteristics of mobile computing.(13)	BTL5	Evaluate
1.	PART -C Do you agree with the following statement: "In CSMA/CD protocol,	BTL5	Evaluate
1.	when two nodes transmit on a shared medium, a collision can occur only when two nodes start transmitting exactly at the same instant?" Explain your answer.(15)	DILJ	Evaluate
2.	What is MACA protocol? In which environment is it suitable? Briefly explain its working. Compose a solution to solve the hidden and exposed terminal problem using MACA protocol.(15)	BTL6	Create
3.	Explain the different categories of MAC protocols. Identify the situations under which protocols from one category would be preferable over the other categories. Explain the working of a reservation-based MAC protocols. (15)	BTL5	Evaluate

4.	Summarize on infrastructure-based networks and infrastructure-less	BTL5	Evaluate
	networks with the help of suitable schematic diagrams. (15)		
5.	Compose on the terms FDMA, TDMA, CDMA, ALOHA and	BTL6	Create
	CSMA.(15)		

UNIT II -MOBILE INTERNET PROTOCOL AND TRANSPORT LAYER

Overview of Mobile IP – Features of Mobile IP – Key Mechanism in Mobile IP – route Optimization. Overview of TCP/IP – Architecture of TCP/IP- Adaptation of TCP Window – Improvement in TCP Performance-Tunneling.

_	PART – A		
		DEL 1	
1.	Define Mobile IP.	BTL1	Remember
2.	What is meant by route optimization?	BTL1	Remember
3.	Express the idea of encapsulation.	BTL2	Understand
4.	What do you know about 'agent solicitation'?	BTL1	Remember
5.	Predict the functions of DHCP.	BTL2	Understand
6.	Differentiate between Tunneling and reverse Tunneling.	BTL2	Understand
7.	Formulate a plan to create mobile IP along with the basic requirements.	BTL6	Create
8.	Show the schematic operation of M-TCP.	BTL3	Apply
9.	Define COA.	BTL1	Remember
10.	Illustrate the use of BOOTP protocol.	BTL3	Apply
11.	Give the functions of various protocols used in application layer of TCP.	BTL2	Understand
12.	Infer the use of snooping protocols to improve TCP	BTL4	Analyze
13.	Compare and contrast indirect TCP and mobile TCP.	BTL4	Analyze
14.	Develop a solution to reduce the congestion in a mobile network.	BTL6	Create
15.	Assess why does Congestion occur in a network?	BTL5	Evaluate
16.	Point out the features of 'SlowStart' in Mobile Computing.	BTL4	Analyze
17.	Assess the term 'adaptive transmission control mechanism'.	BTL5	Evaluate
18.	List the modifications proposed in single-hop and multi-hop wireless networks.	BTL1	Remember
19.	Demonstrat e the IP datagram structure.	BTL3	Apply
20.	Define congestion avoidance.	BTL1	Remember
21.	Predict the role of mobile IP	BTL2	Understand
22.	Define Tunneling process	BTL3	Apply
23.	Infer on Encapsulation and decapsulation	BTL4	Analyze
24.	Discriminate the Role of HTTP and SMTP	BTL5	Evaluate
	PART-B		
1.	Examine the following encapsulation methods (i) IP-in-IP and Minimal IP (7) (ii) GRE encapsulation (6)	BTL1	Remember
2.	Give the comparison of various TCP advantages and disadvantages in wireless networking.(13)	BTL5	Evaluate
3.	Describe the following terms in detail: (i) Agent Discovery and Agent solicitation.(7) (ii) Corresponding Node.(6)	BTL1	Remember
4.	With a neat diagram explain DHCP and its protocol architecture(13)	BTL1	Remember
5.	Demonstrate the working principle of mobile IP. (13)	BTL3	Apply
6.	Summarize following the key mechanisms in mobile IP (i) Discovering and registering care of address. (7) (ii) Tunneling care of address. (6)	BTL2	Understand

PART – A				
		versal Mobile		
	<u></u>	1		
` ' ' ' '				
(b) Care-of-Address(3)				
(a) Correspondent Node(3)				
Compose short notes on the following:	BTL6	Create		
to work efficiently in a mobile wireless environment. (15)				
-				
What problems would occur if the traditional TCP is used in	BTL5	Evaluate		
context of mobile IP? Explain why they needed? (7)				
(ii) What do you mean by encapsulation and decapsulation in the				
movement of a mobile to a foreign network. (8)				
(i) Explain the discovery of care of address in the context of	BTL5	Evaluate		
Compose the solutions to handle handoff in Snooping TCP.(15)	BTL6	Create		
maintain end-to-end semantics?(15)				
efficiently in mobile wireless networks. How does M-TCP				
