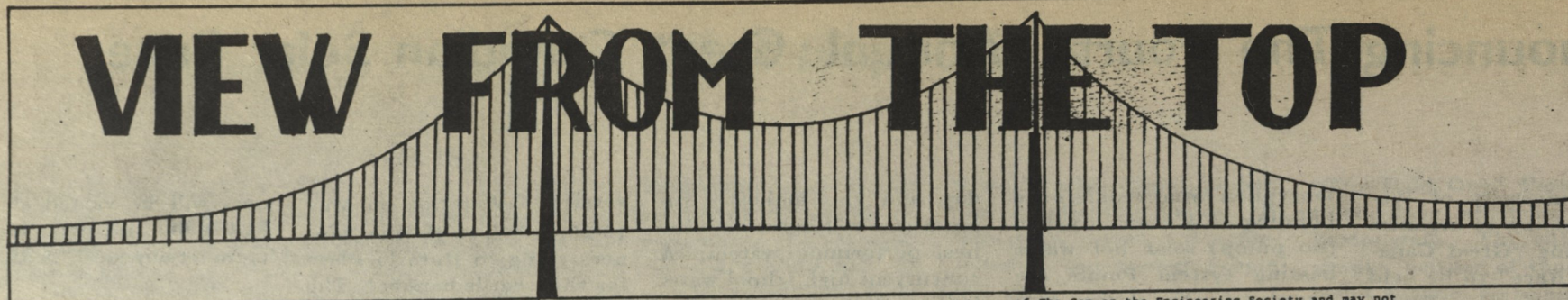


# VIEW FROM THE TOP



This page is humour for the sake of humour. The opinions expressed here are not necessarily the opinions of The Gem or the Engineering Society and may not necessarily be opinions at all. Any fools who take this page seriously and offend themselves should start trying to develop a sense of humour.

## "HOW TO SUCCEED IN EXAMS"

With midterms once again upon us, and Christmas exams soon to follow, what is really required is a sure-fire guide to success. While it is widely recognized that everyone has a technique that works best, there are certain guidelines that will work for everyone.

I'm sure you will recall virtually every teacher since grade two saying, "Read the questions carefully, only answer what's being asked" and "RTFQ-Read The Full Question". Quite frankly, I couldn't agree more. In fact, if you really consider the questions carefully, you will quickly realize that the answers are quite simple. Thus, with a little thought, the test becomes your friend, a chance to show your Profs how much you really know and how clever you really are.

Allow me to elaborate. I have compiled several guidelines, along with sample test questions and complete solutions (including the logic involved) to elaborate on the guidelines.

1) Answer the question in prescribed format.

### QUESTION:

Write a pseudocode program to share the CPU between five concurrently run programs. (For the uninitiated, pseudocode means an outline of the program in English.)

**SOLUTION:** Don't look a gift horse in the mouth, take advantage of the fact that pseudocode is allowed! The following solution is correct:

```
Program share_CPU;
{Share CPU between 5
concurrent programs}
end;
```

See how simple this is!!

2) Don't be intimidated by the question, realize that it can be simplified.

**QUESTION:** Find an expression for  $k$  in terms of the following equation variables:

$$\tau = 2\pi \frac{\sqrt{k^2 + 1^2}}{g}$$

**SOLUTION:** While many students would start squaring both sides and trying to isolate  $k$ , the prudent student would quickly realize that  $k$  is itself an equation variable. Thus the following is a correct response:

$$k = k$$

3) Answer only what is asked.

**QUESTION:** How do we know that

$$\int_0^{\infty} \frac{Q1s}{4\pi\epsilon r^2 a} dr > 27.4 ?$$

**SOLUTION:** Note that you are not being asked the value of the left side of the inequality, only how we know the inequality is true. Thus, my answer:

We're good at math.

**QUESTION 2:** Given that

$$M = \int_0^{\infty} \int_0^{\infty} \int_0^{\infty} \frac{d}{ds} \left[ \frac{Q}{1r} \right] dQ dl dr$$

What would happen if  $Q \rightarrow \infty$ ?

