1. Briefly explain in which way the philosophies of John Locke, Georg Friedrich Hegel, and Thomas Hobbes can be regarded as providing philosophical foundations to mercantilism, classical economics, and Marxism.

Thomas Hobbes argued that all human actions are motivated by the fear of violent death. To avoid constant war, free people are willing to sign a social contract in which they give all rights to the government—a strong monster (the Leviathan) whose only obligation is to protect citizens from civil war. Thus the sovereign has absolute power—not because of a divine ordering by nobility or rank (as assumed by the scholastics), but because of the social contract.

The mercantilists argued that gold and silver are the most desirable forms of wealth. (Thus they did not trust the Leviathan to refrain from printing paper money at will.) To increase the money supply, it was therefore necessary for a country to have an export surplus. Mercantilist theories generally showed a strong nationalism. (They trusted their own government to protect them from civil war, but they did not trust the other nations from starting a war.) Thus the mercantilists advocated a strong central government (the strong Leviathan), which would ensure that all trade was directed towards export and as little energies as possible were wasted with local trade. To foster production, the mercantilists advocated a poor and hard working population. (Because the government has no obligation to the citizens other than maintaining the peace, citizens could not complain that they needed to obtain larger shares of the national output.)

Like Thomas Hobbes, John Locke argued that the individual is free in the state of nature. Unlike Hobbes, he did not view the state of nature as a state of constant war, because he argued that free humans would be bound by the law of nature—individual freedom and the property to support this freedom. Thus humans have a moral obligation to coexist peacefully. (The human ability to reason would enable them to discern the laws of nature.) Nevertheless, people will recognize that governments can be useful—they can protect the moral citizens against those few who are unable to follow the laws of nature, and governments can provide (public) goods that markets do not provide.

The classical economists generally focused on the actions of individuals, and believe in the intrinsic harmony of markets. They emphasized the importance of private property for market transactions, and argued that the government ought to interfere in the market as little as possible. These views are much closer to the Lockean views of peaceful human interactions than to the Hobbesian views of constant struggle.

Georg Friedrich Hegel sought to explain the changes in human understanding over time, thereby providing a philosophy of history. He argued that history can be understood through the notion of the Geist, the joint “mind” of humanity, which learns and ultimately will come to understand its purpose.

Karl Marx sought to explain the changes in economic conditions over time with the goal of developing a scientific theory of the changes in the means of production and class struggle. Where Hegel thought he could predict the destiny of humanity (understanding its own purpose), Marx thought he could predict the final stage in the succession of class struggles over the organization of production (slavery, feudalism, capitalism, communism)
Grading: 3 points for the philosophy of Thomas Hobbes.
            3 points for the philosophy of John Locke.
            3 points for the philosophy of Georg Friedrich Hegel.
            4 points for why Hobbes provides a philosophical foundation for Mercantilism
            4 points for why Locke provides a philosophical foundation for Classical Economics
            3 points for why Hegel provides a philosophical foundation for Marxism
2. In the introduction and the first three chapters of the “Wealth of Nations,” Adam Smith explains his understanding of the Nature and the Causes of the Wealth of Nations.

(a) Briefly explain what he regards as the nature of the Wealth of Nations.

(b) Briefly summarize the first three chapters of the Wealth of Nations to explain the logic of Smith’s argument regarding the main cause of the Wealth of Nations.

(a) At the beginning of the introduction, Smith wrote

The annual labor of every nation is the fund which originally supplies it with all the necessaries and conveniences of life which it annually consumes and which consist always, either in the immediate produce of that labour, or in what is purchased with that produce from other nations.

Smith argued that the wealth of a nation is based on the nation’s annual supply of labor, because labor is the origin of all output.

(b) Chapter I. Claim: The division of labor leads to large increases in productivity.

Why?
1. Specialization leads to increases in skills
2. Specialization leads to economies of scale
3. Specialization makes workers more aware of the possibilities to innovate

Chapter II. Question: Why would there be a division of labor?

1. Humans are able to specialize because they have a natural tendency to barter and to exchange.
2. Humans need to specialize because they are generally not self-sufficient, and they cannot expect that their neighbors supply them with the necessities of life out of the goodness of their hearts.
3. Humans have an incentive to specialize because of the certainty that they can exchange (and keep) the surplus that they gain through specialization.

