

Faculty of Science / Engineering

End Semester Examination May 2025

CA3EG11 Wireless & Mobile Computing

Programme	: BCA / BCA-MCA (Integrated)	Branch/Specialisation	: -
Duration	: 3 hours	Maximum Marks	: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Assume suitable data if necessary.
Notations and symbols have their usual meaning.

Section 1 (Answer all question(s))			Marks CO BL
Q1. Why neighboring stations are assigned different group of channels in cellular system?	1 1 1		
<input checked="" type="radio"/> To minimize interference <input type="radio"/> To maximize throughput		<input type="radio"/> To minimize area <input type="radio"/> To maximize capacity of each cell	
Q2. Small scale fading describes the _____ fluctuations of the amplitude, phases of signal.	1 1 1		
<input type="radio"/> Slow <input type="radio"/> Instantaneous		<input checked="" type="radio"/> Rapid <input type="radio"/> Different	
Q3. The 2G GSM technology uses a carrier separation of-	1 1 1		
<input type="radio"/> 1.25MHz <input type="radio"/> 30KHz		<input checked="" type="radio"/> 200KHz <input type="radio"/> 300KHz	
Q4. Who has the responsibility of billing and system maintenance function in cellular system?	1 1 1		
<input type="radio"/> Base station <input checked="" type="radio"/> MSC		<input type="radio"/> PSTN <input type="radio"/> Mobile unit	
Q5. What is MAC?	1 2 1		
<input type="radio"/> Mobile Account Control <input checked="" type="radio"/> Media Access Control		<input type="radio"/> Medium Account Control <input type="radio"/> Mobile Access Control	
Q6. IEEE has approved a Bluetooth based standard named _____ for Wireless Personal Area Networks (WPANs).	1 2 1		
<input checked="" type="radio"/> IEEE 802.15.1 <input type="radio"/> IEEE 802.16		<input type="radio"/> IEEE 802.11 <input type="radio"/> IEEE 802.21	
Q7. WAP stands for-	1 2 1		
<input checked="" type="radio"/> Wireless Application Protocol <input type="radio"/> Wide Application Protocol		<input type="radio"/> Wired Application Protocol <input type="radio"/> None of these	
Q8. What is the meaning of "I" in I-TCP?	1 2 1		
<input type="radio"/> International <input type="radio"/> India		<input checked="" type="radio"/> Indirect <input type="radio"/> Information	
Q9. Which type of malware is designed to observe and gather user information without their knowledge?	1 3 1		
<input type="radio"/> Worm <input checked="" type="radio"/> Spyware		<input type="radio"/> Trojan <input type="radio"/> Adware	

Q10. Network layer firewall works as a _____ .

1 3 1

- Frame filter
- Packet filter
- Content filter

- Virus filter

Section 2 (Answer all question(s))

Q11. Why cell site shape is hexagonal?

Marks CO BL
2 2 1

Rubric	Marks
2 marks	2

Q12. What is the concept of frequency reuse? Explain with example.

3 1 1

Rubric	Marks
3 marks	3

Q13. (a) Explain the block diagram of basic digital communication system. Explain each block in details

5 1 1

Rubric	Marks
block diagram, theory	5

(OR)

(b) Explain following multiple access techniques: TDMA, FDMA and CDMA.

Rubric	Marks
TDMA, FDMA, CDMA	5

Section 3 (Answer all question(s))

Q14. What are the basic blocks of GSM architecture?

Marks CO BL
3 1 2

Rubric	Marks
3 marks	3

Q15. (a) Explain different types of GSM channels in detail.

7 1 1

Rubric	Marks
each 2 marks	7

(OR)

(b) Explain the protocol architecture of GSM.

Rubric	Marks
protocol architecture and Theory	7

Section 4 (Answer all question(s))

Q16. What happened in CSMA/CA protocol?

Marks CO BL
2 2 1

Rubric	Marks
CSMA/CA protocol	2

Q17. (a) Explain the different IEEE 802.11 LAN architectures with diagram.

8 2 1

Rubric	Marks
Theory and diagram	8

(OR)

(b) Illustrate a comparison between 802.11 a, b and g.

Rubric	Marks
802.11 a, b, g	8

Section 5 (Answer all question(s))

Marks CO BL

2 2 1

Q18. Explain any two types of MANETs.

Rubric	Marks
1 mark each	2

Q19. (a) Discuss the characteristics and performance issues of mobile IP, DHCP and Ad-hoc networks.

8 2 1

Rubric	Marks
Mobile IP, DHCP, Ad-hoc	8

(OR)

(b) Differentiate between indirect TCP, snooping TCP, mobile TCP and selective retransmission.

Rubric	Marks
2 marks each	8

Section 6 (Answer any 2 question(s))

Marks CO BL

5 3 2

Q20. What is intruder? How intrusion detection works?

Rubric	Marks
Intruder and intrusion detection	5

Q21. What are viruses, worms and trojan horse?

5 3 2

Rubric	Marks
viruses, Worms, trojan horse	5

Q22. What is firewall? What are the different types of firewalls?

5 3 1

Rubric	Marks
What is firewall, types of firewalls	5
