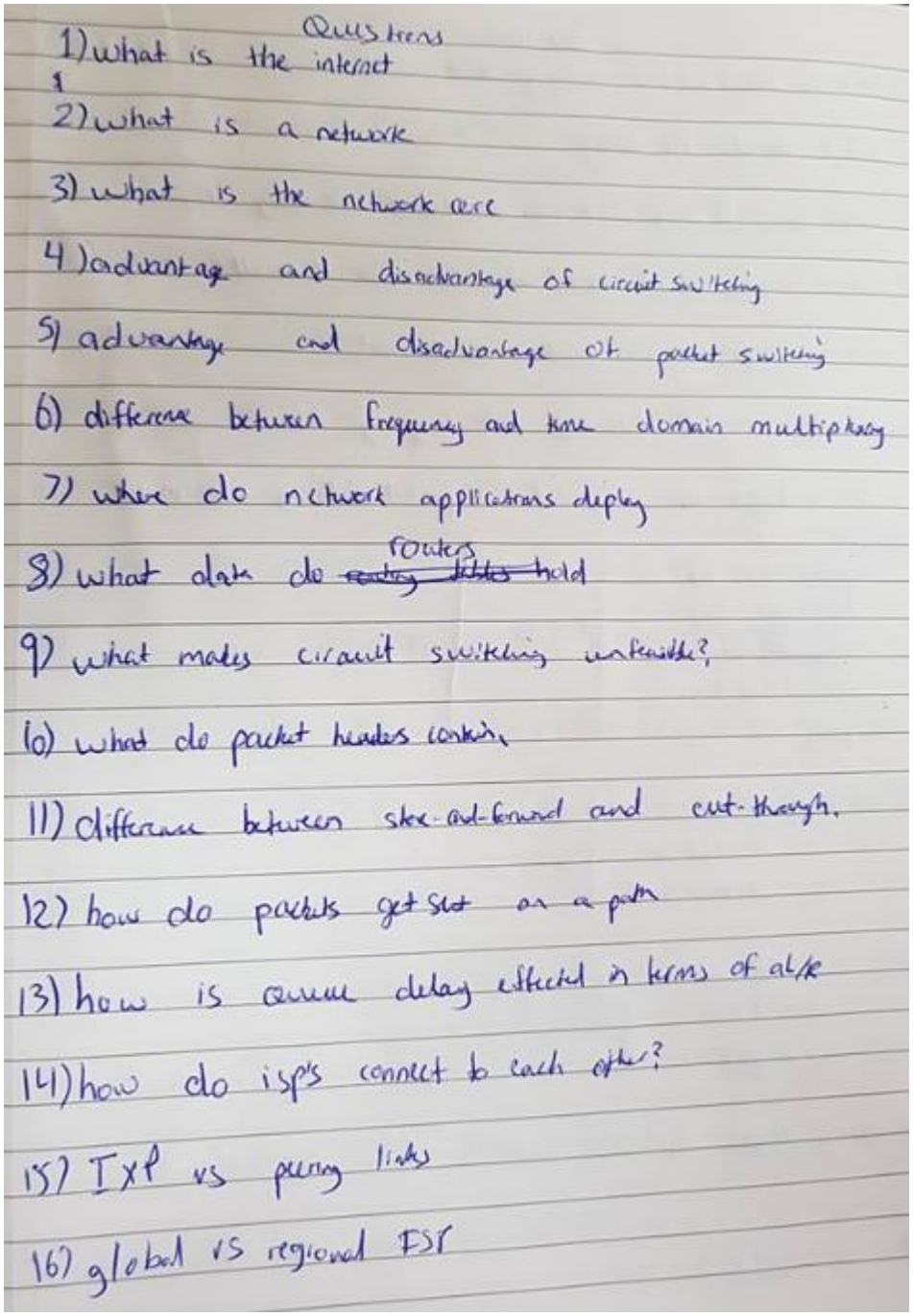
# Review Questions For Exam



Questions

1) what is the internet

2) what is a network

3) what is the network core

4) advantage and disadvantage of circuit switching

5) advantage and disadvantage of packet switching

6) difference between frequency and time domain multiplexing

7) where do network applications deploy

8) what data do routers hold

9) what makes circuit switching unfeasible?

10) what do packet headers contain.

11) difference between store-and-forward and cut-through.

12) how do packets get slot on a path

13) how is queue delay effected in terms of a/R

14) how do isp's connect to each other?

15) IXP vs peering links

16) global vs regional ISP

Questions

17) what is bandwidth delay product

18) what impacts the delays

19) what are all layers in order and what are they responsible for?

