USN ☐☐☐☐☐☐☐☐☐☐                                     **13MCA443**

# Fourth Semester MCA Degree Examination, Dec.2018/Jan.2019
## Mobile Computing and Wireless Communication

Time: 3 hrs.                                                     Max. Marks:100

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

1  a. Explain the three-tier architecture for mobile computing with a neat diagram.  **(10 Marks)**
   b. Explain the context aware system in mobile computing.                         **(05 Marks)**
   c. Describe ICAP with a neat diagram.                                            **(05 Marks)**

2  a. Explain the GSM architecture with a neat diagram.                             **(10 Marks)**
   b. Explain GSM addresses and identifiers.                                        **(10 Marks)**

3  a. Explain the architecture of SMS with a neat diagram.                          **(10 Marks)**
   b. Explain the GPRS specific applications and limitations of GPRS.               **(10 Marks)**

4  a. What is spread spectrum? Explain the direct sequence spread spectrum technology in detail.
                                                                                    **(10 Marks)**
   b. Explain IS-95 forward and reverse link channels structures with a neat diagram.  **(10 Marks)**

5  a. Explain the design constraints for handheld devices.                          **(10 Marks)**
   b. Explain the mobile IP architecture with a neat diagram. Discuss tunneling operations in mobile IP.  **(10 Marks)**

6  a. Describe the smart client architecture with a neat diagram.                   **(10 Marks)**
   b. Explain the various mobile operating systems.                                 **(10 Marks)**

7  a. Explain Midlet model and Midlet life cycle with a neat diagram.              **(10 Marks)**
   b. Explain J2ME architecture with a neat diagram.                               **(10 Marks)**

8     Write short notes on:
   a. WML
   b. Voice XML
   c. HDML
   d. WiMax.                                                                        **(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.