

List of tasks Team wise

Team 1: G Jaswanth CS22B020 Nishchith G CS22B021

Analyze: Titles, authors,

Refer to guidelines in Writing Principles page 4

## II. Writing Principles—4

### A. Writing Parts of an Article

#### a. Title

#### b. Byline and Membership Citation

`\title{Transmit Antenna Selection for Interference-Outage Constrained Underlay CR}`

`\author{Rimalapudi Sarvendranath, {\it Student Member, IEEE}, Neelesh B. Mehta, {\it Senior Member, IEEE}}`

Chong Zhang , *Student Member, IEEE*, Min Dong , *Senior Member, IEEE*, and Ben Liang , *Fellow, IEEE*

*Or*

Yuanwei Liu, Jiaqi Xu, Zhaolin Wang, Xidong Mu, Jianhua Zhang, and Ping Zhang

Or

Min Dong , *Senior Member, IEEE*, and Qiqi Wang

=====  
Title related comments  
=====

A comma is missing after the first author name

Team 2: Rashmitha CS22B050 Tanvi Gupta CE22B035 Piyush Gupta EE22B056

1. Count the number of words in the title and abstract.
2. Create a list of acronyms used.
3. Count the number of times each acronym occurred.
4. Identify the acronyms that are not expanded at the first occurrence.

Abstract and main text should be treated separately

Acronym defined in abstract should be defined again

Define acronyms the first time they appear in the Abstract as well as the first time they appear in the body of the article, written out first as part of the sentence, followed by the acronym in parentheses.

Coined plurals or plurals of acronyms do not take the apostrophe as per *Chicago Manual of Style*.

Example: FET (singular); **FETs** (plural).

Indefinite articles are assigned to abbreviations to fit the sound of the first letter: **an FCC** regulation; **a BRI**.

Refer to IV. APPENDIX A. Some Common Acronyms and Abbreviations in page III. Grammar and Usage in Transactions—24

Example output in the log file:

Acronym related comments	
Name_of_acronyms	Number_of_times_they_occured
AOBSS	5
AS	42
BS	58
CDF	9
CSI	8
IEEE	1
IRS	71
LAS	13

Acronym CSI first occurred in line number ??. It is not expanded.

Acronym LAS first occurred in line number ??. It is not expanded.

Acronym IRS first occurred in line number ??. It is not expanded.

Analyze index terms: Similar to a sentence only first word should be capitalized

```
\begin{IEEEkeywords}
    Cognitive radio, underlay, antenna selection, interference outage constraint, SEP,
    imperfect CSI.
\end{IEEEkeywords}
```

### **Index Terms**

All articles must contain Index Terms. These are keywords provided by the authors. Index Terms appear in alphabetical order, and as a final paragraph of the Abstract section. Capitalize the first word of the Index Terms list; lowercase the rest unless capitalized in text. Include the definition of an acronym followed by the acronym in parentheses. Example:

***Index Terms***—Abstraction, computer-aided system engineering (CASE), conceptual schema, data model, entity type hierarchy, ISO reference model, layered architecture meta model, reverse engineering.

Team 4: Vaishnavi EE22B036 Subham EE22B058 Shruti EE22B043 Sahithi (EE22B006)

a. Spaces before units

- i. **Incorrect:** 5V, 1.17Volts, 8ohm, 17cm, 2700mm
- ii. **Correct:** 5 V, 1.17 V, 8 ohm, 8 W, 17 cm, 2700 mm, 44 °C
  - a. **Latex:** 5~V, 1.17~V, 8~ohm, 8~W, 17~cm, 2700~mm, 44~ °C
- iii. <https://chec.engineering.cornell.edu/units-of-measurement/>

b. Standard names and capitalizations

- i. Create a list of scientist's names used in research articles
  - a. Gaussian, Doppler,

c. Sequence of numbers

- i.  $x_1, x_2, \dots, x_n$  not  $x_1, x_2 \dots x_n$
- ii.  $x_1 + x_2 + \dots + x_n$  not  $x_1 + x_2 + \dots x_n$
- iii.  $y = 0, 1, 2, \dots$  not  $y = 0, 1, 2 \dots$

$x_1, x_2, \dots, x_n$  not  $x_1, x_2 \dots x_n$  \cdot should be used

$x_1 + x_2 + \dots + x_n$  not  $x_1 + x_2 + \dots x_n$  \cdot and operator at both ends

$y = 0, 1, 2, \dots$  not  $y = 0, 1, 2 \dots$

Refer to C. Table of Units and Quantity Symbols in III. Grammar and Usage in Transactions—32

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Unit related comments

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Space is missing between the numerical value and units 'm' in line number ??. Insert ~ before the units