Chapter III. Claim: The extent of specialization is limited by the extent of the market.

How?
1. Specialization depends on how much can be sold.
2. Transportation enlarges the market; the cheaper transportation, the larger is the market.

Grading: 5 points for (a)
5 points for Chapter I
5 points for Chapter II
5 points for Chapter III
3. Briefly explain
(a) Jeremy Bentham’s “Felicific calculus.”
(b) in what respect Jeremy Bentham’s philosophical framework differs fundamentally from that of John Locke.

(a) The “Felicific calculus” provides a blueprint of how to determine whether an act or a government policy is desirable or not. This is done by
(i) determining all persons who are affected by the policy.
(ii) determining the pleasure that every person receives from the policy (in the first instance as well as in all subsequent instances)
(iii) determining the pain that every person receives from the policy (in the first instance as well as in all subsequent instances)
(iv) summing all the pleasures and pains and comparing the balance. If the sum of pleasures exceeds the sum of pains, then the policy is desirable. Otherwise, it is not desirable.

(b) In Bentham’s framework, the desirability of activities is determined exclusively by the outcome of the activity. If the sum of pleasures exceeds the sum of pains in the *Felicific Calculus*, then the activity is desirable. The activity itself does not matter, only its outcome. Bentham’s framework has room for rights only insofar as a right increases overall utility.

John Locke’s framework is built upon the concept of natural law, which he uses to deduce certain natural rights (for example, the right to freedom, which implies [in his mind] the right to personal property). The implications of these rights for overall utility are irrelevant. Even if it were possible to increase overall utility by abolishing a particular right, the government is not at liberty to do so because the existence of these rights precedes the existence of government. In Bentham’s framework, all rights are adopted and implemented by the government, and there are no “natural rights” that would precede the government. The government is therefore free to abolish a right if this were to increase overall utility.

Grading: 8 points for the explanation of the felicific calculus
5 points for the explanation of Bentham’s framework
5 points for the explanation of Locke’s framework
2 points for the description of the difference between the two frameworks
4. **Briefly explain**

(a) **what policy Henry George proposed.**

(b) **the expected economic effects of the different parts of this policy.**

(c) **Henry George’s main reason for proposing this policy and how this reason differs from that advanced by the Physiocrats.**

(a) Henry George proposed to implement a single tax on rent—thus the proposed to tax only land and to abolish all taxes on labor and capital.

(b) Removing taxes from labor and capital increases the incentives to work and to save. Imposing taxes on land does not provide an incentive to use less land because taxes on land cannot be shifted from owners to users of land. But taxes on land provide an incentive against leaving land unused (land speculation), so one would expect that taxes on land provide an incentive to use more land.

Thus the overall economic effect of the single tax would be to provide the incentive to use land, labor, and capital more intensively.

(c) Henry George argued that private property in land is unfair, and he proposed a tax on land to capture (part of) the flow of rent for public use. At the same time, he argued that the proceeds from labor and capital ought belong to the worker and the owner of capital. Thus he proposed a single tax on land because he considered such a tax fair.

The Physiocrats argued that land is the only productive factor and that therefore all taxes ultimately fall on land (taxes on unproductive factors would be shifted to land). Thus the Physiocrats advocated the taxation on land for efficiency reasons.

**Grading:** (a) 6 points

- 2 points for “tax land”
- 2 points for “abolish all taxes on labor and capital”

(b) 10 points

- 3 points for “removing taxes on labor and capital provide incentives to work more and save more”
- 2 points for “taxes on land do not provide an incentive to use less land.”
- 3 points for “taxes on land provide an incentive against land speculation.”
- 2 points for an “the effect of the single tax would be to spur economic growth”

(c) 3 points for George’s argument

- 3 points for the Physiocrats’ argument
6. **Briefly explain**
   (a) why it is logically possible to falsify a theory but it is not logically possible to verify a theory.
   (b) in which way Thomas Kuhn’s notion of “paradigms” is an advance over Karl Popper’s argument that falsified theories must be rejected.