Briefly explain the M-TCP approach of extending TCP to work	BTL5	Evaluate		
PART-C				
	DILO	Evaluate		
		Apply		
		Understand		
` '	DET 1	TT 1		
<u> </u>				
	BTL4	Analyze		
1				
1 ''	BTL2	Understand		
	D	** *		
	RILL	Remember		
	DTI 1	D . 1		
1 '	BTL6	Create		
TCP?(6)				
ii)How does slow start help to improve the performance of				
	BTL2	Understand		
(ii)Compare it with the ISO/OSI architecture.(6)				
suite(7)	 ·			
	BTL4	Analyze		
(ii) Examine how does TCP detect and handle congestion.(6)	220			
, '	BTL3	Apply		
	DIL	Tillaryze		
With a neat diagram explain how packet delivery to and from a	RTI 4	Analyze		
	(i)Explain the layered architecture of the TCP/IP protocol suite(7) (ii)Compare it with the ISO/OSI architecture.(6) i)Summarize slow start in TCP operation.(7) ii)How does slow start help to improve the performance of TCP?(6) Modify the traditional TCP to M-TCP for working efficiently in wireless Mobile Network.(13) (i)Explain the functions of I-TCP.(7) (ii)Write a note on Freeze-TCP.(6) (i) Discuss about TCP in single-hop mobile networks.(7) (ii) Discuss about TCP in multi-hop mobile networks.(6) Analyze the congestion control mechanisms adopted by the TCP in order to improve the performance of traditional networks.(13) Discuss about DHCP.(13) Examine the Key mechanisms of mobile IP.(13) Give the Route optimization strategies.(13) PART-C Briefly explain the M-TCP approach of extending TCP to work efficiently in mobile wireless networks. How does M-TCP maintain end-to-end semantics?(15) Compose the solutions to handle handoff in Snooping TCP.(15) (i) Explain the discovery of care of address in the context of movement of a mobile to a foreign network. (8) (ii) What do you mean by encapsulation and decapsulation in the context of mobile IP? Explain why they needed? (7) What problems would occur if the traditional TCP is used in mobile wireless environments? explain how TCP can be adapted to work efficiently in a mobile wireless environment. (15) Compose short notes on the following: (a) Correspondent Node(3) (b) Care-of-Address(3) (c) Agent Discovery(3) (d) Tunnelling and Encapsulation(3) (e) Home Agent and Foreign Agent.(3) UNIT III -MOBILE TELECOMMUNICATION SYSTEN tem for Mobile Communication (GSM) – General Packet Radio Service (Gunication System (UMTS).	mobile node is transferred in mobile IP.(13) (i)Examine the reason why congestion occurs in a network?(7) (ii)Examine how does TCP detect and handle congestion.(6) (i)Explain the layered architecture of the TCP/IP protocol suite(7) (ii)Compare it with the ISO/OSI architecture.(6) i)Summarize slow start in TCP operation.(7) ii)How does slow start help to improve the performance of TCP?(6) Modify the traditional TCP to M-TCP for working efficiently in wireless Mobile Network.(13) (i)Explain the functions of I-TCP.(7) (ii) Write a note on Freeze-TCP.(6) (i) Discuss about TCP in single-hop mobile networks.(7) (ii) Discuss about TCP in multi-hop mobile networks.(6) Analyze the congestion control mechanisms adopted by the TCP in order to improve the performance of traditional networks.(13) Discuss about DHCP.(13) Examine the Key mechanisms of mobile IP.(13) BTL2 Examine the Key mechanisms of mobile IP.(13) BTL3 Give the Route optimization strategies.(13) BTL5 PART-C Briefly explain the M-TCP approach of extending TCP to work efficiently in mobile wireless networks. How does M-TCP maintain end-to-end semantics?(15) Compose the solutions to handle handoff in Snooping TCP.(15) BTL6 (i) Explain the discovery of care of address in the context of movement of a mobile to a foreign network. (8) (ii) What do you mean by encapsulation and decapsulation in the context of mobile IP? Explain why they needed? (7) What problems would occur if the traditional TCP is used in mobile wireless environments? explain how TCP can be adapted to work efficiently in a mobile wireless environment. (15) Compose short notes on the following: (a) Correspondent Node(3) (b) Care-of-Address(3) (c) Agent Discovery(3) (d) Tunnelling and Encapsulation(3) (e) Home Agent and Foreign Agent.(3) UNIT III -MOBILE TELECOMMUNICATION SYSTEM tem for Mobile Communication (GSM) – General Packet Radio Service (GPRS) – Uniunication System (UMTS).		

