TEST BANK

Michael J. Quinn

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Multiple-choice Questions

For each of the following questions, choose the letter of the one ***best*** response.

Chapter 1

1. The two principal catalysts for the Information Age have been
    a) books and pamphlets.
    b) computers and communication networks.
    c) movie theaters and public parks.
    d) newspapers and magazines.
    e) radio and television.

2. Which statement best supports the conclusion that society **can** control whether to adopt a new technology?
    a) No new nuclear power plants were built in the United States for 25 years after the accident at Three Mile Island.
    b) About half of all email messages are spam.
    c) Despite decades of research, fusion power is an elusive goal.
    d) People do not have to listen to Rush Limbaugh if they do not want to.
    e) Some new technologies are simply too expensive to even consider adopting.

3. Tablets, abacuses, and manual tables
    a) are no longer used, because of the proliferation of calculators and computers.
    b) are examples of aids to manual calculating.
    c) were developed in Western Europe in the late Middle Ages.
    d) replaced Hindu-Arabic numerals as the preferred way to do calculations.
    e) All of the above.

4. The mechanical adding machines of Pascal and Leibniz were not widely adopted because
    a) they were too expensive.
    b) there were unreliable.
    c) they were too difficult to program.
    d) they could not handle fractions.
    e) bookkeepers successfully lobbied the King, and he made the machines illegal.

5. The calculating machine of Georg and Edvard Sheutz
    a) computed the values of polynomial functions.
    b) typeset the results of its computations.
    c) performed calculations faster than they could be done manually.
    d) performed calculations more reliably than they could be done manually.
    e) All of the above.

6. Which of the following phrases does **not** describe the Gilded Age in America?
    a) rapid industrialization
    b) economic expansion
    c) widespread electrification
    d) concentration of corporate power
    e) corporate mergers

7. Which of the following was **not** a result of the adoption of mechanical calculators?
   a) Less demand for "superstars" who could rapidly compute sums by hand
   b) Higher productivity of bookkeepers
   c) Higher salaries of bookkeepers
   d) Proliferation of companies making calculators
   e) Feminization of bookkeeping

8. Which of the following was **not** a feature of cash registers in the early 1900s?
   a) Ability to compute total of purchases
   b) Ability to print itemized receipts for customers
   c) Ability to print log of transactions for owners
   d) Ability to compute amount of change to give customer
   e) Ability to ring a bell every time cash drawer is opened

9. Punched card tabulation was invented by Herman Hollerith, an employee of
   a) the Pennsylvania Railroad.
   b) the Census Bureau.
   c) the Pennsylvania Steel Company.
   d) the Burroughs Adding Machine Company.
   e) IBM.

10. Which of the following phrases best describes a system that inputs data, performs one or more calculations, and produces output data?
    a) manual calculator
    b) digital computer
    c) data-processing system
    d) difference engine
    e) cash register

11. The first commercial electronic digital computers were produced just after
    a) the Spanish-American War.
    b) World War I.
    c) World War II.
    d) the Korean War.
    e) the Vietnam War.

12. Programming languages were developed in order to
    a) make it possible to program computers in English.
    b) make programming faster and less error-prone.
    c) speed translations between English and Russian during the Cold War.
    d) improve the computation speed of computers, which were very expensive.
    e) All of the above.

13. Which of the following was not an early programming language?
    a) BASIC
    b) COBOL
    c) DATA-FLOW
    d) FLOW-MATIC
    e) FORTRAN

14. Software that allows multiple users to edit and run their programs simultaneously on the same computer is called
    a) a data-processing system.
    b) an intranet.
    c) a microprocessor.
    d) a programming language.
    e) a time-sharing system..

15. A semiconductor device containing transistors, capacitors, and resistors is called
    a) a computer.
    b) a diode.
    c) an integrated circuit.
    d) a radio.
    e) a transformer.

