END TERM EXAMINATION

EIGHTH SEMESTER [B.TECH] APRIL - MAY 2019

Paper Code: ETIT-402　　　　　　　Subject: Mobile Computing

(Batch 2013 Onwards)

Time: 3 Hours　　　　　　　　　　　Maximum Marks: 75

Note: Attempt five questions in all including Q no.1 which is compulsory.
Select one question from each unit.

Q1　(a) Mention the multiple access technologies used in each of the 1G, 2G, 3G and 4G systems. (2)

(b) What is the importance of frequency reuse scheme? Explain the concept of frequency reuse using a neat diagram. (3)

(c) Explain channel assignment techniques used in GSM networks. (3)

(d) What changes are done in GSM networks to support GPRS services? (2)

(e) Compare the different multiple access techniques used in mobile cellular networks. (3)

(f) Explain the process of tunnelling in Mobile IP with diagram. (3)

(g) With suitable diagrams explain Piconet and Scatternet with respect to Bluetooth. (3)

(h) Explain Service Discovery Process, Self Healing and Self Configuring processes. (4)

(i) What is an operating system? Name the popular operating systems? (2)

UNIT-I

Q2　(a) Draw the GPRS architecture with air interfaces and give the functions of each network element. Explain the databases used in this network. (4+2=6)

(b) What is handoff in cellular systems? Explain different types of handoff in GSM networks. (6.5)

Q3　(a) Explain the terms WAP proxy, WAP gateway, distillation and refinement with respect to WAP architecture. (8)

(b) Draw the mobile computing architecture for a mobile device. (4.5)

UNIT-II

Q4　With suitable examples and diagrams discuss the medium access control in Exposed terminals, Hidden terminals and Near Far terminals. (12.5)

Q5　(a) Compare the two technologies- Bluetooth and Zigbee, with respect to radio frequency bands, modulation methods, dissimilarities, similarities, applications. (6.5)

(b) Describe the features of IrDA and give the advantages and disadvantages of this technology. (6)

UNIT-III

Q6　(a) Describe the processes involved in Location Management in Mobile IP. (6.5)

(b) Explain the advantages and disadvantages of Indirect TCP, Snooping TCP and Mobile TCP. (6)

P.T.O.

ETIT-402

Q7   (a) Describe the Dynamic Host Configuration Protocol and VoIP.   **(6.5)**
    (b) What led to development of Indirect TCP? What are the configuration parameters to adapt TCP to wireless environments? What is the goal of Mobile IP?

    (6)

UNIT-IV

Q8   Discuss the synchronization protocols for synchronizing mobile applications at the mobile devices. Define sync ML.

    (12.5)

Q9   (a) List the features of Android application development environment. **(6)**
    (b) With help of a neat diagram explain the architectural layers of Symbian with OS layer in between the applications and hardware.**(6.5)**

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