



**SOPEEC**

**STANDARDIZATION OF POWER ENGINEERS EXAMINATIONS COMMITTEE**

# **IPECC Meeting**

**June 16 – 18, 2014**

**Presented by**

**SOPEEC Coordinator  
of  
Examinations**



## Outline

- I. Power Engineer Certification (PEC)  
Syllabi & Curriculum
- II. 2014 Exams
- III. Update on Codes and Standards
- IV. Preparation for the SOPEEC Exams
- V. 2013 Statistics and Trends
- VI. Summary



## **I PEC Syllabi & Curriculum**

- 5 year Syllabi, Curriculum, Course Material and Exam Bank review cycle established in 2006
- Need input from industry and training providers to define syllabus topics in line with modern technology, environmental requirements and industry needs



- Started the 2<sup>nd</sup> round of syllabus review in 2012 (5<sup>th</sup> Class).
- Starting the 3<sup>rd</sup> Class syllabus review this year.
- New Corrosion topic added to 2<sup>nd</sup> Class Part A Paper 2 – effective July 1, 2011 and has started testing on January 1, 2014.



- The target implementation date for the 3B1 new multiple-choice examination format is January 1, 2016.
- Require to establish a Logical progression from 5<sup>th</sup> to 1<sup>st</sup> Class for key syllabus topics – IPECC task force



## II. 2014 Exams

- Continue to use improved format and layout established in 2008
- Continue construction of new exams based on best practices
- Continue to add more diagrams & charts to questions



## III. Update on Codes and Standards

- The 2014 edition of CSA B51 was published in February, 2014.
- The 2013 edition of CSA B52 was published in December, 2013.
- The use of the 2007 edition of ASME Extract and Supplements has been extended to July 1, 2018.



## IV. Preparation for Exams

- Exam questions are constructed based on the syllabi with reference to the curriculum document.
- Answer guides are based on published course materials, regulations, codes & standards and practical operating experiences.





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- Reference materials posted on the IPECC website may be used if the published course material do not provide complete information or examples.
- Exam sample questions and techniques for improving marks are posted on the SOPEEC website.



## To pass an exam paper:

- study all syllabus topics
- familiarize yourself with materials that are allowed in the exam room
- manage your time



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- For essay-type questions, provide answers that are specific to the question asked, in accordance to the marks assigned.
- Be prepare to provide diagrams and charts. (practice – practice)



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## Typical Exam Questions

- Types of designs
- Process
- Key components
- Principle of operation
- How the system works



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# Typical Exam Questions

- Applications
- Limitations
- Advantages
- Disadvantages, and
- Materials used



## V. Statistics and Trends (1)

### 10 Year Trend for Total Exams per Class

10 Year Trend for Total Exams Attempted Per Class										
CLASS	04/05	05/06	06/07	07/08	08/09	09/10	10	11	12	13
First	605	648	604	557	845	801	752	767	738	763
Second	1982	2217	1994	2197	2612	3100	2360	2594	2523	2598
Third	3572	3544	3816	4088	4472	5509	5017	5044	5555	5910
Fourth	3934	4356	4580	4485	5147	5495	5344	5406	5703	7011
Fifth	N/A	N/A	515	444	516	481	576	599	672	641
<b>Total</b>	<b>10093</b>	<b>10765</b>	<b>11509</b>	<b>11771</b>	<b>13592</b>	<b>15386</b>	<b>14049</b>	<b>14410</b>	<b>15191</b>	<b>16923</b>



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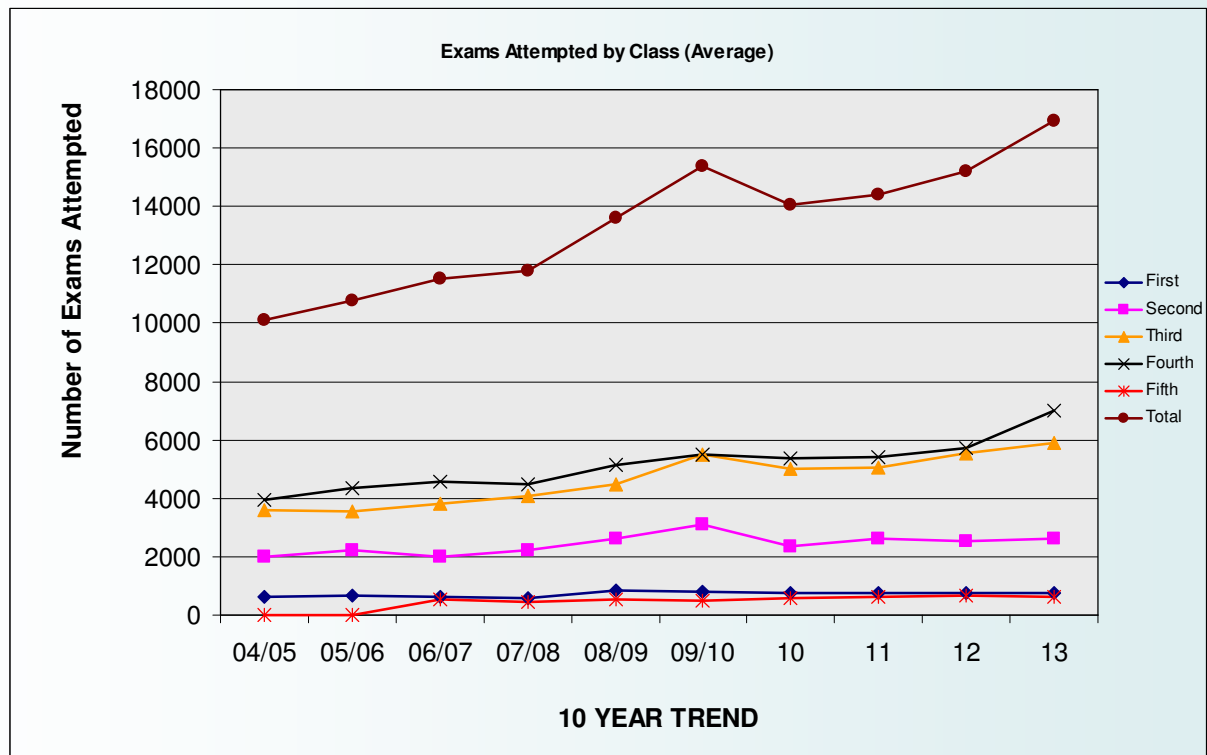
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## 10 Year Trend for Total Exams per Class