16. Which Cold War program played an important role in advancing integrated circuit technology?
    a) B-52 bomber
    b) Hydrogen bomb
    c) Mark 37 torpedo
    d) Minuteman II ballistic missile
    e) NORAD radar network

17. Which company produced the System/360, a family of 19 compatible mainframe computers?
    a) Fujitsu
    b) Hewlett-Packard
    c) IBM
    d) Intel
    e) Texas Instruments

18. The company that invented the microprocessor is
    a) Fujitsu
    b) Hewlett-Packard
    c) IBM
    d) Intel
    e) Texas Instruments

19. Which of the following was **not** an activity of the People's Computer Company, a not-for-profit corporation in the San Francisco area?
    a) Publishing a newspaper containing the source code to programs
    b) Allowing people to rent time on a time-shared computer
    c) Hosting Friday-evening game-playing sessions
    d) Promoting a culture in which computer enthusiasts freely shared software
    e) Developing the world's first graphical user interface

20. Who wrote "An Open Letter to Hobbyists," complaining about software theft?
    a) Stewart Brand
    b) Bob Frankston
    c) Bill Gates
    d) Steve Jobs
    e) Steve Wozniak

21. A key application that first made personal computers more attractive to business was
    a) the spreadsheet program.
    b) the World Wide Web.
    c) desktop publishing.
    d) video editing.

e) email.

22. The software company that provided IBM with the operating system for its PC was
    a) Apple.
    b) Boeing.
    c) Microsoft.
    d) Novell.
    e) Tandy.

23. The first electronic networking technology widely used in the United States was the
    a) Internet.
    b) radio.
    c) telegraph.
    d) telephone.
    e) television.

24. The Pony Express went out of business when
    a) the Mexican War ended in 1846.
    b) the Civil War began in 1861.
    c) the transcontinental telegraph was completed.
    d) AT&T completed the national telephone network.
    e) the radio was invented.

25. Alexander Graham Bell invented the harmonic or musical telegraph, which enabled
    a) more than one message to be sent over a single telegraph wire at the same time.
    b) human speech to be sent over a telegraph wire.
    c) music to be send over a telegraph wire.
    d) B and C
    e) None of the above.

26. Nearly all early telephones were installed in businesses, because
    a) people were afraid that telephones were dangerous.
    b) people thought that the government was using telephones as eavesdropping devices.
    c) only men were allowed to use a telephone.
    d) most homes did not have electricity.
    e) leasing a telephone was expensive.

27. A typewriter that prints a message transmitted over a telegraph line is called a
    a) computer.
    b) monitor.
    c) teletype.
    d) terminal.
    e) transponder.

28. Guglielmo Marconi originally conceived of the radio as a way to
    a) transmit telegraph messages without wires.
    b) transmit electricity without wires.
    c) transmit votes in national elections.
    d) transmit light without wires.
    e) All of the above

29. The power of radio as a medium of mass communication was demonstrated in 1938 when Orson Welles put on a dramatization of
    a) *War of the Worlds*.
    b) *Hamlet*.
    c) Homer's *Odyssey*.
    d) the assassination of Franklin Roosevelt.

e) *20,000 Leagues Under the Sea*.

30. ARPA Director J.C.R. Licklider conceived of a Galactic Network that would
    a) control weapons from space.
    b) guide spacecraft to distant planets.
    c) become the world's most powerful number-crunching machine.
    d) facilitate the exchange of programs and data.
    e) All of the above

31. One of the first and most important applications of the ARPANET was
    a) email.
    b) voice mail.
    c) spreading computer viruses.
    d) disseminating anti-Communist propaganda to American citizens.
    e) stealing secrets from the Soviet Union.

