Registration No : | | | | | | | | | | |

Total Number of Pages : 02 **B.Tech.**
PEIT5402

8th Semester Regular / Back Examination 2017-18
UBIQUITOUS COMPUTING
BRANCH : IT, ITE
Time: 3 Hours
Max Marks : 70
Q.CODE : C559

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.
Answer all parts of a question at a place.

Q1 **Answer the following questions :** **(2 x 10)**

a) Differentiate between SCO Link and ACL Link
b) Define G-MSC and V-MSC.
c) Differentiate between FDMA and TDMA.
d) Define Cluster and sector.
e) What is co-channel interference and adjacent channel interference?
f) What is long term fading and short term fading in context of signal propagation?
g) Define inclination angle and elevation angle in the context of satellite communication.
h) Define IMEI, IMSI.
i) Define Piconet and Scatternet.
j) What is the difference between soft handoff and hard handoff?

Q2 **a)** Describe the essential components of a cellular telephone system. **(5)**
b) Explain Bluetooth protocol stack with suitable diagram. **(5)**

Q3 **a)** What is the purpose of using Request to Send (RTS)/Clear to send (CTS) in CSMA/CA(Carrier Sense Multiple Access with Collision Avoidance)? Describe the relative advantages and disadvantages of basic CSMA/CA and CSMA/CA with RTS/CTS protocols. **(5)**
b) Describe “Hidden Terminal Problem”. What is the difficulty of implementing CSMA/CD technique in a wireless environment? **(5)**

Q4 **a)** What is IEEE 802.11 standard? Describe the frame structure of (Frequency Hopping Spread Spectrum) FHSS and DSSS (Direct Sequence Spread Spectrum) used by IEEE 802.11 **(5)**
b) How mobile agents differ from a general software agent? Explain the life cycle of a mobile agent? **(5)**

Q5 **a)** What is handover? Write the two basic reasons for a handover. Explain the various handover scenarios in GSM Network with suitable diagram. **(5)**
b) Describe the function of MS and SIM. Why does GSM separate MS and SIM? How and where is user related data stored in the GSM system? How is user data protected from unauthorized access? **(5)**

Q6 **a)** Define channel assignment. Differentiate between static and dynamic channel assignment. Under what circumstances, is static channel assignment normally used? Which channel assignment approach can be effectively deployed to handle increase traffic situation? **(5)**

b) Explain with diagram, how a correspondent mobile node on a visit sends and receives IP packet to and from another MN also on a visit at another foreign network. How is encapsulation done in mobile IP? **(5)**

Q7 **a)** Briefly differentiate between IRIDIUM and GLOBALSTAR satellite system. **(5)**

b) What is WAP? Draw the WAP architecture. Discuss its advantages and disadvantages. **(5)**

Q8 **Write short notes on the following :** **(2.5 x 4)**

(a) VPN
(b) Cell Splitting
(c) Mobile Agent
(d) GPRS Support Nodes