	Utech
Name:	
Roll No.:	To Stand Of Exercising 2nd Explored
Inviailator's Signature :	

CS/B.Tech (EIE-N)/SEM-8/EC-802D/2011 2011

MOBILE COMMUNICATION

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

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

GROUP - A (Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

 $10 \times 1 = 10$

- i) The DECT operation frequency band is
 - a) (1880 1900) MHz
- b) (1650 1880) MHz
- c) (2.5 3.5) MHz
- d) (3-4) GHz.
- ii) Which satellite has a distance of 36,000 km from the centre of the earth?
 - a) GEO

b) MEO

c) LEO

- d) HEO.
- iii) GSM uses for multiplexing.
 - a) CDMA

b) TDMA

c) FDMA

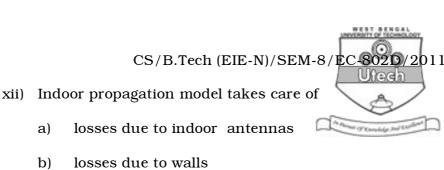
d) none of these.

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iv)	A B	luetooth network can h	ave	masters.
	a)	three	b)	eight of the control
	c)	one	d)	two.
v)	separates the AMPS voice channels.			
	a)	CDMS	b)	TDMA
	c)	FDMA	d)	Both (a) and (b).
vi)	The bandwidth requirement for Bluetooth is			
	a)	5 GHz	b)	2·4 GHz
	c)	2·7 GHz	d)	None of these.
vii)	FDMA is used in			
	a)	AMPS	b)	GSM
	c)	Both (a) and (b)	d)	None of these.
viii)	The mobile nodes are temporarily registered in			
	a)	HLR	b)	VLR
	c)	EIR	d)	AUC
ix)	WAP enables			
	a)	wireless LAN	b)	Bluetooth network
	c)	internet on mobile	d)	Wi Fi.
x)	In FHSS system, the time spent on a channel is called			
	a)	dwell time	b)	recess time
	c)	break time	d)	spent time.
xi)	A cordless telephone operates with one			
	a)	ups	b)	fixed port
	c)	protection circuit	d)	standby processor.

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- a)
- b) losses due to walls
- c) losses due to other wireless equipment
- losses due to active devices operating in ISM band. d)

GROUP - B (Short Answer Type Questions)

Answer any three of the following. $3 \times 5 = 15$

- 2. Derive signal to interference ratio for co-channel interfering cells. 5
- What is WAP? Explain the various useful aspects of WAP in 3. mobile communication. 3 + 2
- 4. What are the advantages and disadvantages of CDMA over TDMA and FDMA? 5
- 5. What is an ISM band and what are its advantages? 5
- Explain how a mobile station connects to and talk with 6. another mobile station. 5

GROUP - C

(Long Answer Type Questions)

Answer any three of the following. $3 \times 15 = 45$

- 7 7. Draw & explain GSM architecture. a)
 - Discuss GPRS location management procedure. 3 b)
 - Explain how data transfer through GPRS network and c) routing occurs. 5

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8.	a)	What is Hand over? How is it controlled? $2+3$
	b)	Calculate the orbital velocity for Geosynchronous
		satellite. 5
	c)	What are the different advantages and disadvantages of
		Geosynchronous satellite? 5
9.	Expl	lain how mobile IP works ? What are the different
	chal	lenges of Mobile IP ? What is Tunneling ? How does
	cellu	that IP solve the mobile IP challenges ? $5 + 5 + 2 + 3$
10.	a)	In packet radio multiple access technique, explain with
		a schematic, how vulnerable period is set. How do we
		measure throughput of the system ? $4 + 2$
	b)	What are the major highlights and concepts of a 3G
		network? 5
	c)	With a schematic diagram, explain mobile network
		involving land line links. 4
11.	Writ	e short notes on any <i>three</i> of the following: 3×5
	a)	Bluetooth
	b)	CDMA
	c)	Mobile computing
	d)	Spread spectrum technology

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e) AMPS.