

MOBILE COMPUTING
(CSBS 3231)

Time Allotted : 2½ hrs

Full Marks : 60

Figures out of the right margin indicate full marks.

*Candidates are required to answer Group A and
any 4 (four) from Group B to E, taking one from each group.*

Candidates are required to give answer in their own words as far as practicable.

Group – A

1. Answer any twelve:

12 × 1 = 12

Choose the correct alternative for the following

- (i) The bandwidth of FDMA channel is _____.
(a) Wide (b) Narrow (c) Medium (d) Zero
- (ii) Which of the following is not true for TDMA?
(a) Single carrier frequency for single user
(b) Discontinuous data transmission
(c) No requirement of duplexers
(d) High transmission rates
- (iii) In fixed channel assignment strategy, each cell is allocated a predetermined set of _____.
(a) Voice channels (b) Control Channel
(c) Frequency (d) Base Stations
- (iv) GPRS does not need an _____ connection.
(a) End to end (b) Source
(c) Sink (d) Hop to hop
- (v) BSC comes under which of the following category?
(a) Operation (b) Radio
(c) Network (d) Mobile
- (vi) _____ is a solution that uses an address redirection mechanism for this address mobility issue in wireless Internet.
(a) Mobile IP (b) Fixed IP
(c) MACA IP (d) MAC IP
- (vii) In the I TCP the Foreign Agent (FA) becomes or acts as a ____ and relays data in both directions
(a) Proxy (b) Router (c) Node (d) Access Point

- (viii) In Bluetooth connection, which mode has the highest duty cycle of all power-saving mode?
 (a) Active mode (b) Sniff mode
 (c) Hold mode (d) Park mode
- (ix) What type of routing is used in VANET?
 (a) Single layer routing (b) Cross layer routing
 (c) Hybrid layer routing (d) AP routing
- (x) In AODV routing algorithm for MANETs, the route is discovered at time _____.
 (a) Only when the network is established
 (b) In middle of the transmission
 (c) When there is a need for route by the host
 (d) When there is no need for route by the host

Fill in the blanks with the correct word

- (xi) The standard form of L2CAP is ____.
- (xii) In dynamic channel assignment strategy, base station requests channel from ____.
- (xiii) Total number of layers are present in the Bluetooth technology is ____.
- (xiv) An interconnected collection of piconet is called ____.
- (xv) _____ contains temporary information needed for call control typically copied from HLR.

Group - B

2. (a) Write the features of 4G technology in detail. [[C02](Understand/LOCQ)]
 (b) Write the function of NSS in GSM system. [[C03](Understand/LOCQ)]
 (c) Write the advantages of 5G technology over 4G [[C02](Understand/LOCQ)]
 (d) Explain different types of channels on which interference is present. [[C01](Understand/IOCQ)]
(3 × 4) = 12
3. (a) Describe different interfaces used in GSM System. [[C03](Understand/IOCQ)]
 (b) Write the features of 5G technology in detail. [[C02](Understand/LOCQ)]
 (c) Differentiate between co-channel interference and adjacent cell interference. [[C01](Analyze/IOCQ)]
3 + 4 + 5 = 12

Group - C

4. (a) Explain with diagram hidden and exposed terminal problems. How MACA solves hidden and exposed terminal? [[C03](Analyze/IOCQ)]
 (b) Explain reservation based scheme used in MAC protocol. [[C03](Understand/LOCQ)]
 (c) Outline briefly the function of GGSN in GPRS network. [[C03](Remember/LOCQ)]
6 + 4 + 2 = 12

5. (a) Write short notes on the following topic:
Software Defined Radio [[C03](Understand/LOCQ)]
(b) Explain with the help of a diagram, the GSM network architecture. [[C03](Understand/LOCQ)]
6 + 6 = 12

Group - D

6. Write short note on the following topic:
(i) Snooping TCP
(ii) Agent Discovery in Mobile IP
(iii) Mobile IP. [[C05](Understand/LOCQ)]
(4 + 4 + 4) = 12
7. (a) Explain Different States In Adhoc TCP With State Transition Diagram. [[C05](Remember/IOCQ)]
(b) Explain 802.11 architecture with a suitable diagram. [[C04](Understand/LOCQ)]
6 + 6 = 12

Group - E

8. (a) Differentiate between proactive and reactive routing protocol. [[C06](Analyse/IOCQ)]
(b) Explain WAP protocol stack. [[C06](Analyse/HOCQ)]
(c) What are the enhancements needed for use of HTTP in wireless environments? [[C06](Understand/LOCQ)]
4 + 4 + 4 = 12
9. Write short note on following topic:
(i) DSDV (ii) ZRP (iii) WML [[C06](Understand/LOCQ)]
(4 + 4 + 4) = 12

Cognition Level	LOCQ	IOCQ	HOCQ
Percentage distribution	67.21	28.13	4.17

