General Notes/thoughts

To all you budding Chartered Engineers these are just a few of my own personal notes on the Chartered Membership exam. These are not written in tablets of stone but I hope it helps. I passed it and I am sure you can too. These were written quickly for someone else so I apologise if there are typing mistakes or abbreviations
Just in case….Tim Brigstocke or Tim HB Ltd accept no liability for your performance in the exam!

Best of Luck

Tim

This was my 3rd attempt at CM. 2004 &, 2005 I failed, In the next 2 yrs I had work and family commitments so did not take it. I wasn't going to bother but pressure from others I decided to take in 2008. For 2004 & 2005 I did several papers under the clock i.e 7.5hrs.

2008 I only did 1 paper (I have a young family so it was difficult!!). However,I did the 2006 paper and I made sure I had not seen before, so did it under strict conditions… in my office using only the books etc I would take into an exam, including sandwiches, coffee etc etc.

Otherwise I did parts of questions under the clock i.e say part A, 1 day then part B another. Part A is the big hurdle as I see it if you can crack this then it is fairly straightforward (yes,easy for me to say that now!).

I could write for ages on this but using bullet points……..

You need a strict timetable to work to (and stick to it!). I have attached mine below for what its worth. Allow more time for areas that you maybe weaker which is what I did.

Don't take loads of books- these are useful –Structural Engineers handbook- Fiona Cobb and Concrete Scheme design Manual- Owen Brooker. Also take a folder of relevant information, keep it brief believe me you just won't have time

Drawing is supposed to be a weak point (I started on a board working up to AMI StructE…I am 45 yrs old!!). Drawing is one of my strong points. If its not yours practice and find a good technician/draughtsman (someone that has worked on the board i.e old!!) they will guide you. Colour your sections/diagrams with highlighters or watercolours.

In the UK when we entered this year the ISE provided a guidance CD. If you have this sit and go through it a couple of times I found it useful and at times depressing.

Where ever you are in the world, go on a preparation course where you attempt past papers. Theses are usually provided by your local ISE branch.

Try and find someone that will comment on your practice papers, and get some feedback on how you have done

I am a worrier, but on the day keep calm, pick a question you are happy with even if this takes half a hour… no point 2hrs in thinking this is the wrong question for me (as I did in 2005!)

My Own Timetable

EXAMINATION DAY TIMETABLE

9.00 – SIT AT DESK, GET READY (15mins)

9.15 - PICK QUESTION (15mins) STOP-9.30

9.30– HIGHLIGHT SALIENT POINTS, INITIAL THOUGHTS (45mins) STOP-10.15

10.15– SCHEME No.1 (50mins) -(15 Marks) STOP-11.05

11.05-– SCHEME No.2- (50mins)- (15 Marks) STOP-11.55

11.55 –SCHEME RECOMMENDATION (30mins) (10 Marks) STOP-12.25

12.25–LETTER TO CLIENT (35mins) -(10 Marks) STOP-1.00

1.00-LUNCH (30mins)

1.30–START DESIGN CALCS- (80mins)- (20 Marks) STOP-2.50

2.50– DRAW G.A- (60mins) (15 Marks) STOP-3.50

3.50– DRAW DETAILS- (30mins) (5 Marks) STOP-4.20

4.20– GENERAL QUESTION- (30mins) -(10 Marks) STOP-4.50

4.50– CHECK OVER- (10mins) STOP-5.00

5.00-– HOME

CM 2008- Q4 Exhibition Hall- **Brief Notes I made after I had finished the exam**

S1- Steel frame
Comp deck – x brace and portalised (where door opening)
I pushed col c/c's to 16m to make different from S2
Put a deep truss at roof level and hung the floors from this over the cantilever
Fdns-well this is where I thought I would have failed..put on mh rings into sand n value 10-80 but they would have had to go deep to get the gbp (not practical in hindsight)

S2- concrete-
my chosen scheme..in city suits deliveries, acoustics good as a exhibit hall, fair faced, 2hrs fire rest' easier to achieve
400 dp Ribbed slab stiff diaphragm with 200mm core walls
Frame action and used stair core for stability
500 sq cols @8m grids, beams 1w x 1.5dp… I think
Cantilevered over the 8m
Piled into the sandstone socketed (over the top could have gone less into the sand and used friction)

Letter-
Struggled to know what they wanted??
Achieve by cols outside ie under cantilever or
Beams would need to be deeper +1.2m to 2.7m dp therefore may need to raise blg hgt….40% increase in costs but offset by fdn savings. May have planning implications as height increased.

Calcs

Designed:

Col
Ribbed slab
Shear wall –this benefited me I think, as worked out down to gbp under base
Transfer beam over culvert
Cantilever bm
Pile- ran out of time so put down formula and guessed at 900dia cfa!!

Dwg

Plans- 1x for roof,L4, L3
1x L2,L1,fdn
section thro
no elev's …..out of time
put border on /lots of notes/reinf ests and shaded in using water colours

Details

All by hand not to scale but shaded using water colours
Sections generally

1- 1- thro atrium upstand/cre wall
2- 2- perimeter edge bm showing nib wi brkwrk etc
3- 3- similar to 2 but over big doorway
4- 4- thro culvert showing transfer beam/pcap/col

all details I showed the reinfmt details (not scheduled though!)

method statement

temp wks in sand
site set up
banksman in city ctr

scaffold in atrium for access to flrs/roof
pump+ sump
staff induction
conc batching/supervision/cube tests
reinf chking
bridge over culvert no surcharge
handrails/toe bds around perimeter
tower crane in stair core

I also drew little sk's to go with the above where appropriate

Programme

22 months (too long! More like 12-18m)

other things…
Mentioned prog collapse 2b, exhibition hall so hanging things onto walls..additional load

Initial thoughts at the start I used the spider diagram which I hated but ran with, this and programme did on A3 sheets (it will give you more room)