**SOLUTION:** Once again, don't calculate, just answer the question:  $M$  would change.

4) Use general knowledge to aid you.

**QUESTION:** Examine the following argument carefully:

$$2 = \sqrt{4} \\ = \pm 2$$

$$2 = 2 \text{ or } 2 = -2$$

a) On what grounds can this argument be rejected?

b) Verify your answer to (a).

**SOLUTION:** Use what you already know about numbers:

a) It's wrong.

b) 2 doesn't equal -2

5) Use all the tools available to you.

**QUESTION:** Prove the following:

$$e^{\pi} = -1$$

**SOLUTION:** Use that old mathematician's trick, the 'proof by contradiction':

Given:

$$e^{\pi} = -1$$

Assume:

$$e^{\pi} \neq -1$$

Thus we have a contradiction, therefore the assumption must be wrong, therefore,

$$e^{\pi} = -1$$

as required. Note the smooth flow and consistent logic.

6) Give yourself as much leeway as possible.

**QUESTION:** Given the following experimental data, calculate the mass of an electron and include an estimate of the error in your answer.

**SOLUTION:** Don't make things difficult for yourself, take advantage of the error calculation and give yourself some leeway. You will notice that I have omitted the data because it is unnecessary. A correct answer is, quite simply,

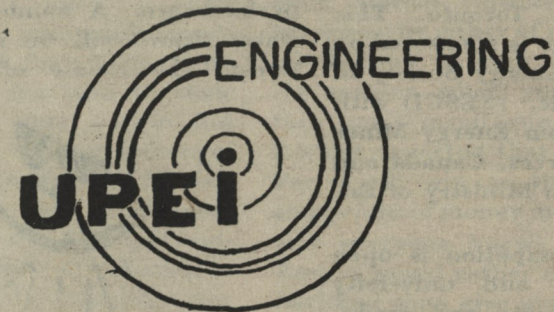
$$\text{mass} = 0.5 \pm 1 \text{Kg}$$

While this may at first seem a crude solution, closer scrutiny will reveal that the true mass of an electron,  $9.11 \times 10^{-31} \text{Kg}$ , is indeed well within the calculated range, thus the solution holds true to physical reality.

I hope you find these solutions helpful on your exams. Just remember, close examination of the questions, combined with a little ingenuity, will prevent you from wasting time unnecessarily and help you avoid losing marks on silly mistakes.

—Downton

(This article courtesy of Queen's University's GOLDEN WORDS)



## Credits for Nothing

(Taken from 'Money For Nothing' by Dire Straits)  
Now look at them B.A.'s, that's the way you do it  
You take a course like philos-o-phy  
That ain't workin', that's the way you do it  
Credits for nothing and your marks for free  
Now that ain't working, that's the way you do it  
Lemme tell ya them guys ain't dumb (??)  
Maybe goto classes, even in the mornin  
Then maybe go to none.

We gotta work with micro-computers  
Calculus equations by the score  
We gotta work with dynamics and physics  
We gotta do this and much, much more

See all the B.A. students with the coffee and the  
Yeah Buddy! They're playing cards  
See all the B.A. students sitting in the library  
Just looking out the window, staring at the cars.

We gotta work with micro-computers  
Calculus equations by the score  
We gotta work with dynamics and physics  
We gotta do this and much, much more

We shoulda learned after almost failing first year  
We shoulda learned to do it right  
We shoulda learned to take the B.A. program  
Instead of studying, we could party all night  
But look at them B.A.'s they know how to do it!  
They take a course like theol-o-gy  
That ain't workin', that's the way you do it  
Get your credits for nothing, get your marks for free.

We gotta work with micro-computers  
Calculus equations by the score  
We gotta work with dynamics and physics  
We gotta do this and much, much more

Now that ain't workin' that's the way you do it  
You take a course like Psychol-o-gy  
That ain't workin', that's the way you do it  
Credits for nothing and your marks for free  
Credits for nothing and your marks for free.