

APS111/113 (Fall) 2016 FINAL EXAM: CIs' LONG ANSWER MARKING GUIDE

In general, what we are looking for in questions 35, 36, 37:

- Understands key course concepts well enough to write intelligently about them, including putting the problem into engineering terms and developing appropriate functions, objectives, constraints and research questions
- Paragraph level: Communicates using cohesive, unified, well-organized paragraphs with some sentence to sentence relationship
- Sentence level: Sentences are clear, concise, and any errors do not impede comprehensibility or significantly impeded ease of reading

What we do NOT expect under exam-writing conditions:

- Research or research citations
- Metrics or goals
- Perfect grammar, super-polished writing

Question 35.

Based on Case Study 3: RFP for a Personal Data Management Assistant, located in Appendix C, in paragraph form (one or more paragraphs) write a concise Problem Statement in your own words. You may, if you wish, add a brief introduction, identifying the client. DO NOT COPY SENTENCES WORD-FOR-WORD FROM THE CASE STUDY IN YOUR PROBLEM STATEMENT. YOU WILL RECEIVE NO MARKS FOR MATERIAL COPIED WORD-FOR-WORD FROM THE CASE STUDY. (20 marks)

Criteria	Fails (F) 9/20 and below	Below (C, D) 10-13/20	Meets (B) 14-15/20	Exceed (A) >16/20
Content	Does not recognize the actual problem. Misidentifies problem.	Recognizes some of actual problem, but does not transform it to engineering terms.	Recognizes problem, transforms it into solution-independent engineering terms.	Recognizes problem, identifies gap and transforms information entirely into solution independent engineering terms.
Organization & Presentation at sentence, paragraph & document level	Lack of organization or structure in paragraphs.	Some attempt at organization in paragraphs. Overreliance on "transition" words.	Demonstrates deliberate & consistent logical development of material	Excellent paragraph organization in paragraphs: thoughtful topic sentence skilfully developed through both sentence order and use of transition words and conjunctions

	Sentences unrelated to one another	or Inconsistent or inaccurate use of conjunctions/transition phrases	Satisfactory paragraph organization: clear relationship between topic sentences and organization of following sentences, careful choice of transition or linking strategies.	Guides the reader with appropriate use of structure, presentation, & word choices
	Overuse/dependence on language of question, case study, or definitions	Language of question and/or case study mixed with some personal language	Language of case study, questions used strategically and accurately with mostly personal language	Language of case study/questions integrated with student's language as part of the discipline discourse
	Ideas are lost as a result of poor word choice or poor sentence structure	Ideas are comprehensible with effort; everyday vocabulary dominates	Meaning is clear at paragraph, sentence, and word choice level with minimal error Sentences are simple, direct; mostly accurate use of course terms, some repetition	Meaning presented in clear, elegant, and concise prose Combination of simple and complex sentences; concise; precise and accurate use of course terms
	Major and/or frequent syntax, usage, vocabulary or language form errors	Somewhat free of syntax, usage, vocabulary or language form errors	Mostly free of syntax, usage, vocabulary or language form errors	Entirely free of syntax, usage, vocabulary or language form errors

Question 36.

Based on Case Study 3: RFP for a Personal Data Management Assistant located in Appendix C, generate Functions, Objectives and Constraints. Utilize course tools such as Functional Basis and Functional Decomposition. In total, you should have about 10 items, whether they are Primary Functions, Secondary Functions, Unintended Functions, Objectives or Constraints. Treat this like a section of a design document with a section introduction and sub-sections. Introduce each of the sub-sections (e.g. Functions, Objectives, Constraints) with a few sentences that help the reader understand their nature and significance. (15 marks)

Component	Fails (F) 7/15 and below	Below (C, D) 7.5-10/15	Meets (B) 10.5-11.5/15	Exceed (A) >12/15
Introductory sentences	Does not introduce lists or introduces lists in way that is not meaningful	Uses textbook definitions	Adapts textbook definitions to specific situation	In addition to "meets" adds meaningful dimensions to introductory sentences
Functional basis	Does not provide Functional basis or provides incorrect functional basis	Provides partial functional basis – e.g. uses verb "control" rather than specific kind of control	Provides one functional basis according to form, likely some form of control of information	Incorporates functional basis in the introduction in a meaningful way.
Primary functions	Does not correctly identify primary function(s)	Identifies one primary function	Identifies two primary functions	Identifies primary functions, in language that moves beyond functional basis
Secondary functions	Does not provide relevant secondary functions	Provides some relevant secondary functions	Provides a fairly complete list of secondary functions	Provides a comprehensive list of secondary functions
Objectives	Objectives vague and/or meaningless	Some meaningful objectives given	All objectives are reasonable, not necessarily measurable	Objectives may have goals added and seem to be measurable
Constraints	Misses constraints in Client Statement	Some constraints given but may be in terms of client statement	All constraints indicated in client statement are translated into engineering language	Constraints from problem statement, in engineering language, are augmented by reasonable other constraints (laws, codes)

Question 37.

Identify five key research questions you would want to answer in order to check the validity of your claims and to develop the three top objectives further. (Don't worry about whether the questions are open or closed.) (5 marks)

- Like the PSQ assignment:
- Can students recognize what they don't know that they need to know
- I.e., Can they identify what additional information they need?
- Can they come up with some ideas on where/how to find it?
- To get full marks (5/5) only have to meet expectations, not exceed (exam)

FAIL 0/5	1-1.5	2-3	FULL MARKS 4-5/5
No answer	Provides 1 Q. useful for validating/developing chosen objectives	Provides 1 or 2 questions useful for validating/developing the chosen objectives	All 5 Qs. target info that would validate or develop the chosen objectives
Qs have no relationship to objectives discussed			
Questions already answered in case study			