	PART – A		
1.	Define GSM.	BTL1	Remember
2.	Tabulate the services of GSM?	BTL1	Remember
3.	Show the importance of GPRS.	BTL3	Apply
4.	Evaluate in what ways is GPRS better than GSM?	BTL5	Evaluate
5.	Define UMTS. What are the elements of UMTS?	BTL1	Remember
6.	Classify the functions of HLR and VLR.	BTL3	Apply
7.	Differentiate between a GSM network and UMTS network.	BTL2	Understand

8.	Give the Functions of GGSN.	BTL2	Understand
9.	List the supplementary services provides by GSM.	BTL1	Remember
10.	Discuss about BTS.	BTL2	Understand
11.	Give the limitations of GPRS.	BTL2	Understand
12.	Analyze the purpose of EIR in Mobile Computing.	BTL4	Analyze
13.	List the elements of NSS with functions.	BTL1	Remember
14.	Classify the major functions in RSS.	BTL4	Analyze
15.	Create different ways to develop anonymity.	BTL6	Create
16.	Discriminate between UMTS networks and 2Gnetworks.	BTL5	Evaluate
17.	Show the differences between 1G, 2G,3G Cellular Networks.	BTL3	Apply
18.	Point out the import features of GSM security.	BTL4	Analyze
19.	Generalize the suggestions of mobile phones with respect to human body.	BTL6	Create
20.	Define Call Routing.	BTL1	Remember
21.	Discuss on GSM and GPRS	BTL2	Understand
22.	Show the Advantages of GPRS	BTL3	Apply
23.	Point out Limitations of UMTS	BTL4	Analyze
24.	Discriminate the Functions of 1G,2G,3G and 4G	BTL5	Evaluate
	PART – B		I
1.	(i) Explain GPRS protocol suite.(7) (ii) Explain GPRS services.(6)	BTL5	Evaluate
2.	Describe the GSM architecture in detail.(13)	BTL1	Remember
3.	(i) Illustrate the functions of authentication and encryption in GSM?(7) (ii)How a GSM network provides security to the customers.(6)	BTL3	Apply
4.	(i) Demonstrate briefly about VHE.(7) (ii)In what way VHE is applied in 3Gnetworks?(6)	BTL3	Apply
5.	(i)Explain GPRS transmission plane protocol reference model. (7) (ii) Why UMTS technology is superior to GPRS technology? Justify your answer. (6)	BTL6	Create
6.	Describe in detail about (i) 2G Networks. (7) (ii) 3G Networks. (6)	BTL1	Remember
7.	Classify briefly about the various categories of GSM services.(13)	BTL4	Analyze
8.	(i) Discuss UMTS architecture in detail.(7) (ii) Interpret the functions of HLR and VLR in call routing and roaming?(6)	BTL2	Understand
9.	Describe the evolution of mobile cellular communication Technology.(13)	BTL1	Remember
10.	Summarize the characteristics of different generations of cellular networks in detail.(13)	BTL2	Understand
11.	(i) Explain the registers in GSM architecture. (7) (ii) Explain the bearer services offered by GSM.(6)	BTL1	Remember
12.	Summarize the transport technologies used across generation of cellular networks.(13)	BTL2	Understand



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13.	(i)Is 3G cellular wireless technology superior to 2G technology? Justify your answer.(7)	BTL4	Analyze
	(ii) Analyze the advantages and limitations of GPRS.(6)		
14.	Explain the similarities and dissimilarities between a GSM network and UMTS networks. (13)	BTL4	Analyze
15.	Summarize on the Difference of GSM and GPRS(13)	BTL2	Understand
16.	Demonstrate on pros and cons of UMTS and GPRS(13)	BTL3	Apply
17.	Evaluate and explain the GSM architecture diagram and explain the various scenarios.(13)	BTL5	Evaluate
	PART-C		
1.	Give an overview of the working of current mobile cellular phones. Briefly explain the distinguishing features of various generations of wireless cellular networks.(15)	BTL5	Evaluate
2.	Prepare a list of important functional differences and similarities between 1G,2G and 3G cellular networks.(15)	BTL6	Create
3.	What do you understand by 2.5G? Mention a few characteristic feature of this technology. Explain how is it different from 2G and 3G technologies.(15)	BTL5	Evaluate
4.	Prepare 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	BTL6	Create
	bulky and provide only limited features.(15)		
5.	bulky and provide only limited features.(15) Relate and Explain the real time example with the GSM,GPRS	BTL6	Create
	bulky and provide only limited features.(15) Relate and Explain the real time example with the GSM,GPRS and UMTS.(15) UNIT IV -MOBILE AD-HOC NETWORKS		
