EUROPEAN HISTORY
SECTION II
Part C
(Suggested planning and writing time—35 minutes)
Percent of Section II score—27 1/2

Directions: You are to answer ONE question from the three questions below. Make your selection carefully, choosing the question that you are best prepared to answer thoroughly in the time permitted. You should spend 5 minutes organizing or outlining your answer. Write your answer to the question on the lined pages of the Section II free-response booklet, making sure to indicate the question you are answering by writing the appropriate question number at the top of each page.

Write an essay that:

- Has a relevant thesis.
- Addresses all parts of the question.
- Supports thesis with specific evidence.
- Is well organized.

5. Compare and contrast the economic factors responsible for the decline of Spain with the economic factors responsible for the decline of the Dutch Republic by the end of the seventeenth century.

6. Analyze various ways in which the Thirty Years' War (1618-1648) represented a turning point in European history.

7. Analyze how Galileo, Descartes, and Newton altered traditional interpretations of nature and challenged traditional sources of knowledge.

STOP

END OF EXAM

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Question 7

Analyze how Galileo, Descartes, and Newton altered traditional interpretations of nature and challenged traditional sources of knowledge.

9–8 Points

- Thesis is explicit and addresses both traditional interpretations of nature and challenges to sources of knowledge (themes).
- Organization is clear, consistently followed, and effective in support of the argument.
- Essay is well balanced and identifies and explains contributions of the three men toward BOTH interpretations of nature and sources of knowledge.
- Contributions of each individual (Galileo, Descartes, and Newton) are supported and fully substantiated by several specific pieces of relevant evidence (three individuals = five to six specifics total).
- May contain errors that do not detract from the argument.

7–6 Points

- Thesis is explicit and responsive to the question. Discusses either interpretation of nature OR sources of knowledge without development.
- Organization is clear in support of the argument.
- Essay is balanced and identifies and explains contributions of the three individuals. Two or three individuals must be linked to either interpretations of nature OR sources of knowledge, and both themes must be addressed at some point. Links to interpretations or sources are clearly demonstrated.
- Contributions of each individual are partially supported by specific evidence with at least one specific piece for each individual (three individuals = three to four specifics).
- May contain minor errors that detract from the argument (including linking Descartes with observational science).

5–4 Points

- Thesis is explicit but not fully responsive to the question (may not clearly identify interpretations of nature or sources of knowledge).
- Organization is clear and effective in support of the argument but not consistently followed.
- Each individual must be addressed, but a clear lack of balance may be evident.
- Several pieces of specific, relevant evidence (two to three) that address at least two of the individuals are included.
- Contains a limited discussion of the two themes (traditional interpretations of nature or sources of knowledge) or a thorough discussion of one.
- Weaker essays may contain major errors.

3–2 Points

- Does not contain an explicit thesis, or the thesis merely repeats/paraphrases the question.
- Organization is unclear and ineffective; it does not support analysis.
- Essay shows serious imbalance; themes demanded by the question are neglected.
- May only mention themes (interpretations of nature or sources of knowledge) without discussion or analysis.
- Does not discuss one of the three individuals, and those that are discussed are supported only by generic evidence; discussion may ramble.
- Weaker essays may contain major errors that detract from the argument.

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Question 7 (continued)

1–0 Points

- No discernable attempt at a thesis, or thesis is off task.
- No discernable organization.
- One or none of the major themes (interpretations of nature and sources of knowledge) suggested by the question is mentioned.
- Typically may contain a single specific valid reference to an individual.
- May mention some or all of the individuals without correct supporting evidence or attempted explanations.
- May contain numerous errors that detract from the argument.

Note: Traditional interpretations of nature include a geocentric world (Aristotle/Ptolemy), superstitions, and religious views (perfection of natural world). Traditional sources of knowledge include the Church, the Bible, classical authors, and scholastics.

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Question 7 Historical Background

This question was intended to elicit students' knowledge of the Scientific Revolution as exemplified by the work of three of the most important figures of the age. The prompt suggests two themes. A discussion of alterations to traditional interpretations of nature should include some account of how the work of Galileo, Descartes, and Newton differed from earlier constructions of the cosmos and humanity's place in it. A discussion of challenges to traditional sources of knowledge should include some consideration of how the three broke with the well-established methods and principles of science.

Two of the predominant issues of the times are suggested by the themes of the prompt: altered traditional interpretations of nature and challenges to traditional sources of knowledge. These themes are in fact not completely separable, although most students made an attempt to do so.

Alterations of traditional interpretations: Common to all three was a challenge, whether implicit or explicit, to the Aristotelian and classical worldview espoused by scholastic philosophers and endorsed by the Catholic Church. Galileo explicitly challenged the classical model of a geocentric universe, which in the version endorsed by the Church encompassed moral as well as physical dimensions. Galileo also challenged the notion of a separation between the unchanging perfect heavens and the unstable, imperfect sublunary world. Newton systematized Galileo's insight about the fundamental unity of the earthly and the celestial realms and raised the possibility of a purely mechanistic universe driven by predictable laws.

Challenges to traditional sources of knowledge: The alteration of traditional interpretations of nature carried with them an implicit or explicit refutation of the authorities that had helped form those interpretations. Galileo's account of the universe conflicted with both the Bible and classical authorities such as Aristotle and Ptolemy. Descartes's concentration on reasoning based on empirical observation and deduction from first principles left no room for revelation. Descartes's and Newton's creation of mathematical descriptions of natural phenomenon established a new scientific practice that would generate knowledge not from established authorities but from careful experimentation, observation, and formulation of new mathematically grounded descriptions.

The following is a select listing of the type of information students could be expected to know based on general textbooks currently in use.

Galileo Galilei, 1564–1642

- Telescope, 1609.
- Moon was rough, imperfect, like the Earth, hence not composed of some perfect celestial substance.
- Leaning Tower Trial (1591) showed that objects fall toward the Earth at equal rates regardless of weight.
- Experimental method.
- *Two New Sciences.*
- Law of Inertia.
- Discovered four moons of Jupiter.
- *Sidereus Nunicus* (*Starry Messenger*) examines the moon.
- Pope Urban VIII allowed Galileo to write *Dialogue on the Two Chief Systems of the World,* 1632.
- Galileo's trial became symbol of conflict between religious belief and scientific thinking.