



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

ELECTRONICS AND COMMUNICATION ENGINEERING

TUTORIAL QUESTION BANK

Course Name	:	CELLULAR AND MOBILE COMMUNICATION
Course Code	:	AEC520
Sem	:	B. Tech-VI Semester
Branch	:	ECE
Year	:	2019 – 2020
Course Coordinator	:	Mr. B. Santhosh Kumar, Assistant Professor.
Course Faculty	:	Mr. B. Santhosh Kumar, Assistant Professor.

I. COURSE OBJECTIVES

The course should enable the students to:

S.No	Description
I	Understand fundamental treatment of wireless communications and the Cellular Concept- System Design, Fundamental concepts like frequency reuse, Radio Wave Propagation Basic Propagation Mechanisms and Diffraction Models.
II	Understand the concept of frequency reuse and be able to apply it in the design of mobile cellular system.
III	Understand the various modulation schemes and multiple access techniques that are used in wireless communications..
IV	Remember the analytical perspective on the design and analysis of the traditional and emerging wireless networks and discuss the nature of and solution methods to the fundamental problems in wireless networking.

II. COURSE LEARNING OUTCOMES

Students who complete the course will have demonstrated the ability to do the following.

AEC520.01	Identify the limitations of conventional Mobile Telephone Systems; understand the basic cellular mobile system.
AEC520.02	Remember Uniqueness of mobile radio environment- fading- Factors Time dispersion parameters, Coherence bandwidth, Doppler spread and coherence time.
AEC520.03	Understand the concept of frequency Reuse channels, Deduce the Co- channel interference reduction factor.
AEC520.04	Analyze perspective on Fundamentals of Equalization and Mobile Radio Propagation Multipath Measurements.
AEC520.05	Explain Co-channel interference with near end far end interference.
AEC520.06	Understand Signal reflections in flat and hilly terrain, Effect of human made structures.
AEC520.07	Remember concepts of cell coverage for signal and traffic.
AEC520.08	Demonstrate wireless local area networks and their specifications in communication system.
AEC520.09	Understand Signal reflections in flat and hilly terrain, Effect of human made structures.
AEC520.10	Understand Cell Site and Mobile Antennas.
AEC520.11	Understand Phase difference between direct and reflected path.
AEC520.12	Understand the operation of the various wireless wide area networks such as GSM, IS-95, GPRS and SMS.
AEC520.13	Understand the existing and emerging wireless standards in wireless wide area networks.
AEC520.14	Demonstrate wireless local area networks and their specifications in communication system.
AEC520.15	Understand the existing and emerging wireless standards in wireless wide area networks.
AEC520.16	Understand the SS7 network and ISDN for AIN, AIN for mobile communication.
AEC520.17	Remember the Intelligent cell concept, advanced intelligent network.

**UNIT-I
CELLULAR MOBILE RADIO SYSTEMS**

PART A:(Short Answer Questions)

S. No	Questions	Blooms Taxonomy Level	Course Outcomes	Course Learning Outcome
1	Define cellular mobile System?	Understand	CO1	AEC520.01
2	What is performance criteria?	Understand	CO1	AEC520.01
3	What is the uniqueness of mobile radio environment?	Remember	CO1	AEC520.01
4	What is mobile radio environment?	Remember	CO1	AEC520.01
5	Define what is cell?	Understand	CO1	AEC520.01
6	What are the hexagonal shaped cells?	Remember	CO1	AEC520.01
7	What is analog Cellular systems?	Understand	CO1	AEC520.01
8	What is digital Cellular systems?	Remember	CO1	AEC520.01
9	Define frequency channels?	Understand	CO1	AEC520.02
10	How frequency allocating to the channels?	Understand	CO1	AEC520.02
11	Define co-channel interference?	Remember	CO1	AEC520.02
12	What is reduction factor?	Understand	CO1	AEC520.02
13	Define C/I?	Remember	CO1	AEC520.02
14	What is desired C/I?	Remember	CO1	AEC520.03
15	Define antenna system?	Remember	CO1	AEC520.03
16	What is omnidirectional antenna?	Understand	CO1	AEC520.03
17	Write any two components of cellular system?	Remember	CO1	AEC520.03
18	Define cell splitting?	Understand	CO1	AEC520.03
19	Define Co-Channel?	Remember	CO1	AEC520.03
20	What is Co-Channel interference?	Remember	CO1	AEC520.03