Ad-Hoc l	bulky and provide only limited features.(15) Relate and Explain the real time example with the GSM,GPRS and UMTS.(15) UNIT IV -MOBILE AD-HOC NETWORKS Basic Concepts - Characteristics - Applications - Design Issues	– Routing	g – Essential
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Ad-Hoc l of Tradi Vehicula	bulky and provide only limited features.(15) Relate and Explain the real time example with the GSM,GPRS and UMTS.(15) UNIT IV -MOBILE AD-HOC NETWORKS Basic Concepts – Characteristics – Applications – Design Issues itional Routing Protocols –Distance Vector and Link State arAd Hoc networks (VANET) – MANET Vs VANET – Security. PART – A	– Routing	g – Essential g Protocols -
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Ad-Hoc l of Tradi Vehicula	bulky and provide only limited features.(15) Relate and Explain the real time example with the GSM,GPRS and UMTS.(15) UNIT IV -MOBILE AD-HOC NETWORKS Basic Concepts – Characteristics – Applications – Design Issues itional Routing Protocols –Distance Vector and Link State arAd Hoc networks (VANET) – MANET Vs VANET – Security. PART – A	- Routing - Routing	g – Essential g Protocols -
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Ad-Hoc lof Tradi Vehicula	bulky and provide only limited features.(15) Relate and Explain the real time example with the GSM,GPRS and UMTS.(15) UNIT IV -MOBILE AD-HOC NETWORKS Basic Concepts – Characteristics – Applications – Design Issues itional Routing Protocols –Distance Vector and Link State arAd Hoc networks (VANET) – MANET Vs VANET – Security. PART – A Define an Adhoc network. Show the applications of MANETs. Summarize the characteristics of MANETs.	BTL1 BTL3 BTL5	Remember Apply Evaluate
Ad-Hoc lof Tradi Vehicula 1. 2. 3. 4.	bulky and provide only limited features.(15) Relate and Explain the real time example with the GSM,GPRS and UMTS.(15) UNIT IV -MOBILE AD-HOC NETWORKS Basic Concepts – Characteristics – Applications – Design Issues itional Routing Protocols –Distance Vector and Link State and Hoc networks (VANET) – MANET VS VANET – Security. PART – A Define an Adhoc network. Show the applications of MANETs. Summarize the characteristics of MANETs. Examine the requirement for Ad-Hoc Networks for its working.	BTL1 BTL3 BTL5 BTL3	Remember Apply Evaluate Apply
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1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	bulky and provide only limited features.(15) Relate and Explain the real time example with the GSM,GPRS and UMTS.(15) UNIT IV -MOBILE AD-HOC NETWORKS Basic Concepts – Characteristics – Applications – Design Issues itional Routing Protocols –Distance Vector and Link State and Hoc networks (VANET) – MANET Vs VANET – Security. PART – A Define an Adhoc network. Show the applications of MANETs. Summarize the characteristics of MANETs. Examine the requirement for Ad-Hoc Networks for its working. What is multicast routing protocol? Classify the MANET routing algorithms. Develop a solution for the identification of network topology after changes due to mobility. Give a comparison between DSDV and DSR. Analyze about the term 'CGSR'. Express dynamic source routing (DSR).	BTL1 BTL3 BTL5 BTL3 BTL4 BTL6 BTL4 BTL5	Remember Apply Evaluate Apply Remember Analyze Create Evaluate Analyze Understand
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1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13.	bulky and provide only limited features.(15) Relate and Explain the real time example with the GSM,GPRS and UMTS.(15) UNIT IV -MOBILE AD-HOC NETWORKS Basic Concepts – Characteristics – Applications – Design Issues itional Routing Protocols –Distance Vector and Link State and Hoc networks (VANET) – MANET Vs VANET – Security. PART – A Define an Adhoc network. Show the applications of MANETs. Summarize the characteristics of MANETs. Examine the requirement for Ad-Hoc Networks for its working. What is multicast routing protocol? Classify the MANET routing algorithms. Develop a solution for the identification of network topology after changes due to mobility. Give a comparison between DSDV and DSR. Analyze about the term 'CGSR'. Express dynamic source routing (DSR). Distinguish proactive and reactive protocols List the characteristics of MANETs Differentiate MANET and VANET.	BTL1 BTL3 BTL3 BTL1 BTL4 BTL6 BTL5 BTL4 BTL2 BTL2 BTL1 BTL1	Remember Apply Evaluate Apply Remember Analyze Create Evaluate Analyze Understand Understand Remember Analyze
