

Exam

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) Which of the following statements is true? 1) _____
- A) A worker who shirks work is not an economic agent.
 - B) A street gang is not an economic agent.
 - C) All economic agents are necessarily individuals.
 - D) A government is an example of an economic agent.

Answer: D

- 2) Which of the following best describes scarce resources? 2) _____
- A) Resources that can only be distributed efficiently by the government
 - B) Resources for which the quantity that people want exceeds the quantity that is freely available
 - C) Resources for which the quantity demanded is the same for all economic agents
 - D) Resources that most people cannot afford to buy

Answer: B

- 3) Which of the following is NOT a scarce resource? 3) _____
- A) Petroleum
 - B) Gold
 - C) Pollution
 - D) iPhones

Answer: C

- 4) In economics, scarcity refers to the situation of: 4) _____
- A) optimizing with the use of limited information.
 - B) having more wants than the amount of available resources.
 - C) sellers setting the prices of their products too high for people to be able to afford them.
 - D) rationing of available goods and services by the government.

Answer: B

- 5) Which of the following statements is true? 5) _____
- A) Scarcity means that there is an imbalance between unlimited resources and limited wants.
 - B) Gold is not a scarce resource.
 - C) If a scarce resource is given away for free, everyone will be able to consume it.
 - D) Both life-saving drugs and ice cream are examples of scarce goods.

Answer: D

- 6) Economic reasoning implies that economic agents will make decisions: 6) _____
- A) by replicating the choices made by other economic agents.
 - B) solely on the basis of tastes and preferences for various options.
 - C) by random selection.
 - D) by comparing the costs and benefits of various options.

Answer: D

- 7) Economics is primarily the study of: 7) _____
- A) how agents choose to allocate scarce resources and how the choices affect society.
 - B) the mental functions and behavior of individuals and groups.
 - C) the problems related to existence and evolution of society.
 - D) the state, nation, government, and politics and policies of governments.

Answer: A

8) Economics is primarily the study of: 8) _____
A) the relationship between matter and its motion.
B) events of the past, and how these events affect present human behavior.
C) agents' choices and their impact on society.
D) the different types of governments and the impact of their policies on a nation.

Answer: C

9) _____ economics is analysis that generates objective descriptions or predictions about the world 9) _____
that can be verified with data.
A) Normative B) Positive C) Marginal D) Negative

Answer: B

10) Which of the following is an example of a positive economic statement? 10) _____
A) Pollution is one of the most serious economic problems.
B) Higher interest rates will encourage more savings.
C) The pricing policies of monopolies should be strictly supervised.
D) Unemployment is more harmful than inflation.

Answer: B

11) Which of the following is an example of a positive economic statement? 11) _____
A) The government should ideally work as a welfare state.
B) Eliminating poverty is more important than reducing inflation.
C) An increase in income causes an increase in savings.
D) Economics is the most useful social science.

Answer: C

12) _____ economics prescribes what an individual or society ought to do. 12) _____
A) Behavioral B) Negative C) Positive D) Normative

Answer: D

13) Which of the following is an example of a normative economic statement? 13) _____
A) A relaxation in import duties will encourage imports.
B) An increase in social security benefits will increase the welfare of all economic agents.
C) An increase in subsidies to farmers will boost agricultural production.
D) A cut in the tax rate will lead to an increase in consumption.

Answer: B

14) Which of the following is an example of a normative economic statement? 14) _____
A) An increase in the money supply will lead to an increase in the inflation rate.
B) An increase in income is accompanied by an increase in consumption.
C) An increase in government expenditure will lead to an increase in well-being.
D) An increase in income is accompanied by an increase in savings.

Answer: C

15) Which of the following statements is true? 15) _____
A) Positive economics deals with issues that are subjective.
B) Normative economic statements can be confirmed or disproven.
C) Normative statements depend on personal preferences.
D) Positive economics recommends what people ought to do.

