

General Engineer Interview Questions

- General Knowledge Questions
 - Describe the OSI model.
 - What is the difference between a repeater, bridge, router?
 - relate this to the OSI model
 - Describe an Ethernet switch and where it fits into the OSI model.
 - What is a VLAN?
 - Relate WDM/ATM/SONET to the OSI model.
 - Explain how to configure a host network interface (e.g. IP address, netmask, broadcast address)?
 - Describe Ethernet packet contents: min./max. size, header.
 - Describe TCP/IP and its protocols.
 - Describe ATM and what are its current advantages and disadvantages.
 - Describe SONET
 - What are the maximum distances for CAT5 cabling?
 - Which contacts of an RJ-45 connector are used for 10BaseT? 100BaseT? 1000BaseT?
 - Describe UDP and TCP and the differences between the two.
 - What is your current IP address?
 - Describe what a broadcast storm is.
 - Describe what a runt, a giant, and a late collision are and what causes each of them.
 - How do you distinguish a DNS problem from a network problem?
 - Describe the Bandwidth Delay problem.
 - What is CDP?
- Network Troubleshooting
 - Explain how traceroute, ping, and tcpdump work and what they are used for?
 - Describe a case where you have used these tools to troubleshoot.
 - What is the last major networking problem you troubleshot and solved on your own in the last year?
 - What LAN analyzer tools are you familiar with and describe how you use them to troubleshoot and on what media and network types.
- Routing
 - Explain the contents of a routing table (default route, next hop, etc.)
 - What routing protocols have you configured?
 - describe the commands to set up a route
 - what routing problems have you troubleshot
 - How do you display a routing table on a Cisco? on a host?
 - How do you use a routing table and for what?
 - What is a route flap?
 - What is a metric?
 - When do you use BGP, IGRP, OSPF, Static Routes?

- Network Security
 - What do you see as current networking security issues (e.g. NFS mounting, spoofing, one time passwords, etc.)?
 - Describe a routing filter and what it does.
 - Describe an access list and what it does.
 - What are some examples of protocols used for VPN connections?

- Network Management
 - What is a network management system?
 - Describe how SNMP works.
 - What is a MIB?

- Previous Work
 - Describe the working environment you are currently in, e.g. frequent interruptions, frequent priority shifting, team or individual.
 - What do you use to write documentation? Editor? Mail reader?
 - What platform (s) do you currently work on at your desk?
 - How do you manage multiple concurrent high-level projects?
 - Describe a recent short-term stressful situation and how you managed it.
 - How do you manage a long term demanding stressful work environment?
 - Have you worked in an assignment-based environment, e.g. work request/trouble-ticket system, and if so, describe that environment.

- Programming
 - What applications have you written in C, JAVA, PERL, or other languages.

- Network Statistics and Measurement
 - Describe what network statistics or measurement tools you are familiar with and how you have used them.

- Wireless
 - Describe how 802.11b works and the advantages and disadvantages of using it.
 - Describe how WEP works and its strengths and weaknesses
 - Describe what a VPN is and how it works.

- VoIP
 - Describe how VoIP works.
 - Describe methods of QoS.
 - Describe the difference between the Integrated Services and the Differentiated Services QoS models.
 - How does the ToS bit work?
 - What is a voice codec?
 - What is a dial plan and what does it do?
 - What is a Mean Opinion Score (MoS)?

- Describe the basic boot up sequence for an IP phone."
- Optical
 - Describe what WDM is and how it works.
 - What's the difference between DWDM and CWDM? Why would each be used?
 - What is an EDFA? What does it do? How does it work?
 - How many dB's of attenuation results in 50% of a signal is getting thru? 10%?
 - What's a typical attenuation for SM fiber at 1310 nM? 1550nM?
- RAS
 - What is a RAS and how does it work?
 - Describe the current modem standard and how it works.
 - Describe what a PRI is and how it works.
- Project Management
 - Describe a long term, large scale project you managed.
 - What is your experience with scheduling and project management?
 - What computer packages have you used?
 - What tools have you used?
 - How many staff have you directly managed?
- Training/Presentations
 - How would you train other engineers/technicians on network troubleshooting?
 - What is the last formal training you have had including seminars, tutorials, classes, etc.?
 - What conferences have you attended in the last two years?
 - What periodicals do you read on a regular basis?
 - What professional organizations do you belong to and participate in?