61. Which of the following is true of an economy with the production possibilities frontier shown above?

(A) Point Q is attainable but undesirable.
(B) Point R is unattainable but desirable.
(C) A technological improvement in the production of watches would move the economy from point T to point P.
(D) The opportunity cost of moving from point S to point T is the number of watches given up.
(E) There is unemployment at point T because workers in the watch industry are without jobs.

62. Increases in real income per capita are made possible by

(A) improved productivity
(B) a high labor/capital ratio
(C) large trade surpluses
(D) stable interest rates
(E) high protective tariffs

63. The sum of which of the following expenditures is equal to the value of the gross national product?

(A) Consumer purchases, investment for capital goods, exports, and imports
(B) Consumer purchases, investment for capital goods, net exports, and inventories
(C) Consumer purchases, investment for capital goods, government purchases, and net exports
(D) Consumer purchases, government purchases, exports, and national income
(E) Investment for capital goods, government purchases, net exports, and inventories

64. Which of the following would most likely lead to a decrease in aggregate demand, that is, shift the aggregate demand curve leftward?

(A) A decrease in taxes
(B) A decrease in interest rates
(C) An increase in household savings
(D) An increase in household consumption
(E) An increase in business firms' purchases of capital equipment from retained earnings

65. According to the Keynesian model, equilibrium output of an economy may be less than the full-employment level of output because at full employment

(A) sufficient income may not be generated to keep workers above the subsistence level
(B) there might not be enough demand by firms and consumers to buy that output
(C) workers may not be willing to work the hours necessary to produce the output
(D) interest rates might not be high enough to provide the incentive to finance the production
(E) banks may not be willing to lend enough money to support the output
66. The principal reason for requiring commercial banks to maintain reserve balances with the Federal Reserve is that these balances
(A) provide the maximum amount of reserves a bank would ever need
(B) give the Federal Reserve more control over the money-creating operations of banks
(C) ensure that banks do not make excessive profits
(D) assist the Treasury in refinancing government debt
(E) enable the government to borrow cheaply from the Federal Reserve's discount window

67. If the Federal Reserve lowers the reserve requirement, which of the following is most likely to happen to interest rates and gross national product?

<table>
<thead>
<tr>
<th>Interest Rates</th>
<th>Gross National Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Increase</td>
<td>Decrease</td>
</tr>
<tr>
<td>(B) Increase</td>
<td>Increase</td>
</tr>
<tr>
<td>(C) Decrease</td>
<td>Decrease</td>
</tr>
<tr>
<td>(D) Decrease</td>
<td>Increase</td>
</tr>
<tr>
<td>(E) No change</td>
<td>No change</td>
</tr>
</tbody>
</table>

68. Which of the following measures might be used to reduce a federal budget deficit?

I. Raising taxes
II. Reducing federal spending
III. Lowering interest rates

(A) I only
(B) II only
(C) III only
(D) I and III only
(E) I, II, and III

69. If the nominal interest rate is 6 percent and the expected inflation rate is 4 percent, the real interest rate is

(A) 10 percent
(B) 6 percent
(C) 4 percent
(D) 2 percent
(E) -2 percent

70. Supply side economists argue that

(A) a cut in high tax rates results in an increased deficit and thus increases aggregate supply
(B) lower tax rates provide positive work incentives and thus shift the aggregate supply curve to the right
(C) the aggregate supply of goods can only be increased if the price level falls
(D) increased government spending should be used to stimulate the economy
(E) the government should regulate the supply of imports

71. If the dollar cost of the British pound decreases, United States imports from and exports to the United Kingdom will change in which of the following ways?

<table>
<thead>
<tr>
<th>Imports</th>
<th>Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Increase</td>
<td>Decrease</td>
</tr>
<tr>
<td>(B) Increase</td>
<td>Increase</td>
</tr>
<tr>
<td>(C) Increase</td>
<td>No change</td>
</tr>
<tr>
<td>(D) Decrease</td>
<td>Decrease</td>
</tr>
<tr>
<td>(E) Decrease</td>
<td>Increase</td>
</tr>
</tbody>
</table>

72. An economy that is fully employing all its productive resources but allocating less to investment than to consumption will be at which of the following positions on the production possibilities curve shown above?