Answer: C

- 16) Which of the following statements correctly differentiates between positive and normative economics? 16) _____
- A) Positive economics can only be applied to microeconomics, whereas normative economics can be applied to both microeconomics and macroeconomics.
 - B) Positive economics is based on judgments, whereas normative economics is not.
 - C) Positive economics is descriptive, whereas normative economics is advisory.
 - D) Positive economics describes what people ought to do, whereas normative economics describes what people actually do.
- Answer: C
- 17) Positive economics is descriptive because: 17) _____
- A) it prescribes what an individual or society ought to do.
 - B) it explains what has happened or predicts what will happen.
 - C) its predictions cannot be verified with data.
 - D) it is based on ethical judgments.
- Answer: B
- 18) Which of the following statements is true? 18) _____
- A) Normative economics describes what people actually do.
 - B) Normative economics is free from value judgments, tastes, and preferences of economic agents.
 - C) Positive economics generates objective descriptions that can be verified with data.
 - D) Positive economics describes what people ought to do.
- Answer: C
- 19) _____ is the study of how individuals, households, governments, and firms make choices and how those choices affect prices, the allocation of resources, and the well-being of other agents. 19) _____
- A) Macroeconomics
 - B) Monetary economics
 - C) Microeconomics
 - D) Growth theory
- Answer: C
- 20) Which of the following is an example of a topic studied by microeconomists? 20) _____
- A) Price determination by a firm
 - B) National income calculations
 - C) Measures to combat inflation
 - D) Interest rate determination
- Answer: A
- 21) Which of the following is an example of a topic studied by microeconomists? 21) _____
- A) Economic growth as a means to alleviate poverty
 - B) Aggregate demand and aggregate supply in an economy
 - C) Energy consumption by a firm
 - D) Nationwide inflation rate
- Answer: C
- 22) _____ is the study of an economy as a whole. 22) _____
- A) Macroeconomics
 - B) Behavioral economics
 - C) Microeconomics
 - D) Game theory
- Answer: A

- 23) Which of the following is an example of a topic studied by macroeconomists? 23) _____
 A) Price determination by a firm B) Aggregate demand in an economy
 C) Utility maximization by a consumer D) Decision making by a producer
 Answer: B
- 24) Which of the following is an example of a topic studied by macroeconomists? 24) _____
 A) Productivity of an agricultural farm B) Savings of a single household
 C) Total output of an economy D) Price determination by a monopolist
 Answer: C
- 25) Which of the following statements is true? 25) _____
 A) Macroeconomics studies how individuals make choices.
 B) Microeconomics is the study of an economy as a whole.
 C) The study of the inflation rate is covered under microeconomics.
 D) The study of the unemployment rate is covered under macroeconomics.
 Answer: D
- 26) Which of the following statements correctly highlights the difference between microeconomics and macroeconomics? 26) _____
 A) Microeconomics describes what economic agents actually do, whereas macroeconomics describes what economic agents ought to do.
 B) Microeconomics is descriptive, whereas macroeconomics is advisory.
 C) Microeconomics primarily deals with positive analysis, whereas macroeconomics primarily deals with normative analysis.
 D) Microeconomics deals with a small part of the economy, whereas macroeconomics deals with aggregate economic performance.
 Answer: D
- 27) The understanding of why an economy is contracting during slowdowns and how to recommend appropriate policies is studied under: 27) _____
 A) microeconomics. B) agricultural economics.
 C) international economics. D) macroeconomics.
 Answer: D
- 28) Understanding the impact of carbon taxes on the energy usage of individual households and firms is studied under: 28) _____
 A) financial economics. B) microeconomics.
 C) fiscal economics. D) macroeconomics.
 Answer: B
- 29) The relationship between the unemployment rate and inflation is studied under: 29) _____
 A) macroeconomics. B) international economics.
 C) microeconomics. D) behavioral economics.
 Answer: A
- 30) The relationship between a firm's advertising expenditure and its profit is studied under: 30) _____
 A) public economics. B) microeconomics.
 C) macroeconomics. D) international economics.
 Answer: B

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

31) Define economics. Who are economic agents? 31) _____

Answer: Economics is the study of how agents choose to allocate scarce resources and how these choices affect society. An economic agent is an individual or a group that makes choices.

32) What are scarce resources? Why are economic agents concerned with the allocation of these resources? 32) _____

Answer: Scarce resources are resources for which the quantity that people want exceeds the quantity that is freely available. Economic agents need to satisfy their unlimited wants in a world of limited resources. This makes it important for them to understand how these scarce resources are to be used and distributed in order to optimize allocation.

33) Differentiate between positive and normative economics using examples. 33) _____

Answer: Positive economics is analysis that generates objective descriptions or predictions about the world that can be verified with data. It is analysis that describes what people actually do. "A 5% fall in the unemployment rate will lead to a 2% increase in the inflation rate" is an example of a positive economic statement. Normative economics, on the other hand, is analysis that prescribes what an individual or society ought to do. It is subjective and depends on personal preferences, tastes, attitudes, feelings, or ethical judgments. "Pollution in developing countries is one of the biggest global environmental problems" is an example of a normative economic statement.

34) How does microeconomics differ from macroeconomics? 34) _____

Answer: Microeconomics is the study of how individuals, households, firms, and governments make choices, and how those choices affect prices, the allocation of resources, and the well-being of other agents. On the other hand, macroeconomics is the study of the economy as a whole. The scope of macroeconomics extends to the study of economy-wide phenomena, like the growth rate of an economy, the nation-wide unemployment rate, or the inflation rate.