PART B:(Long Answer Questions)

1	Explain the significance of cellular mobile System?	Understand	CO1	AEC520.01
2	Distinguish between fixed channel assignment and dynamic channel Assignment in cellular networks?	Understand	CO1	AEC520.01
3	What is cellular system? Explain the performance criteria of cellular system?	Understand	CO1	AEC520.01
4	Define what is mobile radio? Explain uniqueness of mobile radio environment.	Remember	CO1	AEC520.02
5	Explain the uniqueness of mobile radio environment?	Remember	CO1	AEC520.02
6	Explain the concept of operation of cellular system?	Understand	CO1	AEC520.03
7	Illustrate the cell splitting with in a 3km by 3km square centered around base Station A with a neat diagram?	Understand	CO1	AEC520.03
8	Explain the general description of the problem in cellular mobile system.	Understand	CO1	AEC520.03
9	What is cell-splitting? Explain its types in detail.	Remember	CO1	AEC520.04
10	Explain significance of Omni-directional antenna system.	Understand	CO1	AEC520.04
11	Define co-channel interference and derive the co-channel interference reduction factor.	Understand	CO1	AEC520.04
12	What is the value of co-channel interference reduction factor in a 7-cell reuse Pattern?	Understand	CO1	AEC520.04
13	What is the use of cell splitting and demerit of cell splitting?	Understand	CO1	AEC520.04
14	What is cellular system? Explain the components of cellular system.	Understand	CO1	AEC520.04
15	Give the relation between received carrier power and distance measured from Transmitter to the receiver end?	Understand	CO1	AEC520.04
16	What is reduction factor derive Co-channel Interference Reduction Factor.	Understand	CO1	AEC520.04
17	Explain analog and digital Cellular systems.	Understand	CO1	AEC520.04
18	Explain general description of the problem in mobile system.	Remember	CO1	AEC520.04
19	Derive C/I from a normal case in a omni directional Antenna system.	Understand	CO1	AEC520.04
20	Explain the concept of frequency channels.	Understand	CO1	AEC520.04

PART C: (Analytical Questions)

S. No	Questions	Blooms Taxonomy Level	Course Outcomes	Course Learning Outcome
1	Consider maximum number of calls in one hour in one cell is 3500 and an average calling time 't' is 1.76 minutes. Calculate the offered load in the cell.	Remember	CO1	AEC520.01
2	Consider a metropolitan area of 1100 square km is to be covered by cells with cell radius of 2 km. Calculate the number of cells that would be needed	Remember	CO1	AEC520.01
3	Assume a cellular system operates with traffic of 2500 Erlangs. If each user in the system uses phone for 3 minutes of busiest hour on an average case, then find the number of users which can be accommodated under even distribution	Understand	CO1	AEC520.01
4	Consider a cellular system in which the total available voice channels to handle the traffic are 1200. The area of each cell is 9km ² and the total coverage area of the system is 3600km ² . Determine the system capacity if the cluster size is 4.	Understand	CO1	AEC520.02
5	Consider a cellular system which consists of 34 cells with the cell radius as 1.4 km. a total frequency bandwidth is capable of supporting 343 traffic channels. Find what geographical area in km can be covered and the number of channels available per call. [Assume N=7 reuse cellular pattern].	Understand	CO1	AEC520.02
6	For a seven cell reuse pattern find the reuse factor if the minimum distance between centers of co-channel-cells is 18 km. Radius of cell is 3 km and the distance between adjacent cells in the seven cell pattern is 6 km.	Remember	CO1	AEC520.03
7	Assume a cellular phone transmitter has deviation of 11 kHz frequency. If the transmitter operates at a maximum deviation with voice frequencies 500 Hz and 3500 Hz, calculate their modulation index value.	Understand	CO1	AEC520.04
8	The coverage area of a cellular system is 2000sq km with each cell having a radii of 5sq km, and there are a total of 1000 radio channels available for handling the traffic, calculate the system capacity for 7 cell reuse.	Understand	CO1	AEC520.04
9	What is cellular system? Explain the consideration of the components of Cellular system.	Understand	CO1	AEC520.04
10	What is C/I? Explain the desired C/I from a normal case in a omni directional Antenna system.	Understand	CO1	AEC520.04