CLASS	2004-2005	2009-2010	2012	2013	% Change for Exams Attempted		
					1 Year	5 Years	10 Years
First	605	801	738	763	3.39%	-4.74%	26.12%
Second	1982	3100	2523	2598	2.97%	-16.19%	31.08%
Third	3572	5509	5555	5910	6.39%	7.28%	65.45%
Fourth	3934	5495	5703	7011	22.94%	27.59%	78.22%
Fifth	N/A	N/A	672	641	-4.61%	N/A	N/A
<b>TOTAL</b>	<b>10093</b>	<b>15386</b>	<b>15191</b>	<b>16923</b>	<b>11.40%</b>	<b>9.99%</b>	<b>67.67%</b>



## 10 Year Trend for Total Exams per Class







## V. Statistics and Trends (2)

### 10 Year Percentage of Candidates Passing by Class

											Ten Years April 1, 2004 - December 31, 2013			
	04-05	05-06	06-07	07-08	08-09	09-10	10	11	12	13	Ave.	High	Low	SD
<b>1st</b>	66	65	64	58	69	64	60	52	65	65	63	69	52	5
<b>2nd</b>	59	65	60	52	57	58	60	53	59	61	58	65	52	4
<b>3rd</b>	64	59	59	56	59	55	62	56	64	66	60	66	55	4
<b>4th</b>	61	60	61	55	58	55	62	53	67	63	60	67	53	4
<b>5th</b>			52	48	55	47	52	51	47	45	50	55	45	3
<b>Average</b>	<b>62</b>	<b>61</b>	<b>60</b>	<b>55</b>	<b>59</b>	<b>56</b>	<b>61</b>	<b>54</b>	<b>64</b>	<b>63</b>	<b>60</b>	<b>64</b>	<b>54</b>	<b>3</b>