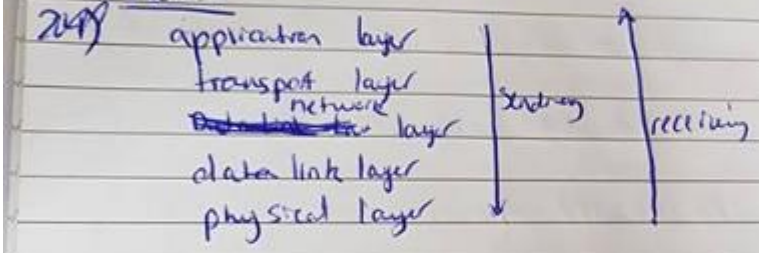
20) what is the one layer that connects them all?

21) which layer do the routers reside in?

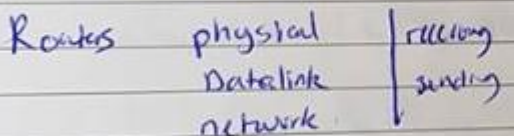
22) advantage vs disadvantage of layering

23) which layers are supported in packet delivery at router

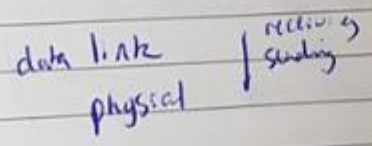
24) Hosts




Routers




Switch




25) how many bytes for each header

26) what are sockets?

Questions

27) why do we need port numbers?

28) why do we need Ip addresses

29) what does a socket require to communicate

30) key difference in UDP vs TCP

31) structure of client-server

32) structure of P2P

33) pros and cons of client server

34) pros and cons of per 2 per

35) which protocol does HTTP use for information distribution?

36) which architecture does HTTP resemble? why?

37) what state does HTTP maintain?

38) what are cookies used for

39) where are cookie header lines stored?

40) what are 3rd party cookies?

41) what factors effect Page Load Time?

42) why do we cache and replicate?

Questions

43) advantage and disadvantage of parallel connections HTTP/1.1

44) how does HTTP/1.0 work?

45) difference between HTTP/1.0 and HTTP/1.1 with pipelining

46) how can we improve PLT?

47) what architecture does caching resemble?

48) why are conditional get Requests such as these?
If-modified-Since
If-value

49) what does a CDN do?

50) what protocol does SMTP run on?

51) what is the only data SMTP accepts?

52) what is the difference between HTTP and SMTP

53) what is SMTP used for?

54) what are the steps of sending an email?

55) does SMTP send everything in a single message?

56) what is a user agent in mail?

57) how do we send objects if SMTP only uses 7-bit ASCII?

Questions

58) how was DNS handled in the past?

59) why is centralized DNS designed to fail?

60) what are the three hierarchies for DNS?

61) what is the difference between a TLD and authoritative NS?

62) when do naming conflicts occur in

63) what is an authoritative DNS server and what does it contain,

64) in iterative searches, who are results cached

65) in recursive searches, who are results cached

66) is there a single root server?

67) advantages and disadvantages of using our NS for requests vs. google public DNS

68) where are DNS records stored

69) what is stored in a DNS record

70) what type of DNS records are there.

71) how do we register new domains?

72) which communication protocol is used in DNS queries, why?

73) can one name map to multiple addresses, if so why?

Questions

74) download rate for client server vs P2P?

75) how does number of users effect client server/P2P

76) when can a peer leave the system

77) how does bit-bit torrenting work?

78) is it possible for a peer to receive a file without contributing?

79) what is a DHT, what does it do?

80) what do we do if a peer leaves DHT ungracefully?

81) what is DASH, how does it work

82) is CDN a push or pull service

83) what are the two options for CDN?

84) advantages/disadvantages of bring home

85) advantages/disadvantages of enter deep

86) how does a CDN work

87) what is the transport layer used for?

88) why do we multiplex at sender

89) why do we demultiplex at receiver

Questions

84) what information does UDP require

85) what information does TCP require

86) what happens after TCP handshake in client/server

87) what do we require for reliable data transfer

88) what does RDT 2.0 do for reliability

89) how can we improve performance of RDT 3.0?

90) since $\frac{L/N}{RTT + L/N}$ is efficiency of bandwidth
what can we do to increase our efficiency?

91) in GBN how does Ack work? How?

92) in SR how does Ack, buffer, window work, timeout

93) benefits / non benefits of GBN and SR

94) what is MTU? if MTU is 1500 what is maximum segment size?