A1.4

Translation

CHAPTER ASSIGNMENT · 15 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. Compare a compiler and an interpreter for software development. [4]

2. Describe just-in-time compilation and explain how it combines interpretation and compilation. [4]

3. Compare the error detection of compilers and interpreters and discuss the effect on development. [4]

4. A company needs one desktop application for Windows, macOS and Linux. Justify using bytecode. [3]

Chapter quiz

Q1 What does a compiler produce?

A	B	C	D
Nothing, it runs the code line by line	A translated program that can be run later	Only an error report	A flowchart

Q2 Why does an interpreted program usually run more slowly?

A	B	C	D
It uses less memory	Its code is translated during every run	It has no variables	It needs the internet

Q3 A Python script has a bug inside an `if` that never runs. What happens?

A	B	C	D
The script refuses to start	The bug stays hidden	Python fixes it	The computer restarts

Q4 Which is an advantage of a compiled program?

A	B	C	D
Runs on any platform unchanged	Fast execution	No translation step at all	Cannot have bugs

Q5 What runs Java bytecode?

A	B	C	D
The JVM	The GPU	The BIOS	A web server

Q6 What is a “hot spot” in JIT compilation?

A	B	C	D
An overheating CPU	Frequently executed code	A Wi-Fi network	A syntax error

Q7 Which suits a long-running web server best?

A	B	C	D
JIT compilation	Punched cards	Manual translation	Assembly only

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Q8 Can a compiled program still crash at runtime?

A	B	C	D
No, never	Yes, for example dividing by a zero typed in by the user	Only in Java	Only on a Mac

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End of assignment · Check your answers against the chapter at gurujazzy.com/subjects/ib-computer-science/a1-4-translation/