Space is missing between the numerical value and units 'm' in line number ??. Insert ~ before the units

Team 5:

T Mokshith Reddy CS22B046

M Susank EE22B025

G Suryanarayana Murthy EE22B017

Equations analyzer:

Punctuation of equations

1. Every equation should end with a punctuation.
  - a. Comma or full-stop
  - b. Check for comma if next letter is small letter
  - c. Check for full stop if next letter is Capital
2. Multiple equations using array
  - a. Comma for all intermediate the equations
  - b. Last equation will have full stop if a new sentence starts after it
3. One equation in multiple lines using Multline
  - a. Math operator should be in the new line

Refer to other cases in IEEE-Math-Typesetting-Guide-for-LaTeX-Users.pdf

Example log file

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Equation related comments

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Punction is missing for the equation in line number ??. Consider inserting comma.

Punction is missing for the equation in line number ??. Consider inserting full-stop

Multline equation in line number ??. New line should stat with a math operator

**Team 6: Yuvraj ee22b054    Arin mehta ee22b002    Varun ee22b020**

Title case for the subsections and subsubsections

\subsection{Antenna Selection Options and Data Transmission}  
\subsubsection{Interference-Outage Probability}

All nouns, pronouns, adjectives, verbs, adverbs, and subordinating conjunctions (*If, Because, That, Which*) should be capitalized.

Capitalize abbreviations that are otherwise lowercase (i.e., use DC, not dc or Dc) except for unit abbreviations and acronyms.

Articles (*a, an, the*), coordinating conjunctions (*and, but, for, or, nor*), and most short prepositions are lowercase unless they are the first or last word.

Prepositions of more than three letters (*Before, From, Through, With, Versus, Among, Under, Between, Without*) are capitalized.

Refer to section on **Math in** page II. Writing Principles—21

- 1) Always add a zero before decimals, but do not add after
  - a. 0.25 and not .25
  - b. 0.5 and not 0.50
- 2) Do not start a sentence with numeral
  - a. 20 apples [Avoid writing 20 at the beginning of the sentence]
  - b. Twenty apples [This is preferred]
- 3) Inline math equations
  - a. Fractions may be broken down (shilled) multiline (built-up) so they can be placed on one line. Sometimes parentheses may need to be added to distinguish between expressions, especially when a minus appears

[e.g.,  $\frac{a}{b-c}$  becomes  $a/(b-c)$ ],  $\frac{c-d}{k+4}$  becomes  $[(c-d)/(k+4)]$ .

In exponential expressions [e.g.,  $e^{-(j\omega t)xyzk}$ ], there are sometimes long and complicated superscripts. These may be brought down in line with the substitution of “exp” for “e” and the addition of square brackets (e.g.,  $\exp[-(j\omega t)xyzk]$ ).

- 4) Conditions: In displayed equations, a comma or parentheses and a two-em space is inserted between the main expression and the condition following it.

$$x = yn^{-2} \quad \forall n = 3$$

$$x = yn^{-2}, \quad \text{if } n = 3 - y^{-4}.$$

$$x = yn^{-2}, \quad y = 3, \dots, m$$

**NOTE:** There is no comma before a for all “ $\forall$ ” symbol.

**Task: Bibliography: Read References section in page number 11 from the style guide pdf**

Process the text between `\begin{thebibliography}` and `\end{thebibliography}`

Check for the punctuation mistakes in each bib item

d. Task 1: Create list of references and how many times cited

**Journal**

`\bibitem{Zhao_2008_TSP}`

Q.~Zhao, S.~Geirhofer, L.~Tong, and B.~M. Sadler, "Opportunistic spectrum access via periodic channel sensing," *\emph{IEEE Trans. \ Signal Process.}*, vol.~56, no.~2, pp. 785--796, Feb. 2008.

**Conference**

`\bibitem{RZhang_2008_DSAN}`

R.~Zhang and Y.~C. Liang, "Exploiting hidden power-feedback loops for cognitive radio," in *\emph{Proc. \ DySPAN}*, Oct. 2008, pp. 1--5.

- i. Format,
  - ii. Vol. ,
  - iii. no. ,
  - iv. page numbers,
  - v. month (Should be in short form with dot), Ex: Jan. Feb. Apr. May
  - vi. year.
  - vii. Missing acronym capitalization in bibliography and punctuation
- List of standard acronyms should be in capitals and inside {}. Ex. {MIMO} and not MIMO
- Create a list of technical acronyms typically used in Electrical engineering

**Sample log file**

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**References related comments**

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In reference number ??, full stop is missing after vol

In reference number ??, comma is missing after vol number

In reference number ??, month is not in the short form

In reference number ??, full stop is missing after the month in short form