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18.	Identify the issues that are addressed by routing protocol in MANET.	BTL1	Remember
19.	Interpret the concept of RTT.	BTL2	Understand
20.	Show Why traditional routing strategies cannot be deployed in a MANET.	BTL3	Apply
21.	Interpret the term routing	BTL2	Understand
22.	Show the example for Distance vector routing	BTL3	Apply
23.	Classify the advantages of Link state routing	BTL4	Analyze
24.	Give the Comparison of DVR and LSR	BTL5	Evaluate
	PART – B		
1.	(i) Discuss the characteristics of MANET.(7) (ii) Summarize the applications of MANET.(6)	BTL2	Understand
2.	(i) Illustrate DSR routing in detail.(7) (ii) Show the working of DSDV routing in detail.(6)	BTL3	Apply
3.	Demonstrate how multicast routing is carried out in ad-hoc networks.(13)	BTL3	Apply
4.	(i) Integrate the problems caused by dynamic topology in the design of routing protocol.(7) (ii)How are these problems addressed in a popular MANET routing protocol?(6)	BTL6	Create
5.	(i) Evaluate why traditional packet routing protocol for wired network cannot be used straight away in a MANET.(7) (ii) Evaluate how is an Adhoc network setup without the infrastructure support.(6)	BTL5	Evaluate
6.	Describe at least three applications of Mobile Ad-Hoc Networks.(13)		
7.	(i)Draw and explain the architecture of VANET. (8) (ii) Explain how does it differ from MANET? (5)	BTL1	Remember
8.	Describe the design issues of MANET protocols. (13)	BTL1	Remembe
9.	(i) Explain the multicast routing protocols for MANET.(7) (ii) Pointout the features of multicast routing protocols for MANET(6)	BTL4	Analyze
10.	Write short notes on: (i) Characteristics of a secure ad hoc network.(7) (ii) Security attack counter measures.(6)	BTL1	Remember
11.	Explain the major types of security attacks that are possible in a mobile adhoc network.(13)	BTL1	Remember
12.	(i) Express the "continuity-to-infinity"problem.(7) (ii)How it is addressed in MANET.(6)	BTL2	Understand
13.	Classify the different categories of routing protocols for mobile adhoc networks.(13)	BTL4	Analyze
14.	Point out the factors that make the mobile adhoc networks more vulnerable to security attacks compared to the traditional networks.(13)	BTL4	Analyze
15.	Express routing scenario with example.(13)	BTL2	Understand
16.	Demonstrate distance vector routing and link state routing with example.(13)	BTL3	Apply

17.	Evaluate the advantages and disadvantages of MANET and VANET.(13)	BTL5	Evaluate
	PART-C		
1.	Explain the important classes of MANET routing protocols and	BTL5	Evaluate
	compare their relative advantages. Compare them with respect to		
	network overhead, routing quality and routing time.(15)		
2.	What do you mean by size and node density of a MANET?	BTL5	Evaluate
	Explain these two terms and discuss how these two parameters		
	impact the design of a MANET?(15)		
3.	Explain the factors that make mobile ad hoc networks more	BTL6	Create
	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		
4	overcome from these types of attacks.(15)	DTI 5	F14-
4.	What is an ad hoc network? Why the traditional routing strategies cannot be deployed in a MANET straightaway? Compare the		Evaluate
	MANET routing strategies with the routing strategies of		
	traditional networks.(15)		
5.	Compose a solution to routing scenario with travelling salesman	BTL6	Create
	problem.(15)		
	UNIT V MOBILE PLATFORMSANDAPPLICATION	NS	
Mobile 1	Device Operating Systems – Special Constrains & Requirements –		rison of
	vs and Android OS-Commercial Mobile Operating Systems-Mobil	_	
	Issues.	·	·
1	NATIONAL CONTRACTOR OF THE CON	DTI 1	D
1.	1 & 3	BTL1	Remember
2.	Give four examples of Mobile OS. Differentiate the operating system for mobile phone different from	BTL2	Understand Understand
	the operating system for desktop.	BTL2	
4.	Show the advantages of mobile operating system.	BTL3 BTL1	Apply Remember
5.	Define POS. Assess the special constraints and requirements of Mobile OS.	BTL5	Evaluate