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

35) Robert and Janet are discussing unemployment and inflation in their country. Robert, on the basis of a recent newspaper report, claims that a 5% reduction in unemployment will lead to a 2% rise in inflation. On the other hand, Janet insists that inflation is a far bigger problem than unemployment and should be addressed with prime importance. Classify Robert's and Janet's statements as descriptive or advisory. Explain your answer.

Answer: Robert claims that a 5% reduction in unemployment will lead to a rise in a 2% in inflation. This statement represents predictions that can be verified with data. Therefore, Robert's approach is positive, which means it is an analysis of things as they are. Positive economics describes what has happened or predicts what will happen. The conclusion of his statement can be verified with data and is not subject to his tastes and preferences.

Janet claims that inflation is a far bigger problem than unemployment and should be addressed with prime importance. Janet's statement is normative. Normative economics is analysis that recommends what people ought to do. Unlike Robert's statement, Janet's belief that inflation is a bigger problem than unemployment is based on her values and/or ethical judgments. Therefore, while Robert's statement is descriptive in nature, Janet's statement is advisory.

- 36) Classify the following as positive economics statements or normative economics statements.
- a) An increase in an individual's income increases consumption, but by an amount less than the increase in income.
 - b) The government should undertake the responsibility of providing healthcare to all its citizens.
 - c) A negative current account deficit can be advantageous to an economy.
 - d) An increase in net exports has a positive effect on a country's national income.
 - e) The gross domestic product of India is increasing at 5% annually.

Answer: The statements can be classified as follows:

- a) An increase in an individual's income increases consumption, but by an amount less than the increase in income: Positive economic statement
- b) The government should undertake the responsibility of providing healthcare to all its citizens: Normative economic statement
- c) A negative current account deficit can be advantageous to an economy: Normative economic statement
- d) An increase in net exports has a positive effect on a country's national income: Positive economic statement
- e) The gross domestic product of India is increasing at 5% annually: Positive economic statement

- 37) a) A recent news report stated that the unemployment rate in the country Lithasia had increased from 10.2% to 18.2% from 2003 to 2013 and that the government has adopted strict fiscal measures to expand employment. Would this be considered microeconomic or macroeconomic analysis?

b) Students in a class are discussing how a monopolist should determine his profit-maximizing output. Would this discussion be considered microeconomic or macroeconomic analysis?

Answer: a) This report will pertain to macroeconomics. Macroeconomics refers to the study of an economy as a whole. Macroeconomics covers economy-wide phenomena, like the growth rate of a country's total economic output, the inflation rate, or the unemployment rate. The report suggests that the total unemployment rate in Lithasia has increased from 10.2% to 18.2% from 2003 to 2013. This estimation is a measure of the economy-wide aggregate unemployment, and is covered under macroeconomics.

b) Microeconomics is the study of how individuals, households, firms, and governments make choices. The students are discussing how a single monopolist should determine its profit-maximizing output. This is a discussion of an individual entity and so is considered microeconomic analysis.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 38) Which of the following correctly defines the term "equilibrium"? 38) _____
- A) It refers to analysis that uses data to arrive at conclusions.
 - B) It refers to a situation where all agents are simultaneously optimizing.
 - C) It refers to government intervention that efficiently allocates scarce resources.
 - D) It refers to an optimizing decision made by an individual economic agent.

Answer: B

- 39) Which of the following best describes equilibrium? 39) _____
- A) A situation where only one individual or firm takes an optimum decision
 - B) A situation where economic agents do not optimize as they do not have perfect information
 - C) A situation where no economic agent would benefit by changing his or her behavior
 - D) A situation where the government intervenes to allocate resources

Answer: C

- 40) Empiricism is analysis that uses _____ to test theories. 40) _____
- A) illustrations
 - B) value judgments
 - C) data
 - D) philosophy

Answer: C

- 41) Which of the following is NOT a key principle of economics? 41) _____
A) Equilibrium B) Optimization C) Substitution D) Empiricism
Answer: C

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 42) Define the three key principles of economics. 42) _____
Answer: a) Optimization: Optimization refers to the process of choosing the best option from ; of alternatives, given the available information.
b) Equilibrium: Equilibrium is a special situation where everyone is simultaneously optimizing, so that nobody would benefit personally by changing his or her behavior
c) Empiricism: Empiricism is analysis that is evidence-based as it uses data to test theories and to determine what is causing things to happen in the world.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 43) Which of the following statements is true of optimization? 43) _____
A) Optimization analysis only relates to the financial budget of an economic agent.
B) Economic agents who optimize attempt to choose the best feasible option, given the information that they have.
C) Economic agents can optimize only when they are able to perfectly estimate all future costs and benefits.
D) Individuals who optimize do not consider costs when choosing the most feasible alternative.
Answer: B

