Total No. of Questions : 10]

SEAT No. :

P2339

[Total No. of Pages : 2

[5254]-674

B.E. (Computer Engineering)

MOBILE COMPUTING

(2012 Pattern) (End Semester) (Elective - III)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Assume Suitable data if necessary***

Q1) a) Explain IG,2G,3G and 4G **[5]**

b) What is the need of spread spectrum technology? Explain Slow FHSS. **[5]**

OR

Q2) a) Explain GSM Network Architecture. **[5]**

b) What are the limitations of Mobile Devices? **[5]**

Q3) a) Explain DSSS with one example. **[5]**

b) Draw and explain Mobile Computing architecture for a mobile device. **[5]**

OR

Q4) a) Explain various traffic and control data channels used in GSM network. **[5]**

b) Explain how the confidentiality is maintained during a call using ciphering and encryption processes? **[5]**

P.T.O.

Q5) a) Describe the registration of a visiting mobile node in handover. How is the binding between the home agent and the foreign agent created? **[6]**

b) Describe Indirect TCP. Explain the modifications of Indirect TCP as the selective repeat protocol. **[6]**

c) Explain Cluster-head Gateway Switch Routing (CGSR) in MANET. **[6]**

OR

Q6) a) Explain what is MANET. What are the security threats to a MANET? **[6]**

b) Explain the role of Agent Discovery, Agent advertisement and Agent Solicitation during location Management in GSM Network. **[6]**

c) List the entities of mobile IP and describe data transfer from a mobile node to a fixed node and vice-versa. **[6]**

Q7) a) Describe pull-based data-delivery mechanism. What are the advantages and disadvantages of pull-based data-delivery? **[8]**

b) Explain Data Synchronization Protocols for synchronizing mobile applications at mobile devices. **[8]**

OR

Q8) a) Show architecture for data dissemination and broadcast. Explain the reason for communication asymmetry in mobile network. **[8]**

b) What are the different types of data synchronizations in mobile computing systems?Describe synchronization usage models in mobile applications. **[8]**

Q9) a) Explain the role of a gateway in connecting networks using different protocols. Describe a transcoding gateway and its applications in mobile computing systems. **[8]**

b) Write Short note on:

i) Android OS

ii) Service discovery and device management. **[8]**

OR

Q10)a) Describe the functions of a mobile agent. Why does an agent move from tier to tier during an application? **[8]**

b) Write Short note on: **[8]**

i) Mobile-agent-based architecture

ii) IOS

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