



Technical Report Writing (MPE 4126)

Answer the following questions:

Question 1 (15 marks):

- Mention 6 of guideline items followed in writing a technical report (3 marks)
- Distinguish between recommendation and feasibility report? (2 marks)
- Show diagrammatically the main components of an engineering report, and arrange them consecutively (3 marks)
- Count only 6 of abstract words to be avoided in technical writing (3 marks)
- Compare between Harvard (name-date) and numerical referencing , showing the advantage and disadvantage of each. (4 marks)

Question 2 (15 marks):

- In fluid mechanics laboratory, a group of students performed an experiment to measure the average velocity (v_{av}) of air flowing through a wind tunnel. To execute the experiment, they used a traversing mechanism and Pitot-static tube as a measuring tools. They detected the dynamic head (h_i) at several locations (A_i) across the duct cross section by an inclined manometer connected with the ends of the Pitot-static tube. They calculated the average velocity 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 active voice into passive voice, number the equation and define all terms with their units included in the above equations. (5 marks)

- Why introduction is important for any scientific report ? Mention the necessary points that the introduction may include. (5 marks)
- Mention the characteristics of the conclusions of scientific report, and write down the important materials that must be included? (5 marks)

Question 3 (15 marks):

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

- 1 – Figures and Tables must not be located in the text close together after the first reference to them.. ()
- 2- Preliminary pages are numbered with Arabic numerals. ()
- 3- The abstract is written first and appear on a separate page. ()
- 4- If there is a list of definitions, symbols should be defined in the text when first used ()
- 5- Sometimes a table demonstrates numerical trends more effectively than figure. ()
- 6-All figures and tables within the text should not be labeled in bold with the appropriate consecutive number. ()

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- 7- Personal language cannot be avoided by using objective language. ()
- 8-The passive voice emphasizes the human subject by placing it first in the sentence. ()
- 9- Verb tense changes according to the purpose of section and information included. ()
- 10- First, next, most significance, ...are link words showing time and sequence. ()
- 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):

a. Rewrite the followings references correctly as requested:

1. Lee,D.Y.,Park, S.J., and Ro., S.T., pp.585-594,"Heat transfer in the thermally region of laminar pulsating pipe flow", Journal of Fluid Mechanics, 2003,Vol.137, no.3,(Numerical)
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) (4 marks)

b. Toyota 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.

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
10.0	3.5	40
	7.0	66
	10.5	82
	14	92
	18	110

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

Correct 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.

(11 marks)

Good Luck

Prof. E. Elshafei