- 44) Feasible options are options: 44) _____
A) that are available and affordable. B) that are affordable but not available.
C) that are optimal for an economic agent. D) that are available but not affordable.
Answer: A

- 45) A consumer has \$40 that he wants to spend. He is faced with four options: a camera that costs \$60, 45) _____
a cell phone that costs \$150, a book that costs \$10, and a Bluetooth speaker that costs \$45. Which of the following is a feasible option for the consumer?
A) The cell phone B) The book
C) The Bluetooth speaker D) The camera
Answer: B

- 46) A decision or a choice that is made after using optimization analysis: 46) _____
A) has zero opportunity cost.
B) cannot be justified using normative analysis.
C) is not necessarily risk free.
D) is the same for all individuals.
Answer: C

- 47) Which of the following statements is true? 47) _____
A) The less information that is available, the easier it is to make optimal decisions.
B) An optimizing individual is also likely to exhibit rationality.
C) An optimizing individual need not consider the risks involved in various choices.
D) Optimization requires individuals to foresee the future perfectly.
Answer: B

- 48) Which of the following statements is true? 48) _____
- A) The principle of optimization is only accurate when it comes to making monetary decisions.
 - B) It is not necessary to consider the risks of a particular alternative while making an optimal decision.
 - C) Rational economic agents maximize more than just monetary income.
 - D) An individual does not require information to make optimal decisions.

Answer: C

- 49) Which of the following correctly identifies the trade-off that a budget constraint represents? 49) _____
- A) The amount of income that must be given up to obtain an additional unit of a good
 - B) The optimum combination of goods that a consumer with a given income should purchase
 - C) The maximum amount of two goods that a consumer can purchase given his income
 - D) The amount of one good that has to be given up to purchase an additional unit of the other good

Answer: D

- 50) A budget constraint represents the: 50) _____
- A) goods and services an economic agent can choose given her limited income.
 - B) aggregate income earned by all the firms in an economy.
 - C) total money income that an agent earns in different time periods.
 - D) inequality in the incomes earned by various economic agents.

Answer: A

- 51) Which of the following statements is true? 51) _____
- A) A budget constraint is a function of the income of the consumer and not the prices of the goods and services available for consumption.
 - B) A budget constraint is based on the minimum amount of money that an economic agent can spend on goods and services.
 - C) A budget constraint quantifies the trade-offs that economic agents face while making decisions.
 - D) A budget constraint is the same for a consumer at all levels of income.

Answer: C

- 52) A consumer has \$20 that he wants to spend on two goods: pens priced at \$2 each, and pencils priced at \$1 each. Which of the following correctly represents his budget constraint? 52) _____
- A) $\$20 = (\$2/\text{Quantity of pens}) + (\$1/\text{Quantity of pencils})$
 - B) $\$20 = (\$3/\text{Quantity of pens} + \text{Quantity of pencils})$
 - C) $\$20 = \$3 \times (\text{Quantity of pens} - \text{Quantity of pencils})$
 - D) $\$20 = (\$2 \times \text{Quantity of pens}) + (\$1 \times \text{Quantity of pencils})$

Answer: D

- 53) An individual has 8 hours to spare. He has to divide his time between two activities: reading and writing. Which of the following allocations will exactly satisfy the individual's budget constraint? 53) _____
- A) 4 hours of reading and 6 hours of writing
 - B) 5 hours of reading and 3 hours of writing
 - C) 2 hours of reading and 2 hours of writing
 - D) 3 hours of reading and 4 hours of writing

Answer: B

54) A consumer has \$50 to spend. He has to decide between buying two goods: magazines priced at \$5 each and DVDs priced at \$10 each. Which of the following combinations of the two goods will exactly satisfy his budget constraint? 54) _____
A) 3 magazines and 4 DVDs
B) 2 magazines and 2 DVDs
C) 6 magazines and 1 DVD
D) 2 magazines and 4 DVDs

Answer: D

55) Which of the following statements is true? 55) _____
A) A trade-off refers to the exchange of goods between economic agents through a barter system or mutual exchange.
B) A rational consumer makes his decisions depending on what the majority chooses.
C) A budget constraint is an economic tool that quantifies the trade-off between consumption of two goods.
D) All rational economic agents attempt to maximize their income.

Answer: C

56) The best alternative use of a resource is referred to as its: 56) _____
A) opportunity cost.
B) sunk cost.
C) marginal utility.
D) market price.

