

Mark Scheme : Waves : General

Jan 2002 to June 2008

Note multiple choice questions are not used in the new current Y12 AS spec. These come from the old unit 4A. These are the whole MS for all the multiple choice questions

Section A: Objective test keys

Jan 2002

1-D; 2-C; 3-B; 4-C; 5-B; 6-D; 7-B; 8-A; 9-D; 10-C; 11-B; 12-B; 13-A; 14-D; 15-B.

Section A

Jun 2002

Key to Objective Test Questions

1-B; 2-B; 3-D; 4- C; 5-A; 6-C; 7-B; 8-B; 9-D; 10-A; 11-C; 12-C; 13-D; 14-A; 15-C.

Section A

Jan 2003

1-B; 2-A; 3-D; 4-C; 5-D; 6-B; 7-B; 8-D; 9-B; 10-C; 11-D; 12-A; 13-B; 14-A; 15-B.

Key to Objective Test Questions

Jun 2003

1-A; 2-B; 3-A; 4-B; 5-A; 6-B; 7-A; 8-A; 9-D; 10-C; 11-C; 12-D; 13-A; 14-C; 15-D.

Unit 4: Section A

Jan 2004

Key to Objective Test Questions

1-C; 2-A; 3-D; 4-D; 5-B; 6-A; 7-C; 8-D; 9-C; 10-C; 11-A; 12-C; 13-C; 14-B; 15-B.

Unit 4: PA04 Section A

Waves, Fields and Nuclear Energy

Jun 2004

Key to Objective Test Questions

1-C; 2-D; 3-A; 4-D; 5-D; 6-B; 7-A; 8-B; 9-B; 10-A; 11-B; 12-C; 13-D; 14-D; 15-B.

Unit 4: PA04 Section A

Waves, Fields and Nuclear Energy

Jan 2005

Key to Objective Test Questions

1-B; 2-A; 3-D; 4-A; 5-C; 6-C; 7-D; 8-D; 9-C; 10-D; 11-C; 12-B; 13-B; 14-A; 15-C.

PA04 Section A Waves, Fields and Nuclear Energy

Jun 2005

Key to Objective Test Questions

1-B; 2-A; 3-D; 4-B; 5-C; 6-C; 7-C; 8-D; 9-D; 10-A; 11-A; 12-B; 13-A; 14-B; 15-C.

Section A

Jan 2006

This component is an objective test for which the following list indicates the correct answers used in marking the candidates' responses.

	Keys to Objective Test Questions															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	C	C	B	C	A	D	B	B	A	D	C	A	D	B	D	

PA04 Section A: Waves, Fields and Nuclear Energy

Jun 2006

	Keys to Objective Test Questions															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	B	C	A	C	A	D	B	C	D	D	B	C	D	B	B	

Section A**Jan 2007**

This component is an objective test for which the following list indicates the correct answers used in marking the candidates' responses.

	Keys to Objective Test Questions															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	A	B	D	A	C	B	C	D	A	B	D	B	D	C	A	

Section A**Jun 2007**

This component is an objective test for which the following list indicates the correct answers used in marking the candidates' responses.

	Keys to Objective Test Questions															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	C	B	A	C	A	B	D	C	B	C	D	B	D	C	A	

Section A**Jan 2008**

This component is an objective test for which the following list indicates the correct answers used in marking the candidates' responses.

	Keys to Objective Test Questions															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	D	B	C	B	A	C	B	C	D	C	A	C	D	B	A	

Section A**Jun 2008**

This component is an objective test for which the following list indicates the correct answers used in marking the candidates' responses.

	Keys to Objective Test Questions															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	C	A	A	D	B	A	C	D	D	C	A	B	D	C	B	

Q2 AS04B Jun 2006

Question 2		
(a)	vibrates or oscillates or moves in shm ✓ vibration/oscillation is vertical/perpendicular to wave propagation direction ✓ frequency ($=c/\lambda$) = 3.0 (Hz) ✓ (or same as P) amplitude = 90 (mm) ✓ (or same as P) Q has a phase lag on P ✓ (or vice versa) phase difference of $\left(\frac{0.4}{1.2} \times 2\pi\right) = \frac{2\pi}{3}$ (rad) or 120° ✓	max 5
(b)	use of $f = 3.0$ (Hz) ✓ $v_{\max} (= 2\pi fA) = 2\pi \times 3.0 \times 90 \times 10^{-3}$ ✓ $= 1.7(0) \text{ m s}^{-1}$ ✓	3
	Total	8