(a) Consider the hypothetical syllogism
   “If A is true, then B is true”
   “A is true, therefore B is true”
   This syllogism is logically correct—it is possible to affirm the antecedent (“A is true”) and then to conclude that, because the antecedent is true, the consequent (“therefore B is true”) must be correct.

However, it is not possible to affirm the consequent (“B is true”) and to conclude that the antecedent must therefore be true as well. We only know that B is true if A is true, but we do not know anything about the conditions under which A is true.

It is, however, possible to deny the consequent. If the truth of the consequent follows from the truth of the antecedent, and we deny the truth of the consequent, then the antecedent cannot be correct either.

Thus if A is a theory that predicts a certain outcome B, then we cannot conclude that the theory is correct if we observe the outcome (because we might also observe the outcome if a different theory is true). However, we can conclude that the theory is not correct (barring the problem of auxiliary theories) if we discover that the predicted outcome B has not occurred.

(b) Kuhn argued that theories are rarely tested in isolation and that most theories can only be tested in the context of auxiliary hypotheses. (See, for example, the notion of “ceteris paribus” in the formulation of the laws of supply and demand.) Thus when one fails to observe a theory’s prediction, it is not clear whether the theory is wrong or whether any of the auxiliary hypotheses failed to hold.

Kuhn argued that theories are part of a general framework of beliefs and hypotheses, which he called a paradigm. Theories that are central to a paradigm are not rejected, even if there is mounting evidence that they are not (fully) correct. We only replace such theories at a time we replace the paradigm of which they are part with a different paradigm that functions without these theories.

**Grading:**
(a) 10 points
(b) 10 points
6. Briefly explain
(a) the difference between positive and normative economics. (5 points)
(b) the meaning of “Hume’s guillotine.” (5 points)
(c) the 3 different political/moral philosophies that have become part of neoclassical economics. (10 points)

(a) Positive economics describes economic behavior and human interactions as well as their effects. Normative economics attaches values to economic outcomes and suggests policies of how to achieve desirable outcomes and avoid undesirable outcomes.

(b) “Hume’s guillotine” says that it is impossible to deduce “ought” from “is.” If we start with factual descriptions of the world, then we cannot conclude that some stages of the world are more desirable than others. To draw normative conclusions, we need to introduce normative assumptions at the outset.

(c) Most of neoclassical economics is influenced by classical liberalism, which emphasizes individual freedom and individual decision-making, consumer sovereignty, and non-paternalism.

The notion of a social welfare function that is maximized by a benevolent social planner is directly based on utilitarianism. (A social welfare function combines the utilities of the individual citizens, so its existence presumes that it is possible to aggregate and compare these individual utilities.)

The Pareto principle (“A situation is efficient if it is not possible to make one person better off without making at least one other person worse off”) is based on conservative philosophies. The Pareto principle presumes that the status quo is an appropriate point of reference (“without making at least one person worse off”) to which one must compare all potential changes. The Pareto principle does not consider whether the status quo was reached with just or unjust means. Conservatism places much emphasis on the status quo which often represents policies that have withstood the test of time.
7. Briefly explain
(a) what the concept of “product exhaustion” means,
(b) why product exhaustion was no problem for David Ricardo’s model,
(c) why product exhaustion posed a problem for marginal productivity theory, and how
eoclassical economists solved the problem.

(a) “Product exhaustion” refers to the requirement that the return to all factors (= cost of production)
must equal the value of output for economic profit to be zero.

(b) In Ricardo’s model rent is determined as a residual—that is, rent is defined as the value of output
minus wages and interest. The price of output is determined on marginal land (= land of the worst
quality) where rent is zero, so the unit price of output equals the sum of wages and interest. The
rent on non-marginal land (= more productive land) is determined as the difference (= leftover)
between the value of output and the sum of wages and interest. This implies that the whole
revenue is always accounted for, because rent is always adjusted so that economic profit is zero.

(c) Marginal productivity theory says that each factor will earn its marginal value product. For
example, if the marginal product of labor is 5 units and each unit sells for $10, then the wage will
be $50. Because the marginal product of each factor is known, the returns to all factors are known.
But the sum of these returns will equal the value of total output only if the production function has
constant returns to scale. Constant returns to scale are a mathematical property that production
functions may have but do not need to have, and it is therefore not obvious why marginal
productivity should predict that product exhaustion (i.e. no positive economic profits) will occur.