(A) A
(B) B
(C) C
(D) D
(E) E

73. The United States government defines an individual as unemployed if the person

(A) does not hold a paying job
(B) has been recently fired
(C) works part-time but needs full-time work
(D) is without a job but is looking for work
(E) wants a job but is not searching because he or she thinks none is available
74. The gross national product is best described as a measure of
   (A) economic welfare
   (B) the full-employment output of an economy
   (C) all monetary transactions in an economy
   (D) current consumption in an economy
   (E) current final output produced by an economy

75. An increase in which of the following would cause the long-run aggregate supply curve to shift to the right?
   (A) Corporate income tax rates
   (B) Aggregate demand
   (C) Potential output
   (D) The average wage rate
   (E) The price level

76. Total spending in the economy is most likely to increase by the largest amount if which of the following occur to government spending and taxes?

<table>
<thead>
<tr>
<th>Government Spending</th>
<th>Taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Decrease</td>
<td>Increase</td>
</tr>
<tr>
<td>(B) Decrease</td>
<td>No change</td>
</tr>
<tr>
<td>(C) Increase</td>
<td>Increase</td>
</tr>
<tr>
<td>(D) Increase</td>
<td>Decrease</td>
</tr>
<tr>
<td>(E) No change</td>
<td>Increase</td>
</tr>
</tbody>
</table>

77. If businesses are experiencing an unplanned increase in inventories, which of the following is most likely to be true?
   (A) Aggregate demand is greater than output, and the level of spending will increase.
   (B) Aggregate demand is less than output, and the level of spending will decrease.
   (C) The economy is growing and will continue to grow until a new equilibrium level of spending is reached.
   (D) Planned investment is greater than planned saving, and the level of spending will decrease.
   (E) Planned investment is less than planned saving, and the level of spending will increase.

78. The purchase of securities on the open market by the Federal Reserve will
   (A) increase the supply of money
   (B) increase the interest rate
   (C) increase the discount rate
   (D) decrease the number of Federal Reserve notes in circulation
   (E) decrease the reserve requirement

79. If a banking system’s reserves are $100 billion, demand deposits are $500 billion, and the system is fully loaned-up, then the reserve requirement must be
   (A) 10 percent
   (B) 12.5 percent
   (C) 16.6 percent
   (D) 20 percent
   (E) 25 percent

80. According to the Keynesian model, an expansionary fiscal policy would tend to cause which of the following changes in output and interest rates?

<table>
<thead>
<tr>
<th>Output</th>
<th>Interest Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Increase</td>
<td>Increase</td>
</tr>
<tr>
<td>(B) Increase</td>
<td>Decrease</td>
</tr>
<tr>
<td>(C) Decrease</td>
<td>Increase</td>
</tr>
<tr>
<td>(D) Decrease</td>
<td>Decrease</td>
</tr>
<tr>
<td>(E) No change</td>
<td>Decrease</td>
</tr>
</tbody>
</table>

81. Which of the following policies would most likely be recommended in an economy with an annual inflation rate of 3 percent and an unemployment rate of 11 percent?
   (A) An increase in transfer payments and an increase in the reserve requirement
   (B) An increase in defense spending and an increase in the discount rate
   (C) An increase in income tax rates and a decrease in the reserve requirement
   (D) A decrease in government spending and the open-market sales of government securities and a decrease in the discount rate
   (E) A decrease in the tax rate on corporate profits and a decrease in the discount rate

82. The cost of reducing unemployment is accepting a higher rate of inflation.
   The statement above would most likely be made by a person who believes in the
   (A) quantity theory of money
   (B) Phillips curve
   (C) theory of rational expectations
   (D) paradox of value
   (E) liquidity trap

83. Which of the following would occur if the international value of the United States dollar decreased?
   (A) United States exports would rise.
   (B) More gold would flow into the United States.
   (C) United States demand for foreign currencies would increase.
   (D) The United States trade deficit would increase.
   (E) Americans would pay less for foreign goods.
84. Which of the following will occur as a result of an improvement in technology?
(A) The aggregate demand curve will shift to the right.
(B) The aggregate demand curve will shift to the left.
(C) The aggregate supply curve will shift to the right.
(D) The aggregate supply curve will shift to the left.
(E) The production possibilities curve will shift inward.

