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Question Paper Code	12880
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**B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024**

Fifth Semester

**Computer Science and Engineering  
20CSPC503 - MOBILE COMPUTING**

Regulations - 2020

Duration: 3 Hours

Max. Marks: 100

**PART - A (10 × 2 = 20 Marks)**

Answer ALL Questions

	<i>Marks</i>	<i>K- Level</i>	<i>CO</i>
1. How does mobile network differ from wired network?	2	K1	CO1
2. List out the Applications of Mobile Computing.	2	K1	CO1
3. Describe the functions of HLR and VLR.	2	K2	CO2
4. What are the obstacles in cellular system?	2	K1	CO2
5. List the Characteristics of LTE.	2	K1	CO3
6. Differentiate UMTS networks from 2G networks?	2	K2	CO3
7. Illustrate the basic transaction of WTP class 0.	2	K2	CO5
8. Tabulate different layers in WAP.	2	K1	CO5
9. State about SDK.	2	K1	CO6
10. List out the pros and cons of M-Commerce.	2	K1	CO6

**PART - B (5 × 13 = 65 Marks)**

Answer ALL Questions

11. a) Explain hidden and exposed terminal problem and near and far terminal problem with an example.	13	K2	CO1
<b>OR</b>			
b) Compare and Contrast FDMA, TDMA and CDMA.	13	K2	CO1
12. a) Discuss how the automatic, worldwide localization of users provided in GSM.	13	K2	CO2
<b>OR</b>			
b) Describe in detail the functional architecture of GPRS and Protocol Stack with neat sketch.	13	K2	CO2
13. a) Explain the UMTS architecture with neat diagrams and services.	13	K2	CO3

**OR**

- b) Illustrate the architecture of LTE with a neat diagram and services. 13 K2 CO3
14. a) i) Describe how mobile TCP improves TCP efficiency for mobile networks. 7 K2 CO5  
 ii) Explain indirect TCP with neat diagram. 6 K2 CO5
- OR**
- b) What is fundamental difference of WML compared to HTML? Write a WML script to design a page for online food ordering system. 13 K2 CO5
15. a) Compare and Contrast the various Mobile OS in detail. 13 K2 CO6
- OR**
- b) Explain Android Software Stack with suitable diagrams. 13 K2 CO6

**PART - C (1 × 15 = 15 Marks)**

16. a) i) Explain packet flow if two mobile nodes communicate and both are in foreign networks. What additional routes do packets take if reverse tunneling is required? 8 K2 CO4  
 ii) Discuss the design issues of MANET routing protocols in detail. 7 K2 CO4
- OR**
- b) Explain AODV protocol with a neat graph and list the advantages. 15 K2 CO4