Answer: A

57) A student has two options: she can either surf the web, or work part-time. Working part-time pays her \$20 per hour. What is the student's opportunity cost of surfing the web for 5 hours? 57) _____
A) \$100
B) \$50
C) \$20
D) \$4

Answer: A

58) John has to choose between two jobs: one that offers him \$50 per hour and one that offers him \$35 per hour. The opportunity cost of choosing the job that offers him \$50 per hour is: 58) _____
A) \$35 per hour.
B) \$85 per hour.
C) \$1.5 per hour.
D) \$15 per hour.

Answer: A

59) _____ is a calculation that adds up costs and benefits using a common unit of measurement, like dollar values. 59) _____
A) Budget constraint analysis
B) Revenue-income analysis
C) Expenditure-income analysis
D) Cost-benefit analysis

Answer: D

60) Cost-benefit analysis requires: 60) _____
A) all costs and benefits to be measured in the same unit.
B) evaluating the budget constraint before making a choice.
C) choosing the alternative with the least net benefit.
D) that the risks associated with different alternatives are ignored.

Answer: A

- 61) Suppose that Jinelle, an engineer, has to choose between two jobs. Which of the following statements is true? 61) _____
- A) While deciding between jobs, she should consider the wage attributes and ignore the non-wage attributes of each job.
 - B) When deciding between both jobs, she should consider both wage and non-wage attributes of each job.
 - C) While deciding between jobs, she should only focus on the benefits from each job and ignore the costs.
 - D) While deciding between jobs, she should focus only on the costs of each job and ignore the benefits.

Answer: B

- 62) The net benefit of a particular alternative equals: 62) _____
- A) the benefits received from the alternative divided by the costs incurred in choosing the alternative.
 - B) the costs incurred in choosing the alternative divided by the benefits received from the alternative.
 - C) the benefits received from the alternative minus the costs incurred in choosing the alternative.
 - D) the benefits received from the alternative plus the costs incurred in choosing the alternative.

Answer: C

- 63) Out of a set of feasible alternatives, an optimizer should choose the alternative with the: 63) _____
- A) lowest total cost, regardless of benefit.
 - B) highest total benefit, regardless of cost.
 - C) highest net benefit.
 - D) highest opportunity cost.

Answer: C

- 64) If a particular choice that an individual faces gives him a benefit of \$20 but costs \$30, the net benefit from making this choice equals: 64) _____
- A) -\$30.
 - B) -\$10.
 - C) \$20.
 - D) \$10.

Answer: B

- 65) If a job pays a wage of \$50 per hour, but has a non-wage cost valued at \$20 per hour, the net benefit of taking the job equals: 65) _____
- A) \$2.5 per hour.
 - B) \$30 per hour.
 - C) \$70 per hour.
 - D) \$20 per hour.

Answer: B

Scenario: Maria has to choose between driving and taking a train to destination A. Travelling by train will cost her \$400 and will take 4 hours. Driving to destination A takes 6 hours, and the required amount of gasoline costs \$250. Her opportunity cost of time is \$15 per hour.

- 66) Refer to the scenario above. What is the total cost involved if Maria chooses to travel by train? 66) _____
- A) \$420
 - B) \$460
 - C) \$60
 - D) \$400

Answer: B

- 67) Refer to the scenario above. If Maria borrows her parents' car and pays for only the gasoline, what is her total cost of driving to destination A? 67) _____
- A) \$340
 - B) \$250
 - C) \$90
 - D) \$300

Answer: A

- 68) Refer to the scenario above. Maria should choose to: 68) _____
A) travel by train, as it will save her \$30 in travel time.
B) drive, as it will give her a real saving of \$150.
C) travel by train, because it is quicker.
D) drive, as it will save her \$120.

Answer: D

- 69) Refer to the scenario above. If Maria's opportunity cost of time increases to \$80 per hour, the cost 69) _____
involved in taking the train is:
A) \$800. B) \$720. C) \$970. D) \$320.

Answer: B

- 70) Refer to the scenario above. If Maria's opportunity cost of time increases to \$80 per hour, the cost of 70) _____
driving to destination A is:
A) \$800. B) \$480. C) \$730. D) \$970.

Answer: C

- 71) Refer to the scenario above. If the opportunity cost of time increases to \$80 per hour, which of the 71) _____
following statements is true?
A) Maria should choose to travel by train as it saves her \$10.
B) Maria should choose to drive as it saves her \$10.
C) Maria should choose to drive as it saves her \$150.
D) Maria should choose to travel by train as it saves her \$150.

Answer: A

- 72) Which of the following statements is true? 72) _____
A) A rational economic agent is not likely to optimize.
B) Cost-benefit analysis can also be used for normative economic analysis.
C) The net benefit of an option that costs \$50 and provides a benefit of \$100 is equal to \$150.
D) Cost-benefit analysis does not yield the same result as optimization analysis.

