The College Board

Advanced Placement Examination

EUROPEAN HISTORY

SECTION II

Part A

(Suggested writing time--45 minutes)

Percent of Section II score--45

**Directions**: The following question is based on the accompanying Documents 1-8. (Some of the documents have been edited for the purpose of this exercise.)

This question is designed to test your ability to work with historical documents. As you analyze the documents, **take into account both the sources of the documents and the authors' points of view.** Write an essay on the following topic that integrates your analysis of the documents; in no case should documents simply be cited and explained in a "laundry list" fashion. In your interpretation of the documents you may refer to relevant historical facts and developments not mentioned in the documents.

Analyze and discuss attitudes and reactions toward the participation of women in the sciences during the 17th and 18th centuries.

**Historical background**

While rarely acknowledged, women actively participated in scientific research in chemistry, astronomy, biology, botany, physics, and medicine. Although most European universities and academies of science excluded women entirely, in Italy a few women held professorships in science and mathematics. Women translated scientific works on physics, astronomy, entomology, and anatomy; they also participated in scientific discussions held in salons.

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|  **Document 1** |
|  Johann Eberti, describing the German astronomer Marie Cunitz, whose 1650 book on astronomical tables clarified the work of Johannes Kepler |
|  She was so deeply engaged in astronomical speculation that she neglected her household. The daylight hours she spent, for the most part, in bed because she had tired herself from watching the stars at night. |

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|  **Document 2** |
|  Marie Meurdrac, French scientist, forward to her "Chemistry Simplified for Women" 16666 |
|  When I began this little treatise, it was solely for my own satisfaction. I objected to myself that it was not the profession of a lady to teach; that she should remain silent, listen and learn, without displaying her own knowledge. On the other hand, I flattered myself that I am not the first lady to have had something published; that minds have no sex and that if the minds of women were cultivated like those of men, they would be equal to the minds of the latter. |

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|  **Document 3** |
|  Samuel Pepys, English diarist, 1667 |
|  After dinner, I walked to a meeting of the Royal Society of Scientists in expectation of the duchess of Newcastle (author of "A World Made by Atoms," 1653), who had desired to be invited to the Society. She was invited after much debate, pro and con; it seems many being against it. The duchess hath been a good, comely woman; but her dress so antique and her deportment so ordinary, that I do not like her at all, nor did I hear her say anything that was worth hearing. |
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|  **Document 5** |
|  Maria Sibylla Merian, German entomologist, "Wonderful Metamorphoses and Special Nourishment of Caterpillars," 1679 |
|  Since my youth, I have studied insects. When I realized that butterflies and moths develop more quickly than other caterpillars, I collected all the caterpillars that I could find, in order to observe their metamorphosis. Thus, I withdrew from human society and engaged exclusively in these investigations. In addition, I learned the art of drawing so that I could draw and describe them as they were in nature. |

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|  **Document 6** |
|  Gottfried Kirch, German astronomer, husband of Maria Winkelmann, 1680 |
| Early in the morning (about 2:00 a.m.), the sky was clear and starry. Some nights before, I had observed a variable star, and my wife (as I slept) wanted to find and see it for herself. In so doing, she found a comet in the sky. At which time she woke me, and I found that it was indeed a comet. I was surprised that I had not seen it the night before. |

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|  **Document 7** |
| Gottfried Leibniz, German mathematician and philosopher, 1697 |
| I have often thought that women of elevated mind advance knowledge more properly than do men. Women, whose position puts them above troublesome and laborious cares, are more detached and therefore more capable of contemplating the good and the beautiful. |

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|  **Document 8** |
|  Johann Theodor Jablonski, secretary to the Berlin Academy of Sciences, letter to the Academy president opposing Maria Winkelmann's application for membership in the Academy, 1710 |
|  I do not believe that Maria Winkelmann should continue to work on our official calendar of observations. It simply will not do. Even before her husband's death, the Academy was ridiculed because its calendar was prepared by a woman. If she were to be kept on in such a capacity, mouths would gape even wider.

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|  **Document 4** |
|  Johannes and Elisabetha Hevelius using a sextant to collaborate on astronomical research. Johanes Hevelius, "The Heavenly Machine," 1673 |
|  http://thecaveonline.com/APEH/dbqwomenscience.gif |

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