

CITY COLLEGE
Internal Examination 2020-2021
Physics (Hons.) CBCS Semester 3
Paper: PHSA SEC-A1 [New Syllabus]
Topic: Scientific Writing
Time: 1 Hour; Full Marks: 20

Answer any ten questions. Each question carries two marks.

1. What is the difference between WYSIWYG and WYSIWYM? Explain.
2. What is the importance of document class?
3. What is the command to write an unnumbered equation?
4. Write down the \LaTeX script to generate the following output: This is *how* you change color in \LaTeX .
5. Write down the \LaTeX script to generate the following output: This is **how** you CHANGE font size.
6. Write down the \LaTeX script to generate the following output:

$$\oint_{C=\partial V} \vec{A} \cdot d\vec{s} = \int_V \vec{\nabla} \cdot \vec{A} dv.$$

7. Write down the \LaTeX script to generate the following output: $\lambda^2 - \lambda \text{Tr}[A] + \det[A] = 0$.
8. Consider the following:

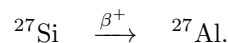
$$\text{Schrödinger equation} \implies \left[-\frac{\hbar^2}{2m} \nabla^2 + V(\mathbf{r}) \right] \Psi = \varepsilon \Psi.$$

Write the appropriate \LaTeX script to generate the above.

9. What is the package you need to include in the preamble for incorporating figures in your document?
10. Write down the \LaTeX script to generate the following output:

$$\int \tan^{-1} x dx = x \tan^{-1} x - \frac{1}{2} \ln(1+x^2) + c.$$

11. Write the \LaTeX script for the following nuclear reaction:



12. Write down any equation of your choice, numbering it and labeling it. Next write any statement of your choice that contains a reference to the equation you have written down.

Answer scripts must be emailed to sem3hcityphysics@gmail.com within 15 minutes of the end of the examination.