Answer: B

- 73) Which of the following statements is true of economic reasoning? 73) _____
A) Economic reasoning can only be used with normative choices.
B) Economic reasoning hampers optimal decision making.
C) Economic reasoning implies that leisure time is free and costless.
D) Economic reasoning helps people make the best use of scarce resources.

Answer: D

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 74) Why do trade-offs occur? How are budget constraints related to trade-offs? 74) _____

Answer: Trade-offs occur because of scarcity: economic agents need to satisfy their wants with limited resources. Therefore, in most cases, some benefits have to be given up in order to gain some other benefits. Budget constraints quantify the relevant trade-offs that an economic agent faces. Once trade-offs are quantified, rational decision making becomes easier allowing the individual to make an optimal decision.

75) Define opportunity cost. A student who has just graduated from college has three job offers: the first job pays him \$35,000 a year, the second job pays him \$23,000 a year, and the third one pays him \$15,000 a year. What is the student's opportunity cost of taking the first job? 75) _____

Answer: Opportunity cost is the best alternative use of a resource. It is what an economic agent is giving up when he chooses a particular option. If the individual decides to take the first job; he will earn \$35,000 a year. The opportunity cost of taking this job is the next best offer that he could have taken up. Therefore, the opportunity cost of the first job is \$23,000 a year.

76) What is cost-benefit analysis? What are the steps involved in using cost-benefit analysis to make the optimal choice? 76) _____

Answer: Cost-benefit analysis is a calculation that adds up the costs and benefits of a particular choice using a common unit of measurement. It involves the conversion of all costs and benefits into a common unit of measurement so that they can be compared. The difference between the benefits and costs of choosing an alternative is referred to as the net benefit of the alternative. The alternative with the highest net benefit is the optimal choice.

77) Kevin has a lot of free time and he decides to pick up a new hobby. He has two options—he can take art classes or can sign up for French cooking classes. He estimates that the art classes would cost him \$70, and would provide him with a benefit of \$100. On the other hand, the cooking classes would cost him \$120, but provide him benefits worth \$160. Use cost-benefit analysis to arrive at the optimum choice for Kevin. 77) _____

Answer: Kevin's optimal choice would depend on the net benefits of both options.

Net benefit of taking up art classes = $\$100 - \$70 = \$30$

Net benefit of taking up cooking classes = $\$160 - \$120 = \$40$

Therefore, given the costs and benefits involved, Kevin should sign up for the French cooking classes rather than the art classes.

78) If Tom spends 4 hours a day on Facebook and the minimum wage in his country is \$7 per hour, what is his opportunity cost of spending time on Facebook? Given that spending time on Facebook has an opportunity cost, does this analysis suggest that Tom should work rather than spending his time on social networking? 78) _____

Answer: Opportunity cost refers to the best alternative use of a resource. In this case, the resource is time. So, if Tom decided to work instead of spending time on Facebook, he would earn \$7 every hour. Therefore, Tom's opportunity cost of spending time on Facebook is equal to $7 \times 4 = \$28$.

No, economic analysis does not dictate choices. Economics would not tell Tom what to do; it will only help him identify the trade-offs that he is making in his decisions. Whether Tom chooses to work or spend time on Facebook is a normative choice that Tom should make based on costs and benefits.

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

79) A consumer has a monthly income of \$100 that he wants to spend on two goods: rugs priced at \$10 and chairs priced at \$5. What is the consumer's opportunity cost of buying a rug? What is his opportunity cost of buying a chair? Use a table to represent the consumer's budget constraint.

Answer: Opportunity cost is the best alternative use of a resource. Buying one rug costs \$10, and each chair costs \$5. So, one rug can be purchased with the same amount of money used to buy two chairs. Therefore, the opportunity cost of buying a rug is 2 chairs. Similarly, the opportunity cost of buying a chair is half a rug. The consumer's budget constraint is given by:

$$\$100 = 10 \times (\text{Quantity of rugs}) + 5 \times (\text{Quantity of chairs})$$

The following table shows the various combinations of rugs and chairs that the consumer can buy with \$100.

Budget	Quantity of Rugs	Quantity of Chairs
100	10	0
100	9	2
100	8	4
100	7	6
100	6	8
100	5	10
100	4	12
100	3	14
100	2	16
100	1	18
100	0	20

80) a) Sam pays \$600 for 30 days of guitar classes. He attends an hour-long class every day. If, instead of attending class, he works at a part-time job, he would be paid \$5 an hour. Or, he could work at a fast-food outlet and earn \$9 per hour. Once he has already paid a nonrefundable fee of \$600 to enroll in the class, what is his opportunity cost of attending each hour of class?

b) Suppose workers decide to work more and consume less leisure when their hourly wage rate increases. What explains this behavior?

