Solution:

1. **B is correct.** A security market index represents a given security market, market segment, or asset class and is normally constructed as portfolios of marketable securities. A is incorrect. A security market index represents a given security market, market segment, or asset class. A benchmark is a comparison portfolio and is used to evaluate the performance of active portfolio managers. C is incorrect. A total return index reflects not only the prices of the constituent securities but also the reinvestment of all income received since inception.

2. **A is correct.** One of the main functions of the financial system is to determine the equilibrium interest rate, which is the only interest rate that would exist if all securities were equally risky, had equal terms, and were equally liquid. B is incorrect. Informational market efficiency is not a key function of the financial system, rather that of regulatory framework C is incorrect. The financial system provides sufficient funding only to the most productive projects. An important function of the financial system is to direct resources away from wealth-diminishing projects.

3. **B is correct.** Operationally efficient markets are liquid markets in which the costs of arranging trades, commissions, bid–ask spreads, and order price impacts are low. A is incorrect. Informationally efficient markets, not the operationally efficient markets, are characterized by prices that reflect fundamental values so that prices vary primarily in response to changes in fundamental values and not to demands for liquidity made by uninformed traders. C is incorrect. Allocationally efficient markets, not the operationally efficient markets, are characterized by using resources where they are most valuable.

4. **A is correct.** The value of the price-weighted index is determined by dividing the sum of the security values by the divisor, which is typically set at inception to equal the initial number of securities in the index. In the case of a stock split, the index provider must adjust the value of the divisor by dividing the sum of the constituent prices after the split by the value of the index before the split. This adjustment results in a new divisor that keeps the index value at the same level as before the split. The new divisor will then be used to calculate the index value after the split.

$$\text{Index before the split} = \frac{10 + 20 + 60}{3}$$

$$= 30$$

$$\text{New divisor, } X\text{: } 30 = \frac{10 + 20 + 20}{X}$$

$$X = 1.67$$

$$\text{Index after the split} = \frac{12 + 19 + 22}{1.67}$$

$$= 31.7$$

B is incorrect. It calculates the changes in prices and uses it to derive the new index.

C is incorrect. It uses price after split to calculate the new divisor.

5. **B is correct.** Style indexes represent a group of securities classified according to market capitalization, value, and growth or a combination of these characteristics. Therefore, the new index will most likely be a style index with a value classification.

   A is incorrect. Large-capitalization indexes represent and track the largest securities in terms of market capitalization. They do not represent the category of value stocks.

   C is incorrect. Fundamentally weighted indexes use measures such as book value, cash flow, revenues, earnings, dividends, and number of employees to weight the constituent securities. Securities of different styles and sectors could be included in the same fundamentally weighted index. Therefore, fundamentally weighted indexes do not represent the category of value stocks.