A2.3

Data transmissions

CHAPTER ASSIGNMENT · 14 MARKS

Name _____ Class _____ No. _____ Date _____

Answer every question in the space given. Show your working. You may use the chapter page to help you.

Questions from the Guru Jazzy chapter page, for classroom use.

Exam-style questions

1 Describe the main purpose of network address translation. [2]

2 Outline why a home laptop usually has a dynamic IP address. [2]

3 Describe one advantage and one disadvantage of fibre-optic cable. [2]

4 A school links two buildings 400 m apart, and needs Wi-Fi inside each. Recommend media and justify your answer. [4]

5 Explain how a large file is sent using packet switching. [4]

Chapter quiz

Q1 How long is an IPv4 address?

A	B	C	D
4 bits	32 bits	64 bits	128 bits

Q2 Why was IPv6 created?

A	B	C	D
IPv4 addresses were running out	To replace cables	To remove routers	To make names shorter

Q3 Which device needs a static IP address most?

A	B	C	D
A visitor’s phone	A web server	A laptop	A smartwatch

Q4 What does NAT do?

A	B	C	D
Translates private addresses to a public one	Encrypts email	Stores files	Blocks all traffic

Q5 A factory has electrically noisy motors. Which cable suits it?

A	B	C	D
Unshielded twisted pair	Fibre optic	Neither	Telephone wire

Q6 What does a packet header contain?

A	B	C	D
Source and destination addresses and control data	Only the whole file	A picture of the route	The user password

Q7 How can packets of one file arrive out of order?

A	B	C	D
They can take different routes	Routers shuffle them on purpose	They never do	Files have no order

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Q8 Why is packet switching more efficient than circuit switching?

A	B	C	D
Links are shared by many users	It needs no cables	It never loses data	It uses a dedicated line

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Q9 Who updates a static routing table?

A	B	C	D
The administrator, by hand	The routers automatically	DNS	The user

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Q10 What is a benefit of static routing?

A	B	C	D
Predictable, with no extra bandwidth	Automatically avoids failures	Scales best	Needs no configuration

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Q11 What does convergence mean in dynamic routing?

A	B	C	D
Routers reaching agreement on routes	Cables joining	Files merging	A type of attack

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End of assignment · Check your answers against the chapter at gurujazzy.com/subjects/ib-computer-science/a2-3-data-transmissions/