UNIT –II
INTERFERENCE AND CELL COVERAGE FOR SIGNAL AND TRAFFIC

PART A(Short Answer Questions)

1	Define Interference?	Remember	CO2	AEC520.04
2	Relation between antenna and interference?	Understand	CO2	AEC520.04
3	Explain path losses.	Understand	CO2	AEC520.04
4	Define Co-Channel Interference?	Understand	CO2	AEC520.04
5	Define reflection and diffraction?	Remember	CO2	AEC520.04
6	Define real time Co-Channel interference?	Remember	CO2	AEC520.04
7	Write the equation for long distance path loss model?	Understand	CO2	AEC520.04
8	Write short notes on antenna system?	Remember	CO2	AEC520.04
9	Define antenna gain?	Understand	CO2	AEC520.04
10	Difference between antenna and antenna gain?	Remember	CO2	AEC520.04
11	What are the Co-Channel measurements?	Understand	CO2	AEC520.04
12	Classification of outdoor propagation model?	Understand	CO2	AEC520.04
13	What is direct path?	Understand	CO2	AEC520.04
14	Define What is deviation?	Understand	CO2	AEC520.04
15	What is reflected path?	Understand	CO2	AEC520.04
16	Explain with one example what is deviation?	Understand	CO2	AEC520.04
17	What is propagation?	Understand	CO2	AEC520.04
18	What are the types of interferences?	Understand	CO2	AEC520.04
19	What is propagation loss?	Understand	CO2	AEC520.04
20	How to overcome interference?	Understand	CO2	AEC520.04

PART B (Long Answer Questions)

S. No	Questions	Blooms Taxonomy Level	Course Outcomes	Course Learning Outcome
1	What is Co-Channel Interference explain with neat diagram.	Remember	CO2	AEC520.04
2	Illustrate the real time Co-Channel interference with block diagram.	Remember	CO2	AEC520.04
3	What are the Co-Channel measurements? Explain with examples.	Understand	CO2	AEC520.04
4	Classify the design of Antenna system?	Understand	CO2	AEC520.05
5	What are the antenna parameters? Explain each parameter with examples?	Remember	CO2	AEC520.04
6	What is diversity? explain with examples	Understand	CO2	AEC520.04
7	Illustration Antenna system and their effects?	Understand	CO2	AEC520.04
8	Explain in detail non-co-channel interference.	Understand	CO2	AEC520.04
9	Explain the different types of non-co-channel interferences.	Remember	CO2	AEC520.04
10	State and Explain in detail signal reflections in flat and hilly terrain?	Remember	CO2	AEC520.04
11	Explain in detail about effect of human made structures.	Understand	CO2	AEC520.04
12	Illustrate the phase difference between direct and reflected paths.	Understand	CO2	AEC520.05
13	Explain with example what is constant standard deviation?	Understand	CO2	AEC520.04
14	Classify the straight line path loss slope.	Remember	CO2	AEC520.06
15	Explain the general formula for mobile propagation over water and flat open area.	Understand	CO2	AEC520.04
16	Difference between near and long distance propagation antenna height gain.	Understand	CO2	AEC520.05
17	Explain the point to point model with neat block diagram.	Understand	CO2	AEC520.04
18	Difference between co-channel and non co-channel interferences.	Remember	CO2	AEC520.04
19	Explain the path losses with one example.	Understand	CO2	AEC520.04
20	Explain the types of antenna systems with design diagrams.	Understand	CO2	AEC520.06