32. What term is used to describe a high-speed Internet connection, such as a cable modem or a DSL modem, that is at least 10 times faster than a dial-up Internet connection?
    a) broadband
    b) hypertext
    c) Internet2
    d) the Matrix
    e) World Wide Web

33. Which country has the fastest broadband connections on average?
    a) China
    b) Germany
    c) India
    d) South Korea
    e) United States

34. In the fourth century the codex replaced the scroll because
    a) it was more durable, and it was much easier to look up a particular passage.
    b) it was much lighter, and it could be made much more rapidly.
    c) Gutenberg's printing press had just been invented.
    d) there was a worldwide shortage of papyrus.
    e) All of the above

35. Hypertext is supposed to mimic
    a) the associative memory of human beings.
    b) the way that creeks flow into streams and streams merge into rivers.
    c) constellations in the night sky.
    d) road networks.
    e) the way that some people "channel surf" with a remote control.

36. What visionary invented the computer mouse and demonstrated windows, email, and live network videoconferencing at "the mother of all demos" in 1968?
    a) Vannevar Bush
    b) Douglas Engelbart
    c) Al Gore
    d) Alan Kay
    e) Ted Nelson

37. The first popular personal computer with a graphical user interface was the
    a) Apple Macintosh.
    b) Compaq Presario.
    c) IBM PC.
    d) NeXT workstation.

e) Tandy TRS-80.

38. The World Wide Web is the creation of
    a) Tim Berners-Lee.
    b) Vannevar Bush.
    c) Douglas Engelbart.
    d) Alan Kay.
    e) Ted Nelson.

39. A Web browser enables you to
    a) view Web pages.
    b) edit Web pages.
    c) create Web pages.
    d) run programs on many computers at the same time.
    e) All of the above

40. What is the name of a program that follows hyperlinks, collecting information about Web sites?
    a) demon
    b) hacker
    c) spider
    d) trawler
    e) worm

Chapter 2

41. According to James Moor, taking "the ethical point of view" means
    a) abiding by your religious beliefs.
    b) deciding that other people and their core values are worthy of your respect.
    c) choosing to sacrifice your own good for the good of someone else.
    d) putting your own self interests above those of everyone else.
    e) refusing to accept help from other people.

42. An association of people organized under a system of rules designed to advance the good of its members over time is called a
    a) business.
    b) constitution.
    c) government.
    d) monopoly.
    e) society.

43. Rules of conduct describing what people ought and ought not to do in various situations are called
    a) ethics.
    b) ideals.
    c) morality.
    d) philosophy.
    e) virtues.

44. Ethics is
    a) a rational examination of people's moral beliefs.
    b) a branch of philosophy.
    c) one way to determine which activities are "good" and which are "bad."
    d) a field of study more than 2,000 years old.
    e) All of the above

45. A relativist claims that
    a) there are no universal moral principles.
    b) morality has an existence outside the human mind.
    c) morality and law are identical.
    d) there is no such thing as free will.
    e) God does not exist.

46. Objectivism is based on the idea that
    a) there are no universal moral principles.
    b) morality has an existence outside the human mind.
    c) morality and law are identical.
    d) there is no such thing as free will.
    e) God does not exist.

47. The divine command theory is an example of
    a) relativism.
    b) objectivism.
    c) egoism.
    d) existentialism.
    e) materialism.

48. Which of the following is an argument in favor of the divine command theory?
    a) The divine command theory is not based on reason.
    b) It is fallacious to equate "the good" with "God."
    c) God is all-knowing.
    d) Some moral problems are not addressed directly in scripture.
    e) The Bible has contradictory moral teachings.

49. Ethical egoism is
    a) not based on reason or logic.
    b) based on determining long-term beneficial consequences.
    c) the divine command theory by another name.
    d) Kantianism by another name.
    e) utilitarianism by another name.

50. Which of the following is an argument in favor of ethical egoism?
    a) Ethical egoism is supported by verses in the Bible.
    b) People are naturally altruistic.
    c) The community can benefit when individuals put their well-being first.
    d) It is not true that people naturally act in their own long-term self-interest.
    e) Ethical egoism treats all persons as moral equals.

51. According to Kant, our sense of "ought to" is called
    a) necessity.
    b) insecurity.
    c) paranoia.
    d) love.
    e) dutifulness.

