



USN

13MCA443

Fourth Semester MCA Degree Examination, June/July 2019  
**Mobile Computing and Wireless Communications**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions.**

- 1 a. Explain the essential functional differences between 1<sup>st</sup> generation, 2<sup>nd</sup> generation and 3<sup>rd</sup> generation of networks. (06 Marks)  
b. Classify and explain the mobile computing applications. (08 Marks)  
c. Explain the design constraints for mobile computing. (06 Marks)
- 2 a. Explain the call routing procedure in GSM network with an example. (12 Marks)  
b. Write the procedure of GSM frequency allocation. (08 Marks)
- 3 a. Explain the concepts operator-centric pull and operator-independent push of SMS architecture. (12 Marks)  
b. Explain PDP context activation with respect to GPRS networks. (08 Marks)
- 4 a. Explain the IS-95 architecture model in detail. (12 Marks)  
b. Define Spread-Spectrum. Explain different spreading techniques. (08 Marks)
- 5 a. List and explain various phases in smart client development process. (10 Marks)  
b. Briefly explain the different wireless markup languages. (10 Marks)
- 6 a. Explain the GPRS generic applications and GPRS specific applications. (10 Marks)  
b. Give an architectural overview of thin client for mobile internet applications. (10 Marks)
- 7 a. What is push registry? Explain application activation sequence through push registry. (10 Marks)  
b. Explain the CDC, CLDC and MIDP configurations in J2ME. (10 Marks)
- 8 Write a note on:  
a. Cell clusters in GSM  
b. 2G versus 3G  
c. Device Emulators  
d. Markup languages. (20 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.