Answer: a) Sam's opportunity cost will measure the next best use of an hour of his time plus the hourly cost of guitar classes. Once he pays the nonrefundable \$600, there is no other cost other than the value of his time. With an hour of time, he has two options: work for \$5 per hour, or work for \$9 per hour. Therefore, the next best use of an hour that Sam spends on guitar classes is equal to the \$9 he could have earned per hour by working at a fast-food outlet. Sam's opportunity cost of attending his guitar classes is \$9 per hour.

b) With an increase in their hourly wage rates, workers work more and consume less leisure due to a change in their opportunity cost. Assuming that the initial wage of an employee is \$10 per hour, the opportunity cost of an hour of rest or leisure is \$10 per hour. Now, if the wage rate increases from \$10 to \$20 per hour, the opportunity cost of one hour of rest or leisure also increases to \$20 per hour. Therefore, taking an hour of rest becomes more expensive for employees and they tend to work more than they used to.

81) Wendy has to decide between taking a flight and driving to California. Air tickets cost \$800 and will get her to California in 2 hours. If she decides to drive, she would need \$300 worth of gasoline and 10 hours to reach her destination. Suppose that Wendy's opportunity cost of time is \$20 per hour. Assuming that there are no other costs involved, use cost-benefit analysis to decide whether she should fly or drive to California. If Wendy has an important business meeting to attend and this increases her opportunity cost of time to \$200 per hour, will her optimum decision change? Explain.

Answer: Cost-benefit analysis is a calculation that adds up costs and benefits using a common unit of measurement. It is used to identify the alternative that has the greatest net benefit, which is equivalent to benefits minus costs.

If Wendy decides to drive down instead of flying, she saves $(\$800 - \$300) = \$500$. But driving down to California takes an additional 8 hours of travelling time.

Therefore, the net benefit of driving relative to flying = $(\$500 \text{ cost saving}) - (8 \text{ hours of additional travelling time}) \times (\$20/\text{hour}) = \$500 - \$160 = \$340$.

Because the net benefit of driving is positive, driving to California is an optimum choice for Wendy when the opportunity cost of time is \$20 per hour.

If the opportunity cost of time changes, the net benefit of driving relative to flying will also change.

Net benefit of driving relative to flying when the opportunity cost of time is \$200 per hour = $(\$500 \text{ cost saving}) - (8 \text{ hours of additional travelling time}) \times (\$200/\text{hour}) = \$500 - \$1,600 = -\$1,100$.

Because the net benefit of driving relative to flying is negative, flying to California is an optimum choice for Wendy when the opportunity cost of time is \$200 per hour.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 82) Which of the following statements is true of equilibrium? 82) _____
- A) Each economic agent can reach equilibrium irrespective of the actions of others.
 - B) In equilibrium, all economic agents are choosing the best feasible option simultaneously.
 - C) Economic agents have an incentive to divert from equilibrium.
 - D) In equilibrium, the opportunity cost of the choices made by each economic agent is zero.

Answer: B

- 83) Which of the following will hold true if the market for cameras is in equilibrium at a price of \$40? 83) _____
- A) If the cost of producing cameras falls below \$40 per camera, all sellers will stop supplying cameras.
 - B) Sellers of cameras will have an incentive to charge a price higher than \$40.
 - C) Buyers of cameras will want to buy fewer cameras than they are purchasing at equilibrium.
 - D) The quantity of cameras produced will equal the quantity of cameras bought in the market.

Answer: D

- 84) When the market for a commodity is in equilibrium: 84) _____
- A) all buyers of the commodity will want to change their behavior.
 - B) there will still be some unsold stock of the commodity.
 - C) all sellers of the commodity will want to change their behavior.
 - D) no economic agent will want to change his or her behavior.

Answer: D

- 85) Which of the following is true of equilibrium? 85) _____
- A) Equilibrium refers to a situation where the government allocates resources among economic agents.
 - B) Equilibrium refers to a situation where an economic agent can be made better off without making anyone else worse off.
 - C) Equilibrium refers to a situation where all economic agents are making sub-optimal choices and have an incentive to change behavior.
 - D) Equilibrium refers to a situation where all economic agents simultaneously optimize after considering each other's actions.

Answer: D

- 86) The term "free riders" refers to people who: 86) _____
- A) selflessly pay for others' consumption of goods and services.
 - B) haggle over the prices of the goods and services that they buy.
 - C) don't contribute but still benefit from others' actions.
 - D) make economic decisions randomly and are not rational.