85. Assume that land in an agricultural economy can be used either for producing grain or for grazing cattle to produce beef. The opportunity cost of converting an acre from cattle grazing to grain production is the
(A) market value of the extra grain that is produced
(B) total amount of beef produced
(C) number of extra bushels of grain that are produced
(D) amount by which beef production decreases
(E) profits generated by the extra production of grain

86. Which of the following workers is most likely to be classified as structurally unemployed?
(A) A high school teacher who is unemployed during the summer months
(B) A recent college graduate who is looking for her first job
(C) A teenager who is seeking part-time employment at a fast-food restaurant
(D) A worker who is unemployed because his skills are obsolete
(E) A woman who reenters the job market after her child begins elementary school

87. According to the classical model, an increase in the money supply causes an increase in which of the following?
I. The price level
II. Nominal gross national product
III. Nominal wages
(A) I only
(B) II only
(C) III only
(D) II and III only
(E) I, II, and III

88. If, in response to an increase in investment of $10 billion, equilibrium income rises by a total of $50 billion, then the marginal propensity to save is
(A) 0.1
(B) 0.2
(C) 0.5
(D) 0.8
(E) 0.9

89. In the circular flow diagram, which of the following is true?
(A) Businesses pay wages, rent, interest, and profits to households in return for use of factors of production.
(B) Businesses purchase goods and services from households in return for money payments.
(C) Households pay wages, rent, interest, and profits to businesses in return for use of factors of production.
(D) The relationship between households and businesses exists only in a traditional society.
(E) The relationship between households and businesses exists only in a command economy.

90. Assume that the reserve requirement is 25 percent. If banks have excess reserves of $10,000, which of the following is the maximum amount of additional money that can be created by the banking system through the lending process?
(A) $2,500
(B) $10,000
(C) $40,000
(D) $50,000
(E) $250,000

91. According to the Keynesian model, an increase in the money supply affects output more if
(A) investment is sensitive to interest rates
(B) money demand is sensitive to interest rates
(C) the unemployment rate is low
(D) consumption is sensitive to the Phillips curve
(E) government spending is sensitive to public opinion
92. Which of the following combinations of monetary and fiscal policies is coordinated to increase output?

<table>
<thead>
<tr>
<th>Monetary Policy</th>
<th>Fiscal Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Decrease the reserve requirement</td>
<td>Increase taxes</td>
</tr>
<tr>
<td>(B) Increase the discount rate</td>
<td>Increase government expenditures</td>
</tr>
<tr>
<td>(C) Sell securities</td>
<td>Increase taxes</td>
</tr>
<tr>
<td>(D) Sell securities</td>
<td>Decrease government expenditures</td>
</tr>
<tr>
<td>(E) Purchase securities</td>
<td>Decrease taxes</td>
</tr>
</tbody>
</table>

93. Which of the following is a possible cause of stagflation (simultaneous high unemployment and high inflation)?

(A) Increase in labor productivity
(B) Increase in price for raw materials
(C) The rapid growth and development of the computer industry
(D) A decline in labor union membership
(E) A low growth rate of the money supply

94. If exchange rates are allowed to fluctuate freely and the United States demand for German marks increases, which of the following will most likely occur?

(A) Americans will have to pay more for goods made in Germany.
(B) Germans will find that American goods are getting more expensive.
(C) The United States balance-of-payments deficit will increase.
(D) The dollar price of marks will fall.
(E) The dollar price of German goods will fall.