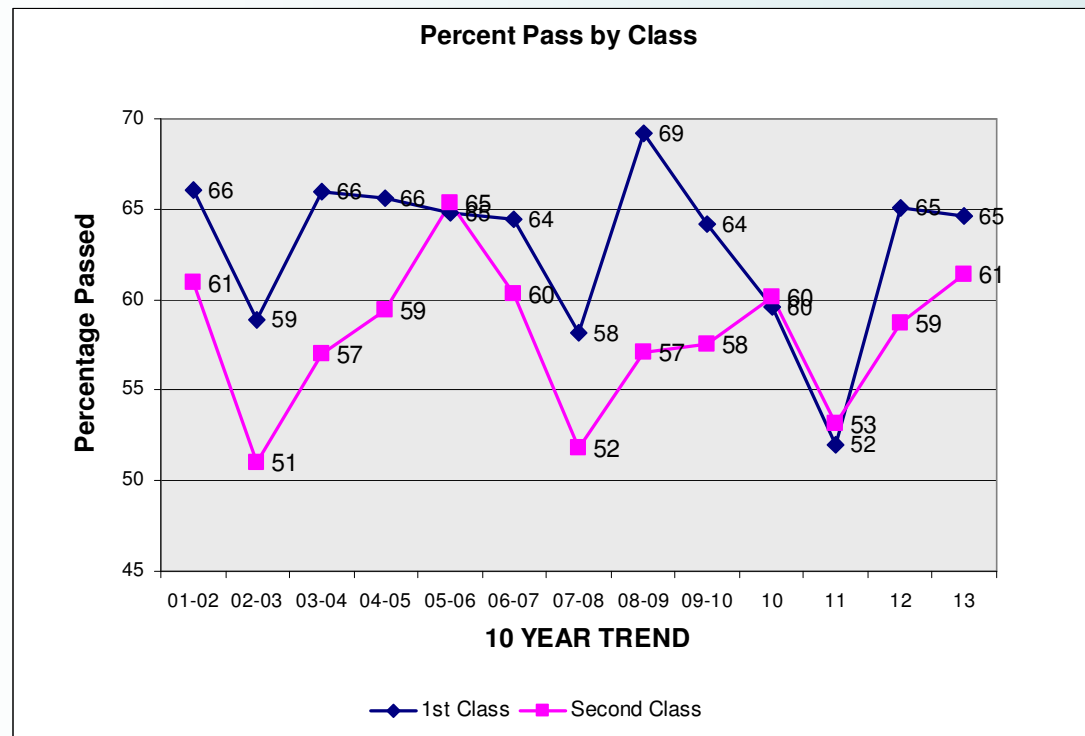


## 10 Year Average Percentage Pass by Class

	Accumulated Ten Year Average Apr. 1, 2004 - Dec. 31, 2013			Accumulated Average % of Candidates Passing Over Two, Five & Ten Years				% Change		
	High	Low	SD	2004/ 2005	2009/ 2010	2012	2013	Over 10 Years	Over 5 Years	One Year
<b>1st</b>	69	52	5	63	62	65	65	2%	3%	0%
<b>2nd</b>	65	52	4	58	58	60	61	5%	6%	2%
<b>3rd</b>	66	55	4	60	60	65	66	9%	9%	1%
<b>4th</b>	67	53	4	60	60	65	63	6%	6%	-3%
<b>5th</b>	55	45	3	50	49	46	45	-10%	-10%	-2%
<b>Average</b>	<b>64</b>	<b>54</b>	<b>3</b>	<b>60</b>	<b>59</b>	<b>63</b>	<b>63</b>	<b>6%</b>	<b>6%</b>	<b>0%</b>



## 10 Year Percentage Pass for 1st and 2nd Class

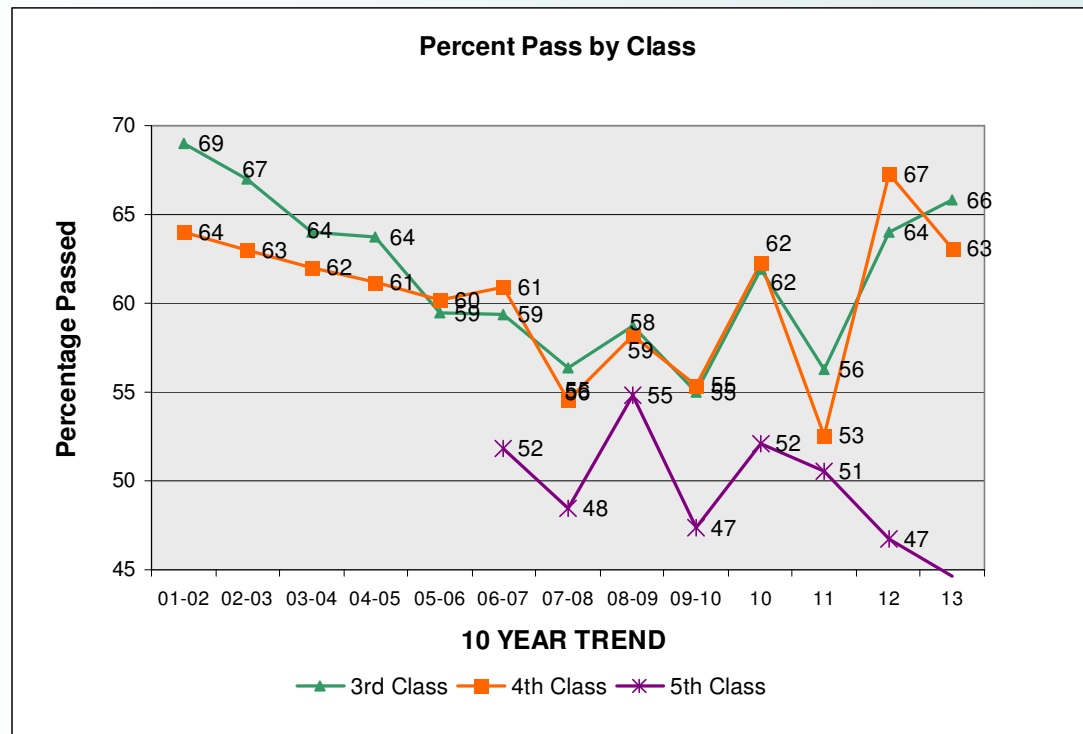




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## 10 Year Percentage Pass for 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> Class





## V Summary

It has been a long journey to come to this stage.

The process that we have developed is achieving our objectives.



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The academic requirements for the power engineer profession has been serving us well in the past.

Now is the time to meet our new objectives in the refinement of the power engineering syllabus and curriculum to meet the needs of tomorrow's power engineers.



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As a team, the Colleges, Industries, Publishers, and Jurisdictions must continue to be part of the solution and strengthen our communication strategy.

Thank you for your contribution and support.