PART C: (Analytical Questions)

S. No	Questions	Blooms Taxonomy Level	Course Outcomes	Course Learning Outcome
1	What is reflection and diffraction? Explain in detail signal reflections in flat and hilly terrain?	Remember	CO2	AEC520.04
2	What is path loss? Explain the straight line path loss slope.	Remember	CO2	AEC520.06
3	Difference between near and long distance propagation antenna height gain.	Remember	CO2	AEC520.04
4	Derive the equation for long distance path loss model?	Remember	CO2	AEC520.05
5	What is phase difference? Explain in detail about effect of human made structures.	Remember	CO2	AEC520.04
6	Define interference. Types of co-channel interferences and explain each with neat diagrams.	Remember	CO2	AEC520.06
7	Illustrate the constant standard deviation in mobile radio communication.	Remember	CO2	AEC520.05
8	Explain real time Co-Channel interference and their measurements.	Remember	CO2	AEC520.04
9	If a transmitter produce 50W of power express the transmit power in units of dBm, dBW. If 50W is applied to a unity gain antenna with 900MHz carrier frequency, find the receiver power in dBm at a free space distance of 100m from the antenna. What is P_r (10KM)? Assume unity gain receiver antenna.	Remember	CO2	AEC520.06
10	A mobile is located at 5KM away from a base station and uses a vertical $\lambda/4$ monopole antenna with a gain of 2.55dB to receive cellular radio signals. The E field at 1KM from the transmitter is measured to be 10^{-3} V/m. The carrier frequency used for the system is 900MHz. Find the received power at the mobile using the two-ray ground reflection model.	Understand	CO2	AEC520.04

UNIT-III
CELL SITE AND MOBILE ANTENNAS

PART A (Short Answer Questions)

S. No	Questions	Blooms Taxonomy Level	Course Outcomes	Course Learning Outcome
1	Define cell pattern?	Remember	CO3	AEC520.07
2	Define directional antenna?	Remember	CO3	AEC520.08
3	What is interference?	Understand	CO3	AEC520.09
4	What is diversity?	Remember	CO3	AEC520.10
5	What is interference reduction?	Understand	CO3	AEC520.08
6	What is cell site?	Understand	CO3	AEC520.09
7	What is space diversity?	Remember	CO3	AEC520.08
8	Explain cell site antenna?	Remember	CO3	AEC520.07
9	Write the parameters of high gain antennas?	Remember	CO3	AEC520.10
10	What is numbering?	Understand	CO3	AEC520.09

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11	Explain setup channel?	Understand	CO3	AEC520.09
12	What is grouping?	Understand	CO3	AEC520.09
13	What is channel assignment?	Understand	CO3	AEC520.09
14	What is overlaid cell?	Understand	CO3	AEC520.10
15	What is fixed channel?	Understand	CO3	AEC520.10
16	Explain dropped call.	Understand	CO3	AEC520.10
17	What is cell splitting?	Understand	CO3	AEC520.10
18	Explain setup channel?	Understand	CO3	AEC520.09
19	What is grouping?	Understand	CO3	AEC520.09
20	What is fixed channel?	Remember	CO3	AEC520.09

PART B (Long Answer Questions)

1	Illustrate the sum and difference patterns and their synthesis?	Understand	CO3	AEC520.09
2	Define antenna? Explain directional antennas?	Understand	CO3	AEC520.09
3	What is diversity? explain space diversity antennas with neat diagrams.	Understand	CO3	AEC520.09
4	Explain types of antennas in mobile radio communication? Discuss umbrella pattern antennas.	Understand	CO3	AEC520.09
5	Explain the directional antennas for interference reduction?	Understand	CO3	AEC520.10
6	What is cell site antenna? Explain minimum separation of cell site antennas?	Understand	CO3	AEC520.10
7	Discuss about high gain antennas?	Understand	CO3	AEC520.10
8	What is channel assignment? Explain how can form the numbering and grouping in cell site.	Understand	CO3	AEC520.10
9	What is setup access and paging channels?	Understand	CO3	AEC520.09
10	What is channel assignment? Illustrate the channel assignments to cell sites and mobile units?	Understand	CO3	AEC520.09

