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FUNDAMENTALS OF VOICE & DATA CABLING
CHAPTER 7 STUDY GUIDE

1. List the "rules" of structured cabling:
   - look for a complete connectivity solution
   - plan for future growth (10 years)
   - be aware of total costs of ownership
   - maintain freedom of choice in vendors

2. What are the 5 subsystems of the structured cabling system? Describe each one.
   - demarc point - where the telecom company stops
   - telecom room - links backbone to distributed
   - backbone cabling - vertical
   - distributed cabling - horizontal
   - work area - area serviced by a TR

3. What is meant by the term "scalability"?
   network can be upgraded ("new wire, more hubs, more networks") without having problems

4. What are some of the things you can do to insure scalability in your network design?
   plan network
   make sure equipment is compatible with other vendors
   add extra cables

5. What is the TIA/EIA code that covers labeling? What are some of the general features of this standard?
   606 - This, labeling

6. Review the basic TIA/EIA standards that deal with cabling by filling in the following table:

Standard	What it covers
568-A/B	Commercial Building Standard for Telecom Wiring - cable (physical)
569-A	Pathways & Spaces
570-A	Residential & light
606	Administration - cable labeling
607	Grounding & bonding

7. What is the point in the building called where the outside cabling interfaces with the indoor cabling? How far inside a building can outside cabling come?

point of presence or demarcation point

15 m in conduit (50 ft)

8. List some of the "rules" for placement of TRs

- 1 TR for every 1000 m^2
- different floor
- 3 m x 3.4 m for each 1000 m^2
- 10 x 12 minimum
- 90 m of horizontal, 3 m sq work area, 6 m distance

9. What is meant by "wiring density"?

number of cable entering a telecom room

10. How are patch panels, wiring hubs, switches, etc. normally mounted in a TR? Why?

on racks

11. List some of the standards for how a TR should be physically designed.

floor must withstand 100 lb/ft²
door should swing out of room for safe exit
walls must be fire rated plywood and paint must be fire proofs
2 dedicated AC duplex outlets on separate circuit
lighting can be incandescent, minimum of 50 candle power

12. List some of the equipment/devices you normally find in a TR.

switches
hubs
patch panels
cables
routers
punch down blocks
cable buckets
interduct (for fiber)
cable trays
distro racks

13. What is a "wall field"?

collection of termination blocks mounted on a wall

14. List the colors used in wall fields and what each means.

blue
white
gray
yellow - alarms

15. What is another name for a cross connect (CC)?

patch panel

16. Name the 568A and 568B wiring patterns:

568A Pattern	568B Pattern
green - white	Orange - white
green	orange
orange - white	green - white
blue	blue
blue - white	blue - white
orange	green
brown - white	brown - white
brown	brown

17. List the pair colors in order (for Cat 5e):

blue, orange, green, brown

18. Describe the following types of network cables:

Cable Type	Description
Straight through	same on both sides
Roll over	completely reversed
Cross over	1-2 & 3-6 are reversed

19. Describe the various types of patch panels (cross-connects) used in a typical data network:

CC Type	Description
MC main	center of network
IC intermediate	TR for each work area
HC horizontal	nearest TR to work station

20. Complete the following table of maximum cable runs for each of the types of CCs:

Cable type	HC to MC	HC to IC	IC to MC
Multimode fiber	2000 m	500 m	1500 m
Singlemode fiber	3000 m	500 m	2500 m
UTP voice	500 m	500 m	200 m
UTP data	90 m	90 m	90 m

21. What is a MUTO? How many users can be used in a MUTO?

a device that allows multiple users to share the same line

22. What is a CP? What is the difference between a CP and a MUTO?

consolidation point

MUTO