6. 7.	What is M-commerce?	BTL3	Remember
8.	Explain the pros and cons of E-Commerce		Evaluate
9.	_	BTL5 BTL2	Understand
10.	Express micropayment in M-Commerce. Define one different payment system are available in M Commerce.	BTL1	Remember
	Define one different payment system are available in M-Commerce. Show why microkernel preferred for developing a mobile OS?	BTL3	
11. 12.	List the different versions of Android.	BTL1	Apply Remember
13.	Point out the drawbacks of Symbian OS.	BTL4	
13.	Analyze the features of windows iPhone.	BTL4 BTL4	Analyze Analyze
15.	Describe UIQ interface.	BTL3	•
16.	Develop Android software stack.		Apply Create
17.	Describe the features of Blackberry operating system.	BTL6	Understand
18.	Differentiate E-commerce and M- commerce.	BTL2 BTL4	Analyze
19.	Compose a structure of sensor operating system.	BTL6	Create
20.	Differentiate between OS for sensor Network with Traditional OS.	BTL1	Remember
20.	Express the Applications of mobile OS		Understand
22.	Describe Transaction processing in mobile environment	BTL2 BTL3	Apply
23.	Analyze the Software development kit		Analyze
24.	Explain the Security issues	BTL4	Evaluate
	PART – B	BTL5	Lvaluate
1.	Explain the special constraints and requirements of mobile OS.(13)	BTL5	Evaluate
1.	Explain the special constraints and requirements of mount Os.(13)		_ varaute

2.	i) Discuss about the evolution and the features of Windows mobile OS.(6)	BTL2	Understand
	ii) Give the structure of Android software stack and explain.(7)		
3.	Compare and contrast the various mobile OS.(13)	BTL4	Analyze
	Summarize the various applications of M-Commerce(13)	BTL2	Understand
5	(i) List and explain the components of mobile operating System.(8) (ii) Write short notes on Android SDK.(5)	BTL1	Remember
6.	(i) Illustrate mobile device with at least one suitable example(7) (ii)Explain the flexibilities that a user would be required to sacrifice when a single tasking operating system is used in the mobile device.(6)	BTL3	Apply
7.	i) Illustrate the architecture of Android operating system.(7) ii) Examine the possible reasons to why it has been able to rapidly improve its market share compared to its peers since its introduction few years ago. (6)	BTL3	Apply
8.	Write detailed notes on E-Commerce. (13)	BTL1	Remember
9.	(i) What do you understand by M-commerce? Explain the advantages and disadvantages of M-commerce?(7) (ii) Identify the situation where micropayments are essential and how it can be achieved?(6)	BTL1	Remember
10.	Generalize the functions of (i)B2B Commerce. (7) (ii) B2Ccommerce. (6)	BTL6	Create
11.	(i) Identify the properties of mobile payment system.(7) (ii) Describe about mobile payment solutions(6)	BTL1	Remember
12.	Explain the different mobile payment schemes and security issues.(13)	BTL2	Understand
13.	(i) Analyze how the mobile payment process and explain with neat diagram. (7)(ii) What do you understand by the mobile payment system?(6)	BTL4	Analyze
14.	Explain the ways by which m-payments are settled along with any two applications.(13)	BTL4	Analyze
15.	Explain the Android SDK features and application	BTL2	Understand
16.	Illustrate on Structure of M-Commerce and the Pros and cons of M-Commerce	BTL3	Apply
17.	Evaluate Mobile application development protocols	BTL5	Evaluate
	PART-C		
1.	Assess the special features that an operating system for mobile device needs to support compared to the features provided by a traditional operating system. (15)	BTL5	Evaluate
2.	Analyze the principle functions of the operating system of a mobile device and explain with an example application implemented on mobile device and the specific operating system service that it make use of it.(15)	BTL 6	Create
3.	What do you understand by the mobile payment system? Briefly explain an application where mobile payment may be useful. Explain the different payment systems that are available. (15)	BTL 5	Evaluate
4.	What is RFID? Briefly explain the principle of its working. Integrate an application in which RFID is useful? (15)	BTL 6	Create
5.	Create an application with android OS and any other mobile OS and Explain the difference among them.	BTL 5	Evaluate