11	How channels are allocating in cell site? Explain channel sharing , borrowing?	Understand	CO3	AEC520.04
12	What is channel capacity? Explain about the sectorization with neat diagram.	Understand	CO3	AEC520.10
13	Difference between the cell splitting, micro cells.	Understand	CO3	AEC520.10
14	What is Handoff? Explain types of handoffs.	Understand	CO3	AEC520.10
15	What is channel capacity. What is the relation to dropped calls?	Understand	CO3	AEC520.09
16	Distinguish between dropped calls and cell splitting.	Understand	CO3	AEC520.09
17	What is cell? Explain about overlaid cells with neat diagram.	Understand	CO3	AEC520.09
19	Difference between the fixed channel assignments and non fixed channel assignment.	Understand	CO3	AEC520.09
20	Illustrate about dropped call rates and their evaluation.	Understand	CO3	AEC520.09

PART C: (Analytical Questions)

S. No	Questions	Blooms Taxonomy Level	Course Outcomes	Course Learning Outcome
1	What is handoff? Explain about handoff invitation.	Remember	CO3	AEC520.09
2	What is antenna pattern? Explain omni directional antennas, directional antennas for interference reduction.	Remember	CO3	AEC520.09
3	What is diversity? Explain about space diversity antennas with neat diagrams.	Remember	CO3	AEC520.09
4	Difference between minimum separation of cell site antennas and high gain antennas.	Remember	CO3	AEC520.09
5	What is channel? What is the relation to cell site? Explain the setup access and paging channels.	Remember	CO3	AEC520.10
6	Define Channel capacity? Explain channel sharing and borrowing.	Understand	CO3	AEC520.10
7	How can improve the capacity of cellular system? Explain about cell splitting, micro cells , sectorization with neat diagrams.	Remember	CO3	AEC520.10
8	Define Handoff? Explain delaying handoff, forced handoff, mobile assigned handoff.	Remember	CO3	AEC520.10
9	Discuss about vehicle locating methods in cellular system.	Remember	CO3	AEC520.09
10	Explain dropped call rates and their evaluation. What the relation to capacity	Understand	CO3	AEC520.09

**UNIT-IV
WIRELESS SYSTEMS AND STANDARDS**

PART A: (Short Answer Questions)

S. No	Questions	Blooms Taxonomy Level	Course Outcomes	Course Learning Outcome
1	Define Network?	Understand	CO4	AEC520.10
2	What is network standard?	Remember	CO4	AEC520.10
3	Explain first generation Wireless Networks.	Understand	CO4	AEC520.10
4	What is wireless network?	Remember	CO4	AEC520.11
5	Explain second generation Wireless Networks	Remember	CO4	AEC520.11
6	What is Bluetooth?	Understand	CO4	AEC520.11
7	What is GSM?	Remember	CO4	AEC520.11
8	Explain third generation Wireless Networks.	Remember	CO4	AEC520.11
9	What is network architecture?	Understand	CO4	AEC520.12
10	What is channel?	Remember	CO4	AEC520.12
11	What is GSM channel?	Remember	CO4	AEC520.12
12	What are the applications of GSM?	Understand	CO4	AEC520.13
13	What is multiplexer?	Understand	CO4	AEC520.13
14	What is IS95?	Remember	CO4	AEC520.13
15	What is TDMA?	Understand	CO4	AEC520.13
16	What is WLL?	Remember	CO4	AEC520.13
17	What is interconnection of wireless networks?	Remember	CO4	AEC520.13
18	What are the advantages of GSM?	Remember	CO4	AEC520.14
19	What is the need of CDMA?	Understand	CO4	AEC520.14
20	What are the applications of WLL?	Remember	CO4	AEC520.14

