Practice Question Set For A-Level
Subject : Physics
Paper-1 Topic: Waves

Name of the Student:_____
Max. Marks : 16 Marks **Time : 16 Minutes**

Mark Schemes

Q1.

(a) (i) Number of complete waves passing a point **in one second** / number of complete waves produced by a source **in one second** / number of complete vibrations (oscillations) **per second** / number of compressions passing a fixed point **per second**

1

(ii) 180° phase difference corresponds to ½ λ
Use of $v = f\lambda$ with correct powers of 10
0.33 (m)

3

(b) (i) Do not have the same frequency
do not have a constant phase difference

2

(ii) Waves meet antiphase
Undergo superposition
Resulting in destructive interference

3

(iii) T = 100 ms
Use of $T = 1 / f$ or beat frequency (Δf) = 10 Hz
500 (Hz) (allow 510 –their beat frequency)

3

(c) (i) Only box ticked: Quality

1

(ii) Add regular alternating voltages together
With appropriate amplitudes
Where frequencies of voltages match the harmonics of sound / where frequencies are multiples of 440 Hz

Allow 2 for sampling sound (at twice max frequency) B1

Convert to binary (and replay through D to A converter). B1

3

[16]