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# Telecommunication General Job Interview Preparation Guide.

#### Question #1

What are the different types of GSM antenna?

#### Answer:-

ANDREW (65\*, 90\*) KATHREIN, TIL-TEK, ALGON.

(THEY ALL ARE THE DIRECTIONAL ANTENNA'S USED BY THE TELECOMMUNICATION SERVICE PROVIDER OPERATOR'S. LIKE AIRTEL, VODAFONE, IDEA, B.S.N.L, TATA-DOCOMO, RELIANCE ETC)

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#### Question # 2

What is the structure of entire GSM?

#### Answer:-

This diagram shows that the GSM system uses a single type of radio channel. Each radio channel in the GSM system has a frequency bandwidth of 200 kHz and a data transmission rate of approximately 270 kbps. This example shows that each radio communication channel is divided into 8 time slots (0 through 7). This diagram shows that a simultaneous two-way voice communication session requires at least one radio channel communicates from the base station to the mobile station (called the forward channel) and one channel communicates from the mobile station to the base station (called the reverse channel). This example also shows that some of the radio channel capacity is used to transfer voice (traffic) information and some of the radio channel capacity is used to transfer control messages.

Normal Burst Structures This figure shows the field structures of the normal burst used in the GSM system. This diagram shows that the field structure is different for the normal burst, synchronization burst, and the frequency correction bursts. The fields transmitted during the normal burst include initial tail bits (ramp-up time), training sequence, flag bits, user data bits, final tail bits, and guard period. This diagram shows that the first 3 bits of the time slot are dedicated to the gradual increase of transmitter power level (ramp-up). For the normal burst, this is followed by the information (user data) bits. The flag bits indicate if the normal burst has been replaced with FACCH signaling information. This diagram shows that some of the bits in the center of the burst are used as training bits (to allow equalizer training). At the end of the transmitted burst there are tail bits (for error protection) and 3 guard period bits that are used during the gradual reduction of the RF transmitter signal (ramp-down). Fast Associated Control Channel (FACCH) Signaling This figure shows that GSM FACCH signaling replaces (steals) speech frames and replaces them with control information. This example shows the FACCH messages is divided and transmitted over 8 sequential channel bursts and that the speech information that would normally be transmitted is discarded. When received, the FACCH message is reassembled into its original message structure.

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#### Question # 3

Tell me What will happen if we change the polarity of microwave antenna?

There will always 20db descriminationation between vertically and horizontally polarised antennas

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#### Question #4

Tell me How many maximum slots we can use in ESMA card?

there are 6 slots in ESMA, we can use all of the 6 while connecting 6 dtrx in 4.4.4 mode but if we want to add sectors then we will require ESEA for this we need to vaccant one slot to connect ESMA to ESEA, but ESEA has 12 slots so total 12+5 slots can be used

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#### Question # 5

Explain what is Blackberry? please make it clear for a layman?

Blackberry is a top most Brant & high speed internet using cell phone on this cell phone available many more advanced options so very comparable cell phone for every parson

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#### Question #6

Explain the difference between NOC & NMS?

Network operation center (NOC). NOCs are responsible for monitoring the network for alarms like as power fail, Service affected alarm (site down, LAPD OML fault, TRX close HPA alarm etc)& communicate its field engineer to solved the problem. if need any support for software base they provide to recover the problem.

A Network Management System (NMS) is a combination of hardware and software used to monitor and administer a network. Communicate with NOC recover the Alarm. NMS-->NOC-->Field Engineers=Solved the problem

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## Question #7

Tell me What is the Maximum number of satellite hops allowed in voice communication?

Only Two Hops

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#### Question #8

Do you know How many types of Transmission cards are in Ultra BTS?

## Answer:-

NOKIA BTS DIVIDE IN FOLLOWING UNITS:

- 1. POWER CARDS
- 2. BB2F
- 3. Trx
- 4. BOIA CARD
- 5. ALARM EXTENSION SYSTEM
- 6. RRI CARD
- 7. COMBINER
- 8. DUPLEXER

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#### Question #9

Explain We use PSWB card in which case?

pwsb is known as power supply card and it is used for the power distribution to trx cards in case of ultra bts and dtrx cards in case of flexi bts Read More Answers.

#### Question # 10

Do you know WHAT IS THE FREQUENCY BAND FOR 3G?



#### Answer:-

2100 MHZ Not 2100 only

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#### Question #11

Tell me What is the time taken for 1 satellite hop in voice communication?

#### Answer:-

The time taken for 1 satellite hop in voice communication is 1/2 seconds

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#### Question # 12

Do you know Which type of connector we use at the end of GSM antenna?

#### Answer:-

7/8" din male if feeder is 7/8, or 7/16" if feeder is 1/2

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#### Question # 13

Do you know What is the type of signaling used between two exchanges?

#### Answer.

different type of signalling in used betweeb two exchanges. its depend upon type of exchange some exchange used q sig between each other some excalinges used isdn between exchanges. so many other type, there are five tyope of signaling is being used in the world

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#### Question # 14

Tell me What is the layered architecture of the Internet? In a wireless network, describe how each layer would be different from a wired network?

#### Answer:-

5- Layer architecture of the Internet:

Application (Layer 5)

Transport (Layer 4)

Network (Layer 3)

Data Link (Layer 2) Physical (Layer 1)

Differences between wireless network and wired network:

(1) Wired network uses wires (e.g., twisted pair, coax,

fiber optic) as transmission

media in physical layer. Wireless network uses air waves,

which requires different coding,

modulation schemes.

(2) Interference and collision is much more severe in

wireless networks. Data link

layer in wireless network uses different techniques to avoid collision and make sure data

comsion and make sure data

was received.

(3) Wireless network needs to deal with device location and

handover in network

layer. In wireless ad hoc networks, routing can be different than wired networks.