The problem was solved by Knut Wicksell in 1902. Wicksell suggested that rather than having
only one production function that could have decreasing, constant, or increasing returns to scale,
all firms may pass through phases of different returns to scale. In the long-run, due to competition
among producers and free entry into the market, a firm will be operating at the point on its
production function at which constant returns to scale exist, and where the firm produces at
minimum cost and makes zero economic profits.

Grading: 2 points for the explanation of product exhaustion
6 points for the explanation of how Ricardo’s leftover principle leads to product exhaustion
6 points for the explanation that product exhaustion in marginal productivity theory requires
production functions with constant returns to scale
6 points for the solution of the problem that distinguishes between the short-run and the long-
run
8. Briefly explain
   (a) Leon Walras’ and Alfred Marshal’s views of how markets reach equilibrium (10 points)
   (b) which characteristic of (competitive) markets each of these two views emphasizes. (10 points)

(a) Leon Walras argued that market adjustments occur through price adjustments—he introduced the
    notion of an auctioneer who would call out prices (the tatonnement process) and buyers and sellers
    would respond to these prices until market equilibrium has been reached.

    Alfred Marshall argued that market adjustments occur through adjustments in the quantity
    supplied. If there is an excess demand for goods at a particular price, firms would enter the market
    until the excess demand can be satisfied. If there is an excess supply of goods, firms would leave
    the market until the excess supply has been eliminated.

(b) Walras’ view emphasizes the flexibility of prices. If prices are not flexible, then competition will
    be unable to lead to the equilibrium price.

    Marshall’s view emphasizes free exit and entry into the market. If there are barriers to entry, then
    existing firms can charge prices above marginal cost because they do not need to fear competition
    from other firms who respond to this opportunity to make an economic profit.
9. **Indicate which of the following 10 statements are true and which are false.**
(Each correct answer is worth 2 points. There is no need for explanations.)

(a) Henry George argued against a labor theory of value and in favor of a land theory of value.

   **False**
   Henry George advocated a single tax on land.

(b) Henry George ran for president of the United States in the 1884 presidential election.

   **False**
   Henry George ran for the position of major of New York in 1886 and 1897 and he ran for Secretary of State in New York in 1887.

(c) Imre Lakatos argued that it was impossible to distinguish between different types of paradigms, and that paradigm-switches are usually the result of cultural changes.

   **False**
   Lakatos introduced the notion of scientific research programs to explain when old paradigms get abolished and new paradigms are accepted.

(d) The notion of Bayesian updating requires that one starts with a prior belief of how an experiment will turn out and then checks whether this belief is correct given the actual outcome of the experiment.

   **True**

(e) Nobel price winner Gunnar Myrdal advocated that economists should strive to develop mathematical models that could be used for positive (as opposed to normative) analyses.

   **False**
   Myrdal argued that economic theory has been developed on normative foundations, and that it would be appropriate to make these normative foundations explicit.

(f) Many conclusions of neoclassical economics are ultimately based on the axiom that “individual preferences count,” and the two observations that “people’s preferences often tend to be fairly similar” and that “there is scarcity.”

   **True**

(g) Carl Menger argued that a good’s value is determined by the ratio of the marginal utility that the good provides and the marginal cost of its production.

   **False**
   Menger argued that a good’s value is determined by the marginal utility that it provides.
(h) The difference between partial and general equilibrium theory is that partial equilibrium theory emphasizes individual decision making while general equilibrium theory emphasizes the joint decisions of multiple persons.

**False**

Partial equilibrium emphasizes what is happening in a subset of markets, holding events in all other markets constant, while general equilibrium theory assumes that prices in all markets adjust, thereby incorporating feed-back effects from those markets that might occur in response to policy shocks.

(i) A key result in neoclassical economics is that, in equilibrium, the ratio of any two prices equals the ratio of the corresponding marginal utilities of consumers.

**True**

(j) In general equilibrium theory, the return to all factors of production is price determining rather than price determined.

**False**

In general equilibrium theory, the prices in all markets are determined simultaneously. Thus they determine the prices in goods markets as much as they are determined by those prices. The two ultimate driving forces that determine prices in general equilibrium theory and consumer preferences and scarcity.