

Professional Engineering Exam Review

- The companion Real Media® file covers the format of the Civil Engineering Exam plus an exam strategy and includes complete audio explanation of the slides
- Time management is also discussed
- This presentation was created by
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PE Exam Options – Civil Engr.

- Environmental Engineering
- Structural Engineering
- General Civil Engineering
 - ❖ **AM Portion**
 - Environmental Engineering
 - Geotechnical Engineering
 - Structural Engineering
 - Transportation Engineering
 - Water Resources
 - ❖ **PM Portion**
 - Select **one** of the five topic areas from AM

ITRE's PE Exam Review

- **Civil Engineering Only**
 - ❖ **Environmental Engineering**
 - ❖ **Geotechnical Engineering**
 - ❖ **Hydraulics**
 - ❖ **Materials and Construction**
 - ❖ **Structural Engineering**
 - ❖ **Transportation Engineering**
 - ❖ **Water Resources**

General Civil Engineering Exam Format

- Effective October 2000, the exam is now in a breadth (AM) and depth (PM) format

TOPIC	AM Portion # questions (%)
Environmental	8 (20%)
Geotechnical	8 (20%)
Structural	8 (20%)
Transportation	8 (20%)
Water Res.	8 (20%)

AM Strategy

- Comprehensive morning exam (**breadth** portion)
- Must know three areas very well
- Must know one other area well
- Look for “**low hanging fruit**” in the last area
- **Manage your time**

General Civil Engineering Exam Format

- Effective October 2000, the exam is now in a breadth (AM) and depth (PM) format

TOPIC	AM Portion # questions (%)	PM Portion # questions (%)				
		Environ.	Geotech.	Structures	Transp.	Water Res.
Environmental	8 (20%)	26 (65%)	4 (10%)			10 (25%)
Geotechnical	8 (20%)	4 (10%)	26 (65%)	10 (25%)	6 (15%)	4 (10%)
Structural	8 (20%)		8 (20%)	26 (65%)		
Transportation	8 (20%)		2 (5%)	4 (10%)	26 (65%)	
Water Res.	8 (20%)	10 (25%)			8 (20%)	26 (65%)

PM Strategy

- Your exam booklet will contain problems for all the five topic areas
- Have a **preferred** topic area and a **backup** topic area
- Scan both problem sets to determine if one appears easier than the other (10 minutes)
- Select one of the two topic areas and begin working problems (depth portion)
- **Manage your time**

Target Score

- Preliminary indications are you will need to score at least 70% of the possible points to have a chance of passing the exam
- With a total of 80 points, this means

$$80 \times 0.70 = \underline{56+ \text{ pts}}$$

Time Management

■ AM Portion

- ❖ 4 hours equals 240 minutes
- ❖ 10 minutes for final checking
- ❖ 15 minutes for low-hanging fruit in 5th area
- ❖ $240 - 25 = 215$ minutes left for four areas
- ❖ 50 minutes x 4 areas = 200 minutes
- ❖ $215 - 200 = 15$ minutes for one to two workable problems, but difficult
- ❖ 50 minutes per area equals about 6 minutes per problem (average)

Time Management

■ AM Portion

- ❖ Start with finding the problems in your main three areas
- ❖ Select one area and work for 50 minutes in that area (scan all problems before starting in on the first problem – 2 min.)
- ❖ Solve for qualitative problems first
- ❖ Solve for easier quantitative problems next
- ❖ Solve more more difficult problems last
- ❖ After 50 minutes quit and move on to the next topic area and repeat above process

Time Management

■ AM Portion

- ❖ For the fourth area, proceed as before, this time skipping the more difficult problems
- ❖ If you have worked all but the more difficult problems, and cannot work them, reserve any remaining time out of the 50 minutes
- ❖ Go to the fifth area and solve for only the easiest problems within the 15 minutes
- ❖ After this, if you have any reserve time, go back to your main three areas and pick a problem or two to solve

Time Management

- **AM Portion**

- ❖ You should now have about 10 minutes left to look over your answer sheet and mark an answer for any missing question

- **LUNCH**

- ❖ You may not be given a full hour for lunch. Plan on packing your lunch so you don't have to leave the exam site and drive somewhere and get back.
- ❖ Take this time to calm down and regroup for the afternoon exam

Time Management

- **PM Portion**
 - ❖ **4 hours equals 240 minutes**
 - ❖ **10 minutes for final checking**
 - ❖ **10 minutes to quickly scan problems in your main topic area and your backup topic area, especially focusing on the questions in the 35% portion**
 - ❖ **Select the topic area that appears to more closely match with your studies**
 - ❖ **240 – 20 = 220 minutes**

Time Management

■ PM Portion

- ❖ $220 \times 0.65 \approx 145$ minutes
- ❖ $145 \div 26 \text{ prob} = 5.6$ minutes/prob
- ❖ $220 \times 0.35 \approx 75$ minutes
- ❖ $75 \div 14 \text{ prob} = 5.4$ minutes/prob
- ❖ Within each sub-category, proceed working problems from easiest to hardest
- ❖ If you have any reserve time, work the hardest problems
- ❖ During the last 10 minutes, mark an answer for any missing questions

Scoring

AM PORTION			PM PORTION		
Area	% Correct	Pts	Area	% Correct	Pts
1 st	8 x 0.88	7	Main	26 x 0.73	19
2 nd	8 x 0.88	7	Minors	14 x 0.71	10
3 rd	8 x 0.75	6	Total PM =		29
4 th	8 x 0.63	5	27 + 29 = 56 pts		
5 th	8 x 0.25	2			
Total AM =		27			

27/40 = 68% correct

Scoring

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1 st	8 x 0.88	7	Main	26 x 0.73	19
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3 rd	8 x 0.75	6	Total PM =		29
4 th	8 x 0.63	5			
5 th	8 x 0.25	2	27 + 29 = 56 pts		
Total AM =		27			

Closing Comments

- This presentation is one strategy for scoring 56 points
- You may develop another strategy that works for you
- This strategy maximizes finding the easiest problems and working them first
- The hardest problems are worked last within the time for each category of problems
- You will still miss problems you work, as well as picking up some points for guessing on other problems
- **GOOD LUCK!**