(4) No big difference between wireless and wired network in transport layer.

(5) Application layer is unaware of the physical aspects of the network. Application

layer in wired network supports services like FTP, SMTP etc.

One can also take the

physical layer characteristics into account when writing an application.

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## Question # 15

What is the height of BTS?

#### Answer:-

generally height of an antenna is 45m to 70m accorading to as par geographycal area hight......it is change from area to area.......

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#### Question # 16



Tell me What is the total output power of an complete BTS, in dbm and watts?

#### Answer:

43dbm/20Watt is the output power of one TRx. The total output power depends on the number of Trx.

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#### Question # 17

What is VSWR?

#### Answer:-

VSWR STANDS FOR VOLTAGE STANDING WAVE RATIO THE RATIO OF THE MAXIMUM TO MINIMUM VALUE OF STANDING WAVE PATTERN ALONG A TRANSMISSION LINE TO WHICH A LOAD IS CONNECTED. IT SHOW HOW MUCH SIGNAL IS TRANSMITTED AND REFLECTED BACK. USING SITE MASTER WE CAN MEASURE VSWR. IT'S RANG IS 1.00-1.30

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#### Question # 18

Tell me What is the frequency range used for Bluetooth in INDIA?

#### Answer:

Bluetooth Works on 2.4 GHz

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#### Question # 19

Tell me At what Frequency voice is sampled?

#### Answer:-

It is sampled at 8Khz as per Sampling theorem to reproduce successfully in the other end.

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#### Question # 20

Explain Buffering?

#### Answer:-

Buffering is a method of overlapping the computation of a job with its execution. It temporarily stores input or output data in an attempt to better match the speeds of two devices such as a fast CPU and a slow disk drive. If, for example, the CPU writes information to the buffer, it can continue in its computation while the disk drive stores the information.

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#### Question # 21

Tell me Which type of connector we use in FIFA card?

#### Answer:-

- 1> TNC Male Connector is used in FIFA card.
- 2> SMB Connector is used in FIEA card.
- 3> RJ48c Connector is used in FIPA card.

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#### Question # 22

Explain the configuration of 4+4+4?

#### Answer:

in flexi in hardware one trx is two trx, means in one sector

2 trx (hardware device) in first sector.

2 trx (hardware device) in 2nd sector.

2 trx (hardware device) in 3rd sector.

total 6 trx (hardwar device)

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#### Question # 23

What is What is the height of ESMA card?

#### Answer:-

3(HEIGHT UNIT)

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#### Question # 24

Explain what is BTS? What are its different

configurations and what is the power consumption/peak current for each of these types of BTS?

#### Answer:-

BTS abbreviated for Base Transiever Station is a collection of transmission and reception card designed for routing of signals from end user to msc and vice versa. There are many types of BTS depending on the manufacturing companies viz nokia, ericcsion, zte, huwai etc ... i've worked on a few so can tell u about them in nokia there is practically 2,2,2/4,4,4/8,8,8 configuration but this may vary depending upon the traffic requirement of the circle. mostly composite configurations are used, like 2,3,3 or 2,2,4 etc.

these nos are nothing but no of trx cards in each sector, for example 2,2,2 is 2 trx cards in each of three sectors.

power consumption also is different for each type of BTS, for NOKIA's Flexi indoor BTS running on 222 config power requiremnt will be approx 48 watts per hour typically on every BTS 48V is supplied with negative polarity. feel free to mail me for any further doubts

reer free to mail the for any further doub

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#### Question # 25

Tell me what is the difference between tcp and udp?

#### Answer:-

TCP is Transmission Control Protocol and connection oriented protocol.

UDP is User Datagram Protocol and connectionless protocol. use in stock market for information sending and receiving.

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#### Question # 26

What is mean by bts?

#### Answer:-

I dont know

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#### Question # 27

What is the function of TRAU?

#### Answer:-

TRAU Means the Transmission Rate Adaptation Unit.Actually,it is a Transcoder unit(XCDR).it uses as an interface B/W BSC & MSC.it converts 16kbps data into 64 Kbps and vice versa.

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## Question # 28

Explain the full form of ARFCN?

#### Answer:

Absolute Radio Frequency Channel Number.

Read More Answers.

#### Question # 29

Explain How many types of Transmission cards are in Flexi BTS?

#### Answer:-

FC RRI Card

2. FC E1/T1 Card

3. FXC RRI Card 4. FXC E1/T1 Card

5. FXC E1 Card

6. Dummy Car

XC RRI,FXCE1/T1 two types of cards

1 RRI card,1 E1T1 card ,FIU card and TRX card depend upon the configuration

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#### Question # 30

Tell me Why the RSL of microwave link is in -ive?

#### Answer:

Because it is very low value which have less loss of signal and less interfernce.

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#### Question # 31

Tell me BTS configuration 4+2+2?



#### Answer:-

as per the utilization of sector,we can configure the sectors a,b,c like below combination... if 1st sector utilization is high 4+2+2 if 2nd sector utilization is high 2+4+2 if 3rd sector utilization is high 2+2+4

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#### Question # 32

Explain What kind of internet speed control facilities (exact name) do internet service provider use and is it possible to check internet speed of each individual consumer like speedtest.net does?

#### Answer:-

make a server and check individual internet speed

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#### Question #33

Do you know How does the traceroute work?

#### Answer:-

Trace route finds out when the packet has reached the destination point by including a port number that is outside of the normal range. When it is received, a "port unreachable" message is returned, enabling trace route to determine the time length of the final hop.

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- 4 : <u>Telecommunication Protocols Frequently Asked Interview Questions and Answers Guide.</u>
- 5: Telecom Switches Routers Frequently Asked Interview Questions and Answers Guide.
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