PART B(Long Answer Questions)

S. No	Questions	Blooms Taxonomy Level	Course Outcomes	Course Learning Outcome
1	Define wireless network? Explain about Wireless Networks and Standards.	Understand	CO4	AEC520.11
2	Explain the generations of wireless networks?	Understand	CO4	AEC520.11
3	Illustrate the wireless networks and standards.	Understand	CO4	AEC520.11
4	What is a loop? Explain about WLL.	Remember	CO4	AEC520.11
5	What are wireless networks? Explain about Bluetooth.	Understand	CO4	AEC520.12
6	What is GSM? Advantage and disadvantages of GSM.	Understand	CO4	AEC520.12
7	What is IS95? Explain IS95 with neat block diagram.	Understand	CO4	AEC520.12

8	Distinguish between IS95 and GSM.	Understand	CO4	AEC520.12
9	Explain about DECT with neat diagram.	Remember	CO4	AEC520.12
10	What is GSM? Explain GSM architecture.	Remember	CO4	AEC520.13
11	What is a channel in cellular system .Explain about GSM channels.	Understand	CO4	AEC520.13
12	What is multiplex? Explain about multiplex access scheme.	Understand	CO4	AEC520.13
13	What is multiple accesses? Explain about TDMA.	Remember	CO4	AEC520.13
14	Explain the differences between GSM and CDMA.	Remember	CO4	AEC520.13
15	What is DECT? What are applications, advantages and disadvantages of DECT.	Remember	CO4	AEC520.14
16	Define CDM. Explain about CDM with neat diagram.	Remember	CO4	AEC520.14
17	Explain the differences between DECT and CDM.	Remember	CO4	AEC520.14
18	What are applications, advantages and disadvantages of GSM and CDMA.	Remember	CO4	AEC520.14
19	What are applications, advantages and disadvantages of IS95.	Remember	CO4	AEC520.14
20	Explain the differences between WLL and Bluetooth.	Remember	CO4	AEC520.14

PART C: (Analytical Questions)

S. No	Questions	Blooms Taxonomy Level	Course Outcomes	Course Learning Outcome
1	What is GSM? Explain GSM architecture	Remember	CO4	AEC520.12
2	What is multiple accesses? Explain about TDMA.	Remember	CO4	AEC520.12
3	Distinguish between IS95 and GSM.	Remember	CO4	AEC520.13
4	Explain the differences between GSM and CDMA.	Remember	CO4	AEC520.13
5	What is multiplex? Explain about multiplex access scheme	Understand	CO4	AEC520.13
6	What is a channel in cellular system .Explain about GSM channels.	Remember	CO4	AEC520.13
7	What is DECT? Explain about DECT with neat diagram.	Remember	CO4	AEC520.14
8	Explain the differences between WLL and Bluetooth.	Remember	CO4	AEC520.14
9	What are applications, advantages and disadvantages of IS95	Understand	CO4	AEC520.14
10	Explain the differences between DECT and CDM	Remember	CO4	AEC520.14

**UNIT V
INTELLIGENT NETWORK FOR WIRELESS COMMUNICATIONS**

PART A(Short Answer Questions)