52. According to Kant, the moral value of an action depends upon
    a) its consequences.
    b) the underlying moral rule.
    c) how closely it aligns with Biblical teachings.
    d) how closely it aligns with the law.
    e) the extent to which it produces happiness.

53. According to the second formulation of the Categorical Imperative,
    a) the moral worth of a person depends upon that person's actions.
    b) one good turn deserves another.
    c) bad deeds should be punished.
    d) it is wrong for one person to "use" another.
    e) the moral worth of a person depends upon that person's intentions.

54. The Principle of Utility is also called
    a) the Categorical Imperative.
    b) the Difference Principle.
    c) the Greatest Happiness Principle.
    d) the Social Contract.
    e) the Ten Commandments.

55. Two philosophers closely associated with utilitarianism are
    a) Jeremy Bentham and John Stuart Mill.
    b) Immanuel Kant and Jeremy Bentham.
    c) Immanuel Kant and John Stuart Mill.
    d) John Stuart Mill and John Rawls.
    e) Jean-Jacques Rousseau and John Rawls.

56. Utilitarianism is an example of
    a) a consequentialist theory.
    b) the social contract theory.
    c) a non-consequentialist theory.
    d) a practical implementation of the divine command theory.
    e) a relativistic theory.

57. The problem of moral luck is raised as a criticism of
    a) the divine command theory.
    b) act utilitarianism.
    c) rule utilitarianism.
    d) cultural relativism.
    e) Kantianism.

58. Utilitarianism does not mean "the greatest good of the greatest number" because
    a) it is impossible to calculate "the greatest good."
    b) it focuses solely on "the greatest good" and pays no attention to how "the good" is distributed.
    c) some people have no moral worth.
    d) it is impossible to maximize "the good" without ruining the environment.
    e) All of the above

59. Thomas Hobbes called life without rules and a means of enforcing them
    a) utopia.
    b) anarchy.
    c) democracy.
    d) communism.
    e) the state of nature.

60. An early proponent of the social contract was
    a) Jeremy Bentham.
    b) John Stuart Mill.
    c) Jean-Jacque Rousseau.
    d) Karl Marx.
    e) John Brown.

61. A right that another can guarantee by leaving you alone to exercise the right is called a
    a) positive right.
    b) negative right.
    c) absolute right.
    d) limited right.
    e) proverbial right.

62. A right that is guaranteed without exception is called a
    a) positive right.
    b) negative right.
    c) absolute right.
    d) limited right.
    e) proverbial right.

63. The idea that social and economic inequalities must be to the greatest benefit of the least-advantaged members of society is called
    a) capitalism.
    b) communism.
    c) socialism.
    d) utilitarianism.
    e) the difference principle.

Answers to the Multiple-choice Questions

1. b	43. c	85. d
2. a	44. e	86. d
3. b	45. a	87. a
4. b	46. b	88. d
5. e	47. b	89. e
6. c	48. c	90. d
7. c	49. b	91. a
8. d	50. c	92. a
9. b	51. e	93. e
10. c	52. b	94. e
11. c	53. d	95. d
12. b	54. c	96. e
13. c	55. a	97. e
14. e	56. a	98. c
15. c	57. b	99. c
16. d	58. b	100. b
17. c	59. e	101. d
18. d	60. c	102. e
19. e	61. b	103. d
20. c	62. c	104. d
21. a	63. e	105. b
22. c	64. a	106. e
23. c	65. d	107. c
24. c	66. c	108. e
25. a	67. e	109. d
26. e	68. b	110. b
27. c	69. c	111. e
28. a	70. b	112. d
29. a	71. d	113. c
30. d	72. b	114. a
31. a	73. c	115. d
32. a	74. c	116. d
33. d	75. d	117. b
34. a	76. b	118. a
35. a	77. c	119. b
36. b	78. d	120. b
37. a	79. a	121. b
38. a	80. e	122. a
39. a	81. c	123. c
40. c	82. a	124. e
41. b	83. e	125. d
42. e	84. b	126. c