95. Which of the following would most likely be the immediate result if the United States increased tariffs on most foreign goods?

(A) The United States standard of living would be higher.
(B) More foreign goods would be purchased by Americans.
(C) Prices of domestic goods would increase.
(D) Large numbers of United States workers would be laid off.
(E) The value of the United States dollar would decrease against foreign currencies.

96. Which of the following must be true of a country that is operating inside its production possibilities frontier?

(A) It has a market economy.
(B) It has a command economy.
(C) It is in the early stages of industrial development.
(D) It is using resources inefficiently.
(E) It has plentiful resources.

97. Which of the following is an example of "investment" as the term is used by economists?

(A) A schoolteacher purchases 10,000 shares of stock in an automobile company.
(B) Newlyweds purchase a previously owned home.
(C) One large automobile firm purchases another large automobile firm.
(D) A farmer purchases $10,000 worth of government securities.
(E) An apparel company purchases 15 new sewing machines.

98. If the gross national product increased from $930 billion in 1969 to $975 billion in 1970 solely because of a rise in the price level, which of the following was necessarily true?

(A) Real gross national product increased between 1969 and 1970.
(B) Real gross national product decreased between 1969 and 1970.
(C) Nominal income increased between 1969 and 1970.
(D) Real income increased between 1969 and 1970.
(E) The rise in the price level between 1969 and 1970 was greater than 10 percent.
99. The diagram above shows two aggregate supply curves, AS₁ and AS₂. Which of the following statements most accurately characterizes the AS₁ curve relative to the AS₂ curve?

(A) AS₁ is Keynesian because it reflects greater wage and price flexibility.
(B) AS₁ is classical because it reflects greater wage and price flexibility.
(C) AS₁ is Keynesian because it reflects less wage and price flexibility.
(D) AS₁ is classical because it reflects less wage and price flexibility.
(E) AS₁ could be either classical or Keynesian because it reflects greater wage flexibility but less price flexibility.

100. If the marginal propensity to consume is 0.9, what is the maximum amount that the equilibrium gross national product could change if government expenditures increase by $1 billion?

(A) It could decrease by up to $9 billion.
(B) It could increase by up to $0.9 billion.
(C) It could increase by up to $1 billion.
(D) It could increase by up to $9 billion.
(E) It could increase by up to $10 billion.
101. The figure above represents an economy with no government and no foreign sector. Which of the following statements about this economy is true?

(A) At Y, planned investment is less than saving.
(B) At Y, planned investment is equal to saving.
(C) At Y, planned investment is greater than saving.
(D) At full employment, total spending is equal to total income.
(E) At full employment, planned investment is equal to saving.

102. According to the classical economists, which of the following is most sensitive to interest rates?

(A) Consumption
(B) Investment
(C) Government spending
(D) Transfer payments
(E) Intermediate goods

103. Expansionary fiscal policy will be most effective when

(A) the aggregate supply curve is horizontal
(B) the economy is at or above full-employment output
(C) transfer payments are decreased, while taxes remain unchanged
(D) wages and prices are very flexible
(E) the Federal Reserve simultaneously increases the reserve requirement

104. Which of the following would increase the value of the multiplier?

(A) An increase in government expenditure
(B) An increase in exports
(C) A decrease in government unemployment benefits
(D) A decrease in the marginal propensity to consume
(E) A decrease in the marginal propensity to save

105. According to the monetarists, inflation is most often the result of

(A) high federal tax rates
(B) increased production of capital goods
(C) decreased production of capital goods
(D) an excessive growth of the money supply
(E) upward shifts in the consumption function
106. To counteract a recession, the Federal Reserve should
(A) buy securities on the open market and raise the reserve requirement
(B) buy securities on the open market and lower the reserve requirement
(C) buy securities on the open market and raise the discount rate
(D) sell securities on the open market and raise the discount rate
(E) raise the reserve requirement and lower the discount rate

108. Which of the following will be true if inflation can be accurately forecast and both prices and wages are fully flexible?
(A) Long periods of high unemployment will be possible.
(B) The supply of labor will be insensitive to the real wage rate.
(C) The Phillips curve will be vertical.
(D) The equilibrium unemployment rate will be zero.
(E) Real interest rates will be greater than nominal interest rates.

