

NTK/KW/15/7580

**Faculty of Engineering & Technology**  
**Seventh Semester B.E. (C.S.E.) (C.B.S.) Examination**  
**Elective—II : MOBILE COMPUTING**

Time—Three Hours]

[Maximum Marks—80

**INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
  - (2) Solve Question No. **1 OR** Question No. **2**.
  - (3) Solve Question No. **3 OR** Question No. **4**.
  - (4) Solve Question No. **5 OR** Question No. **6**.
  - (5) Solve Question No. **7 OR** Question No. **8**.
  - (6) Solve Question No. **9 OR** Question No. **10**.
  - (7) Solve Question No. **11 OR** Question No. **12**.
  - (8) Assume suitable data wherever necessary.
  - (9) Illustrate your answers wherever necessary with the help of neat sketches.
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1. (a) What is the need of wireless communication ? State and explain various applications of wireless communication. 7
  - (b) Draw a simplified reference model for wireless communication and explain its working. 7

**OR**

2. (a) Which are the different signal propagation effects ?  
Also explain multi-path propagation. 7
- (b) What are Antennas ? State and explain different types  
of antennas. 7

3. (a) Explain cellular system with three and seven cell cluster.  
7
- (b) What is the use of sectorized antennas in cellular  
system ? Also explain FCA, BCA and DCA channel  
allocation schemes. 6

**OR**

4. (a) What is the need of specialized MAC in wireless  
communication ? 6
- (b) Which are different TDMA medium access schemes ?  
Explain any three schemes in detail. 7
5. (a) Which are the different protocols of network and  
switching subsystem ? 7
- (b) Which are the different operations of operation  
subsystem in GSM ? 6

**OR**

6. (a) Explain different radio interfaces used in GSM system.  
7
- (b) Write notes on radio subsystem components :
- (i) MS
- (ii) BSC
- (iii) BTS. 6

7. (a) State and explain various requirements of mobile IP.  
7
- (b) Explain IP packet delivery in mobile IP. 7

**OR**

8. (a) Explain how classical TCP has improvement using  
Indirect TCP and Snooping TCP. 7
- (b) Explain Dynamic Host Configuration Protocol (DHCP)  
for mobile IP. 7
9. (a) What is Mobile Ad-hoc Network ? What are the  
advantages of mobile ad-hoc network ? 6
- (b) Explain fundamental difference between wired network  
and ad-hoc network related to routing. 7

**OR**

10. (a) Explain Destination Sequence Distance Vector (DSDV)  
with example. 6
- (b) How Dynamic Source Routing works in mobile  
ad-hoc network ? Explain route discovery and route  
maintenance. 7
11. (a) Explain components and interface of the WAP 1.X  
architecture. 7
- (b) Explain the working of wireless transaction protocol  
in WAP. 6

**OR**

12. (a) Explain the concept of Bluetooth protocol stack with  
suitable diagram. 7
- (b) Explain the functions and working of L2CAP in brief.  
6