127. a	173. d
128. e	174. b
129. d	175. c
130. a	176. d
131. b	177. a
132. d	178. d
133. e	179. e
134. c	180. d
135. e	181. b
136. d	182. a
137. d	183. e
138. a	184. e
139. d	185. c
140. c	
141. c	
142. b	
143. a	
144. a	
145. d	
146. e	
147. d	
148. e	
149. a	
150. e	
151. e	
152. d	
153. a	
154. e	
155. b	
156. d	
157. e	
158. e	
159. c	
160. b	
161. d	
162. b	
163. e	
164. d	
165. a	
166. b	
167. a	
168. c	
169. a	
170. c	
171. b	
172. b	

Fill-in-the-blanks and Short-answer Questions

Chapter 1

1. Three important aids to manual calculating are **the tablet, the abacus, and mathematical tables**.

2. Blaise Pascal and Gottfried Leibniz are remembered as computer pioneers for their invention of **mechanical adding machines**.

3. Demand for mechanical calculators increased tremendously in America in the late 19ᵗʰ Century due to the increase in size of **corporations and government agencies**.

4. The adoption of mechanical calculators in offices changed the profession of bookkeeping. Employers **lowered wages** and **replaced men with women**.

5. The invention of the **cash register** addressed two challenges faced by department store owners in the late 19ᵗʰ century: creating detailed sales records and embezzlement by employees.

6. Herman Hollerith invented **punched card tabulation** to help the U.S. Bureau of the Census tally information about tens of millions of residents.

7. A series of inventions led to the creation of the electronic digital computer shortly after this war: **World War II**.

8. In the earliest digital computers every instruction was coded as a long number. People invented **programming languages** to make coding faster and less error-prone.

9. In the 1960s the invention of **time-sharing systems** allowed multiple people to interact more-or-less simultaneously with a single computer.

10. In the first half of the 20ᵗʰ century, AT&T used vacuum tubes to construct amplifiers that made long distance telephone calls possible. AT&T funded research to develop a semiconductor replacement to the vacuum tube. The research resulted in the invention of the **transistor**.

11. In 1957 eight key employees of Shockley Semiconductor left to form their own company. The company founded by "the traitorous eight" was **Fairchild Semiconductor**.

12. A single semiconductor device containing transistors, capacitors, and resistors is called **an integrated circuit**.

13. In 1964 IBM announced the System/360, a series of 19 compatible computers. What advantage do compatible computers have for a business wishing to upgrade its systems? **It does not have to rewrite its application programs.**

14. An integrated circuit that can be programmed to perform a wide variety of tasks is called a **microprocessor**.

15. The development of the personal computer was influenced by the power-to-the-people, do-it-yourself movement around **San Francisco / Silicon Valley** in the late 1960s and early 1970s.

16. What two significant developments made personal computers more attractive to businesses in the late 1970s and early 1980s? **Computer spreadsheet program, IBM PC**

17. By 1870 fire alarm boxes were in use in 75 major cities in the United States. Which popular communications technology enabled the creation of these alarm boxes? **Telegraph**

18. Which device resulted in the creation of the first "on-line" communities? **Telephone**

19. Why was the ARPANET designed so that the loss of any single computer would not prevent the rest of the network from working? **Fear of a nuclear attack by the Soviet Union**

20. How did the National Science Foundation stimulate the development of commercial, long-distance Internet connections in the United States? **It simultaneously (1) encouraged regional networks to find commercial customers, and (2) banned commercial traffic on the long-distance, NSFNET Backbone.**

21. Hypertext is a **linked network** of nodes containing **information**.

22. In January 1984 Apple Computer released the Macintosh. The Macintosh is notable because it was the first commodity personal computer with a **graphical user interface**.

23. The two most popular applications of the Internet are **email** and **the World Wide Web**.

24. Devices used in the creation, storage, manipulation, exchange, and dissemination of data, including text, sound, and images, fall into the category of **information** technology.

