

2015 ASTA exam night Dec 2 NOTES:

L1SCI:

With exam online some copy write photos are not put on the on-line version of exam: PLEASE stop using copyrite photos on all exams

90940 (mechanics)

Small detail: at top of page 2: "formulae" should be "formulae and constants".
Could a separate resource sheet exist just for physics, similar to the acid/base resource sheet?

Again, physic questions don't reflect context of question.

Length of paper is OK

Q1: diagram looks like one diving board "on top" of the other... 3-d diagram may through some kids.

Q1b: "climbs stairs"... but in Q1c "climbs ladder"...

Q1e: a bit strange to ignore friction with such a small drop in height (5m)... compered to with friction. Such a small drop the difference with/without friction would be negligible.

Q2: like the NZ pigeon. Positive change from traditional "car" question

Q2: some would like arrows acting on centre of mass... or to be "touching" the bird.

Q2: 1st bullet point: should have BOLD or quotes around "net force".

Q2: some bullet points seem to be a bit hard to read by some teachers

Q2c graph: could be improved with squares on 1 line and circles on other line

Q3a: GOOD: being told "no calculation required"

Q3bii: work done to overcome drag cannot be calculated: work done to accelerate the boat is all that can be found.

Q4: "pontoon" is a word many kids would not be familiar with... "platform" or "raft" maybe

Q4: Trying to get to pressure change where object will sink down... BUT this is NOT correct physics of this situation. Pontoon will not sink down.

WORDING: should be "when the people climb onto pontoon"... not "stand on".

90944 (acid/base)

Not consistent: no title with Q1 compared to bio/phy... which gives hint/guidance at gist of question

Seemed obvious that the way questions were worded that a chemistry teacher was not involved in the writing or editing of this paper. Many errors were made in the sentences.

Q1b: if you're gonna do bullet points, please use ONE idea per bullet point... not multiple ideas for each point.

Q1: a bit unorthodox for rates question to be the 1st question of the test.

Q1: "inverted" is heavy on literacy skills... please use simple terms like "upside down"

Q1b: A bit odd to have answer space spread over 2 pages

Q2c: grammar is a bit off-putting: "of the compound..." there are TWO compounds that form, not one formula that generates 2 compounds.

Q2: one hates the way electrons are not paired up in electron shells.

Q2: Is "ion" a "charged atom"? not necessarily.

Q2: ionic bond formed between "a"... and "a"... gives impression that ionic bond is just like a covalent bond. Better that this is referred to as "ionic bonding" which is vastly different than any type of covalent bonding.

Q3: "UI" for universal indicator is a bit lingo-heavy

Q3c: pH needs no "'s"

Q3c: 2nd bullet point: hydrogen "IONS" and hydroxide "IONS"... the word "ion" is missing and important.

90948 (genetics)

Bio exam seems a bit shorter than previous year's... most are happy with that.

- Q1: good pictures and logical diagrams
- Q1c: more space needed to fully answer
Last bullet point: should "discuss" be used instead of "explain" to overtly hint at E-level answer.
- Q2: title makes it clear what question is about - NICE.
- Good use of colour photos
- Q2c: bit on p6 would be better just after bullet points on p5.
- Q3bi: could use more space for "full answer"
- Q3bii: a bit hard to come up with example themselves... may make it easier if examples were supplied to then be discussed... BUT some think if examples were given that kids were not familiar with, kids may "get through"
- NEW ZEALAND snail instead of Ireland?

L1PHY

Overall: OK

Titles of questions are good - reflective of content.

90937 (e&m)

P6: charged clouds get polarized but NEVER entire cloud negative...

P6: "charge distribution in air space" is ODD... we think you meant "charge distribution on lightning rod"

P9 - good diagram of electromagnet. Really clear.

90938 (waves)

P5: big BOO-BOO: part two: "reflected ray" when "REFRACTED ray". This has already been changed on the PDF posted on NZQA but on the student exam there was a typo.

P6: photograph of massive camera thing... can just make out image of sea lion in lens... would be better if diagram was a bit more clear. Diagram was laterally inverted compared to the picture.

90939 (heat)

L2PHY

91170 (waves)

- P3: convex vs concave left up to student... assumes student picks concave mirror...
- Q3: pulses transmission no longer overtly mentioned in standard... but is on exam?
- P10: red light though 2 slits would not make defined fringes like shown on page 10. Diagram actually matches diffraction grating situation.

91171 (mech)

COPYRITE IMAGE!!! Please don't use these.

Two question heading are content-related and two are not... ODD.

- Q1: good because it matched practice exam!
- Q2ai: question can be answered with ANY law of physics. Trying to guide kids into a certain answer but this question can answered in multiple (and true) ways.

91173 (e&m)

- P2: "comprises"... high-literacy term... "the circuit is made from"... use more common language.

- Q1d: “comprehensive explanation”... instead of “discuss”... ONLY FIVE lines given for answer?
- Q2 P4: “comprised”... again... a bit sneaky to have cm on diagram and not meters...
- TWO electric field out of FOUR... seems a bit heavy on one concept.
- P8 Q4c: Not happy with “lamps blowing”... better “breaks”, “stops working”.

L3PHY

Every time question was on TWO pages only... GOOD for kids.

91523 (waves)

In general: too much READING. Intro is 6 lines long... then 7 or 8 lines later...

BUT nice context

- Bottom of P2: Description for 1c very confusing... FORCED/CONTRIVED context. Also very wordy and makes it hard to unpack material... a diagram would be helpful.
- Q1d: 1st bullet point: “describe”... what are you after if both speeds are given.
- Q2b: trying to make things confusing by making WORDY situation. Use more diagrams maybe!
- Laser safety? Laser through eye glasses?
- Q2d: “maxima” or “antinode”... not just “maxima”
- Q3c: arrow of motion could have been more obvious or reinforced with wording.

91524 (mech)

- GOOD exam:
- Not good that you recycled recycled scholarship question (Q2)...
- 1d - Would be better not to mention Kepler’s Law: instead “show that T^2 is proportional to R^3 and determine the mass of the moon”.
- Q2: equation on separate line so phrase “where y...” is on separate line.
- Q3: BAD: far too complicated. Context heavy... for stress of exam...

91526 (e&m)

- Unusual to start with LCR
- No bullet points until pretty far into exam
- 2d: 1st bullet point: what do you mean by this?
- Last question: very wordy... hard to answer without re-read the question a few times.

PHY Scholarship

- Really hate that AC is not in exam!!!

- Too much stuff from Level 2. Two out of five question.
- Did this year seem a bit easier than in year's past?
- Need more space to fully answer questions - maybe because each question is forced onto 2-page format.... And with several pages at end.
- FORMULA PAGE - supply one!!!