S. No	Questions	Blooms Taxonomy Level	Course Outcomes	Course Learning Outcome
1	What is Cell?	Remember	CO5	AEC520.15
2	Explain the cell concepts?	Understand	CO5	AEC520.15
3	What is network?	Understand	CO5	AEC520.15
4	What is ISDN?	Remember	CO5	AEC520.16
5	What are the advantages of ISDN?	Remember	CO5	AEC520.16
6	What is advanced network?	Understand	CO5	AEC520.16
7	What are the applications of ISDN?	Remember	CO5	AEC520.16
8	What is SS7?	Understand	CO5	AEC520.16
9	What is advanced intelligent network?	Understand	CO5	AEC520.16
10	What is AIN?	Remember	CO5	AEC520.17
11	Explain land mobile telecommunication system?	Understand	CO5	AEC520.17
12	What are the advantages of SS7?	Understand	CO5	AEC520.17
13	What are the advantages of AIN.	Remember	CO5	AEC520.17
14	What are the applications of SS7?	Remember	CO5	AEC520.17
15	What is wireless information superhighway?	Remember	CO5	AEC520.16
16	What is future public land mobile telecommunication system.	Understand	CO5	AEC520.16
17	Derive wireless information with one example.	Remember	CO5	AEC520.16
18	What is transfer mode technology?	Remember	CO5	AEC520.16
19	What is land mobile telecommunication system?	Remember	CO5	AEC520.17
20	What are the applications of AIN?	Remember	CO5	AEC520.17

PART B (Long Answer Questions)

S. No	Questions	Blooms Taxonomy Level	Course Outcomes	Course Learning Outcome
1	What is cell? Explain about Intelligent cell concept.	Understand	CO5	AEC520.15
2	What is network? Explain SS7 network with neat diagram.	Remember	CO5	AEC520.15
3	Explain advanced intelligent network.	Understand	CO5	AEC520.15
4	What is AIN for mobile communication?	Remember	CO5	AEC520.15
5	What are the applications, advantages and disadvantages of AIN.	Remember	CO5	AEC520.15
6	What is SS7 network? Explain about SS7 network and ISDN for AIN.	Understand	CO5	AEC520.15
7	What is the relation to AIN for mobile communication?	Remember	CO5	AEC520.16
8	Explain Transfer mode technology and types of Transfer mode technologies with example.	Remember	CO5	AEC520.16
9	What is transfer mode? Explain asynchronous transfer mode technology.	Remember	CO5	AEC520.16
10	What are the applications, advantages and disadvantages of ISDN.	Remember	CO5	AEC520.17
11	Explain about future public land mobile telecommunication system	Remember	CO5	AEC520.15
12	What are the applications, advantages and disadvantages of SS7.	Remember	CO5	AEC520.15
13	What is telecommunication system? Explain about telecommunication system.	Understand	CO5	AEC520.16
14	Distinguish between ISDN for AIN.	Remember	CO5	AEC520.16
15	Explain with one example Intelligent cell concept.	Remember	CO5	AEC520.16
16	What is land mobile telecommunication system? Explain telecommunication system with one example.	Remember	CO5	AEC520.16
17	Explain with one example about advanced intelligent network.	Remember	CO5	AEC520.17
18	What are the applications, advantages and disadvantages of wireless information super highway.	Understand	CO5	AEC520.17
19	Distinguish between ISDN for SS7.	Remember	CO5	AEC520.17
20	Explain wireless information superhighway with neat block diagram.	Remember	CO5	AEC520.17

PART C: (Analytical Questions)

S. No	Questions	Blooms Taxonomy Level	Course Outcomes	Course Learning Outcome
1	What is land mobile telecommunication system? Explain telecommunication system with one example.	Remember	CO5	AEC520.15
2	Explain about future public land mobile telecommunication system	Remember	CO5	AEC520.15
3	What is network? Explain SS7 network with neat diagram.	Remember	CO5	AEC520.15
4	Distinguish between ISDN for AIN.	Remember	CO5	AEC520.16
5	What are the applications, advantages and disadvantages of SS7.	Remember	CO5	AEC520.16
6	What is SS7 network? Explain about SS7 network and ISDN for AIN.	Remember	CO5	AEC520.16
7	What is the relation to AIN for mobile communication?	Remember	CO5	AEC520.16
8	What is telecommunication system? Explain about telecommunication system.	Remember	CO5	AEC520.17
9	Explain wireless information superhighway with neat block diagram.	Remember	CO5	AEC520.17
10	What are the applications, advantages and disadvantages of wireless information superhighway	Remember	CO5	AEC520.17

Prepared By:

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