Chapter 2

25. Ethics is the **philosophical study** of morality.

26. Ethics is focused on the **voluntary**, moral choices people make.

27. The study of ethics dates back to the time of **Socrates**, who faced an unjust death penalty rather than take advantage of an opportunity to flee into exile with his family.

28. **Relativism** is the theory that there are no universal moral norms of right and wrong.

29. The theory that people decide for themselves what is right and wrong is called **subjective relativism**.

30. The theory that the meaning of "right" and "wrong" rests with a society's actual moral guidelines is called **cultural relativism**.

31. The theory that good actions are those aligned with the will of God is called **the divine command theory**.

32. The logical error of trying to equate two things that are similar is called **the equivalence fallacy**.

33. The theory that each person should focus exclusively on his or her own self-interest is called **ethical egoism**.

34. Immanuel Kant concluded that the only thing in the world that can be called good without qualification is **good will**.

35. Kant said we should act only from moral rules that we can at the same time will to be universal moral laws. He also said we should act so that we always treat ourselves and other people as ends in themselves, and never only as a means to an end. Kant called these duties **the Categorical Imperative**.

36. According to Jeremy Bentham and John Stuart Mill, an action is right (or wrong) to the extent that it increases (or decreases) **the total happiness of the affected parties**.

37. We call utilitarianism a **consequentialist** theory, because it focuses on the consequences of an action.

38. Thomas Hobbes argued that everyone living in a civilized society has implicitly agreed to two things: (1) establishment of moral rules to govern relations among citizens, and (2) a government capable of enforcing these rules. Hobbes calls this arrangement **the social contract**.

39. A negative right is a right that another person can guarantee by **leaving the person alone**.

40. A positive right is a right that obligates others to **do something for someone**.

41. An absolute right is a right that **is guaranteed without exception**.

42. A limited right is a right that **may be restricted based on the circumstances**.

43. John Rawls proposed the difference principle, that says any social and economic equalities must be "to the greatest benefit of **the least-advantaged members of society**."

44. The theory that morality exists outside the human mind is called **objectivism**.

45. According to social contract theory, we have a *prima facie* obligation to obey the law.

Essay Questions

Chapter 1

1. Give two examples of how a social pressure or need led to the development of a new information technology. Give two examples of how the adoption of a new information technology changed society.
2. How did the Gilded Age stimulate the development of calculators and tabulators?
3. How did the widespread adoption of punched card tabulation pave the way for commercial digital electronic computers?
4. How did World War II stimulate the development of the modern computer?
5. How did the Cold War speed the development of the personal computer?
6. How did the development of time-sharing help create a market for personal computers?
7. How did the culture around San Francisco in the late 1960s and early 1970s affect the development of the personal computer?
8. Describe three ways in which the widespread adoption of the telephone changed society.
9. Trace the key events in the history of the Internet from its origins as the ARPANET.
10. Describe the evolution of hypertext, from its original conception to its realization as a widely used technology.

Chapter 2

11. Decide if you agree or disagree with the following statement: "If everyone were moral, there would be no need for ethics." Explain why you believe the statement is true or false.
12. Decide if you agree or disagree with the following statement: "If each individual decides what is right or wrong for himself or herself, then the study of ethics is meaningless." Explain why you believe the statement is true or false.
13. Explain the difference between relativism and objectivism.
14. Describe similarities and differences between subjective relativism and ethical egoism.
15. Describe similarities and differences between rule utilitarianism and social contract theory.
16. Describe similarities and differences between social contract theory and cultural relativism.
17. Why is it inaccurate to say that utilitarianism means "the most good for the most people?"
18. Can moral problems be solved in a completely algorithmic way, by following a fixed sequence of unambiguous, logical steps? Justify your answer.
19. Do you take both moral rules and anticipated consequences into account when making moral decisions? If so, give an example of how taking both rules and consequences into account leads to a better decision. If not, explain why using a single approach leads to a better decision.