Answer: C

- 87) Which of the following is an example of free riding? 87) _____
- A) A tax payer who exercises in the public park near his house
 - B) A consumer who buys his groceries from a nearby store
 - C) An individual who sneaks inside a music concert
 - D) A club member who makes voluntary contributions to the club

Answer: C

- 88) Which of the following is an example of free riding? 88) _____
- A) An individual who buys a ticket for a baseball match
 - B) A tax evader enjoying national security
 - C) A consumer paying for pollution control
 - D) A housekeeper cleaning a house

Answer: B

- 89) Each member in a group might do what's best for himself or herself instead of behaving in a way that optimizes the well-being of the entire group. This gives rise to the problem of: 89) _____
- A) disequilibrium.
 - B) free riding.
 - C) Pareto inefficiency.
 - D) irrational behavior.

Answer: B

- 90) Which of the following statements is true of free riding? 90) _____
- A) Free riding does not impose a cost on society.
 - B) Free riding is easy to detect and punish.
 - C) Free riding reduces with social pressure.
 - D) Free riding is not affected by incentives.

Answer: C

- 91) Assume that a house is rented by four students. When it comes to keeping the house clean, each of the four roommates has an incentive to leave cleaning to the others. As a result, the house is never clean. Which of the following is the best solution to this problem of free riding? 91) _____
- A) Require every roommate to contribute to a cleaning service
 - B) Require each roommate to pay more toward the house rent and groceries
 - C) Assign one roommate the responsibility to keep a watch over the other students
 - D) Ask every roommate to clean the house if they dirty it

Answer: A

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 92) When a market is in equilibrium, both buyers and sellers do not perceive a benefit from changing their behavior. Why? 92) _____

Answer: In most economic situations, an economic agent is not optimizing individually. His decision is influenced by the decisions taken by other economic agents. In equilibrium, each and every economic agent is doing the best that they can do, given the information they have and given the actions of other economic agents. Therefore, nobody perceives a benefit from changing his or her behavior.

- 93) Suppose the market for pizza slices is in equilibrium at a price of \$1 per slice. What conditions are likely to be satisfied in the pizza slice market? 93) _____

Answer: The conditions that are satisfied when the market for pizza slices is in equilibrium are:

- a) The number of pizza slices manufactured by sellers will equal the number of pizza slices purchased by buyers.
- b) Pizza sellers will produce pizzas at the point where the cost of production is less or equal to the market price of \$1.
- c) Buyers will consume pizza as long as the benefit that they derive from consumption is at least equal to the market price of \$1.

- 94) Explain the term "free riders." 94) _____

Answer: Free riders are people who don't contribute but still benefit from the actions that others undertake. Sometimes people pursue their own private interests and don't contribute voluntarily to the public interest, and this causes free riding. For example, a free rider may avoid paying taxes but enjoy the same benefits enjoyed by tax payers.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 95) Empiricism refers to the process of: 95) _____
- A) collecting and organizing data.
 - B) measuring variables.
 - C) testing ideas using data.
 - D) making choices using values and beliefs.

Answer: C

- 96) Which of the following statements is true? 96) _____
- A) Data are not an integral part of optimization analysis.
 - B) Empiricism refers to the testing of ideas without using data.
 - C) Data help establish whether theories match reality.
 - D) Empiricism is not an integral part of optimization analysis.

Answer: C

- 97) Which of the following statements is true of data? 97) _____
- A) The less the available data, the better the analysis.
 - B) Anecdotes work as good substitutes for data.
 - C) Data are not important to evaluate theories.
 - D) Data help in verifying causal relationships.

Answer: D

- 98) Which of the following statements is true? 98) _____
- A) Cost-benefit analysis can be applied only to limited economic decisions.
 - B) Economics is more of a theoretical subject with limited applications in the real world.
 - C) Testing with data is essential to develop a good theory.
 - D) Knowledge of economics complicates decision making.

Answer: C

- 99) Which of the following is a feature of a good theory? 99) _____
- A) A good theory cannot be tested with data.
 - B) A good theory is free from approximations.
 - C) A good theory closely predicts actual behavior.
 - D) A good theory does not rely on data.

Answer: C

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 100) What is the rationale behind empiricism in economic analysis? 100) _____

Answer: Empiricism refers to the use of data to test theoretical ideas or concepts. Empiricism is important as it enables economists to determine whether economic theories are consistent with actual human behavior. This enables economists to refute faulty theories or modify them such that they would better fit the real world. Empiricism also enables researchers to identify causal relationships between sets of variables.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 101) Which of the following statements is true? 101) _____
- A) Economic reasoning tends to reduce the quality of decision making.
 - B) Economics can be used to predict people's actions.
 - C) Economics does not provide insights into human behavior.
 - D) Economics is concerned with money, not choices.

Answer: B