



# Faculty of Science / Engineering

## End Semester Examination May 2025

### CA3EG11 Wireless & Mobile Computing

<b>Programme</b>	<b>:</b>	BCA / BCA-MCA (Integrated)	<b>Branch/Specialisation</b>	<b>:</b>	-
<b>Duration</b>	<b>:</b>	3 hours	<b>Maximum Marks</b>	<b>:</b>	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
<b>Q1.</b>	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 minimize area <input type="radio"/> To maximize throughput <input type="radio"/> To maximize capacity of each cell			
<b>Q2.</b>	Small scale fading describes the _____ fluctuations of the amplitude, phases of signal.	1	1	1
	<input type="radio"/> Slow <input checked="" type="radio"/> Rapid <input type="radio"/> Instantaneous <input type="radio"/> Different			
<b>Q3.</b>	The 2G GSM technology uses a carrier separation of-	1	1	1
	<input type="radio"/> 1.25MHz <input checked="" type="radio"/> 200KHz <input type="radio"/> 30KHz <input type="radio"/> 300KHz			
<b>Q4.</b>	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"/> PSTN <input type="radio"/> MSC <input type="radio"/> Mobile unit			
<b>Q5.</b>	What is MAC?	1	2	1
	<input type="radio"/> Mobile Account Control <input checked="" type="radio"/> Medium Account Control <input type="radio"/> Media Access Control <input type="radio"/> Mobile Access Control			
<b>Q6.</b>	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 802.11 <input type="radio"/> IEEE 802.16 <input type="radio"/> IEEE 802.21			
<b>Q7.</b>	WAP stands for-	1	2	1
	<input checked="" type="radio"/> Wireless Application Protocol <input type="radio"/> Wired Application Protocol <input type="radio"/> Wide Application Protocol <input type="radio"/> None of these			
<b>Q8.</b>	What is the meaning of "I" in I-TCP?	1	2	1
	<input type="radio"/> International <input checked="" type="radio"/> Indirect <input type="radio"/> India <input type="radio"/> Information			
<b>Q9.</b>	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"/> Trojan <input type="radio"/> Spyware <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))**

Marks CO BL

**Q11.** Why cell site shape is hexagonal?

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))**

Marks CO BL

**Q14.** What are the basic blocks of GSM architecture?

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))**

Marks CO BL

**Q16.** What happened in CSMA/CA protocol?

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

**Q18.** Explain any two types of MANETs.

2 2 1

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

**Q20.** What is intruder? How intrusion detection works?

5 3 2

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

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