



Technical Report Writing (MPE 4126)

Answer the following questions (60 pts):

Question 1 (15 marks):

- Mention 5 of guideline items followed in writing a technical report (3 pts)
- Distinguish between recommendation and feasibility report? (2 pts)
- Show diagrammatically the main components of an engineering report, and arrange them consecutively (4 pts)
- Count only 5 of abstract words to be avoided in technical writing (2 pts)
- Compare between Harvard (name-date) and numerical referencing, showing the advantage and disadvantage of each. (4 pts)

Question 2 (15 pts):

- In fluid mechanics laboratory, an experiment was performed to measure the average velocity (v_{av}) of air flowing through a wind tunnel. A traversing mechanism and Pitot-static tube were used as a measuring tools for velocity measurements. The dynamic head (h_i) at several locations (A_i) across the duct cross section was detected by an inclined manometer connected with the ends of the Pitot-static tube. The average velocity was calculated using the following equations:

$$v_{av} = \frac{\sum_1^n A_i v_i}{\sum_1^n A_i}$$

Where v_i is air velocity at the measuring point ($v_i = \sqrt{2gh_i}$).

Change passive voice into active voice, number the equation and define all terms with their units included in the above equations. (5 pts)

- What are the properties of an abstract and mention the necessary points that the abstract should include. (5 pts)
- Mention the characteristics of the conclusions of scientific report, and write down the important materials that must be included? (5 pts)

Question 3 (15 pts):

- Put the appropriate mark (\checkmark or \times) relating to the following sentences. Correct the wrong ones and rewrite it in your answer sheet

- 1 - Major section of the report begins on a new page. ()
- 2- The main text of the report is numbered using Roman numerals. ()
- 3- The abstract is written first and appear on a separate page. ()
- 4- If there is no list of definitions, symbols should be defined in the text when first used ()
- 5- Headings cannot be differentiated using bold type, size and italics. ()
- 6-All figures and tables within the text should be labeled in bold with the appropriate consecutive number. ()
- 7- The contents of the conclusion are not linked to the introduction. ()
- 8-The text page numbering can continue into the Appendices. ()

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- 9- The conclusion places results with introducing new materials. ()
- 10- Creates a non-alphabetical reference list at the end of the text is an advantage of Harvard referencing. ()
- 11- A feasibility report studies something in terms of its value. ()
- 12- three pieces of equipments are installed in the laboratory and much informations are collected for their specifications. ()
- 13- A list of results for the experiment are available in the report. ()
- 14- During the experiment, data is recorded and then analyzed. ()
- 15- He measured parameters using the available equipments. ()

Question 4 (15 pts):

a. Rewrite the followings references correctly as requested:

1. John, J. P., 2000, pp. 221-230. "Heat Transfer Analysis of Automotive Radiators", Int. J. of heat transfer, Vol. 6, n4, (**Numerical**) (2 pts)
2. J. P. Myers, S. D. David, Int. Journal of Operations and Production Management, 1990, "Report of a study of computer aided production management in UK", 7(2), 2-40. (**Name-date**) (2 pts)

b. KIA motors car experiments are conducted on road to see how car speed is affected by road grade and fuel consumption rate. The data from these experiments can be found in Table 1. (11 pts)

Road Grade (%)	fuel rate (lit/h)	Speed (km/h)
0.0	3.5	60.0
	7.0	100.
	10.5	130
	14	145.
	18	156
15.0	3.5	27
	7.0	48
	10.5	50
	14	64
	18	80

Table1: Effect of Road Grade and Fuel Rate on car speed

Rewrite the above table in your answer sheet and then plot it in a figure. After that discuss the obtained results in a paragraph to show the effect of road grade and fuel rate on car speed.

Good Luck

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