107. Which of the following would result in the largest increase in aggregate demand?
(A) A $30 billion increase in military expenditure and a $30 billion open-market purchase of government securities
(B) A $30 billion increase in military expenditure and a $30 billion open-market sale of government securities
(C) A $30 billion tax cut and a $30 billion open-market sale of government securities
(D) A $30 billion tax increase and a $30 billion open-market purchase of government securities
(E) A $30 billion increase in social security payments and a $30 billion open-market sale of government securities

109. Which of the following policies is most likely to encourage long-run economic growth in a country?
(A) An embargo on high-technology imports
(B) A decline in the number of immigrants to the country
(C) An increase in government transfer payments
(D) An increase in the per capita savings rate
(E) An increase in defense spending

110. In one year, real gross national product fell by 3 percent, inflation rose to 10 percent, and unemployment rose to 11 percent. Which of the following may have caused these changes?
(A) A decrease in the money supply and a decrease in government spending
(B) A decrease in inflationary expectations
(C) An increase in investment in inventories
(D) An increase in the money supply and an increase in government spending
(E) An increase in inflationary expectations

END OF SECTION I

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION.
DO NOT GO ON TO SECTION II UNTIL YOU ARE TOLD TO DO SO.


ANSWER KEY AND PERCENT ANSWERING CORRECTLY
SECTION I
1990 AP Macroeconomics Examination

Listed below are the correct answers to the multiple-choice questions and the percentage of AP candidates who attempted each question and answered it correctly. As a general rule, candidates who correctly answered an individual question also achieved a higher mean score on the exam as a whole than candidates who did not answer that question correctly.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Correct Answer</th>
<th>Percent Correct</th>
<th>Item No.</th>
<th>Correct Answer</th>
<th>Percent Correct</th>
<th>Item No.</th>
<th>Correct Answer</th>
<th>Percent Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>67</td>
<td>D</td>
<td>76%</td>
<td>100</td>
<td>E</td>
<td>41%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>E</td>
<td>82%</td>
<td>101</td>
<td>B</td>
<td>55%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>69</td>
<td>D</td>
<td>66%</td>
<td>102</td>
<td>B</td>
<td>75%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>B</td>
<td>62%</td>
<td>103</td>
<td>A</td>
<td>35%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71</td>
<td>A</td>
<td>69%</td>
<td>104</td>
<td>E</td>
<td>58%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>C</td>
<td>82%</td>
<td>105</td>
<td>D</td>
<td>76%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>D</td>
<td>75%</td>
<td>106</td>
<td>B</td>
<td>80%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>74</td>
<td>E</td>
<td>77%</td>
<td>107</td>
<td>A</td>
<td>52%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>C</td>
<td>45%</td>
<td>108</td>
<td>C</td>
<td>26%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>76</td>
<td>D</td>
<td>91%</td>
<td>109</td>
<td>D</td>
<td>55%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>77</td>
<td>B</td>
<td>76%</td>
<td>110</td>
<td>E</td>
<td>27%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>78</td>
<td>A</td>
<td>79%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>79</td>
<td>D</td>
<td>77%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>A</td>
<td>23%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>81</td>
<td>E</td>
<td>57%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82</td>
<td>B</td>
<td>60%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>83</td>
<td>A</td>
<td>67%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84</td>
<td>C</td>
<td>83%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>85</td>
<td>D</td>
<td>77%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>86</td>
<td>D</td>
<td>71%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>87</td>
<td>E</td>
<td>48%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>88</td>
<td>B</td>
<td>68%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>89</td>
<td>A</td>
<td>63%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>C</td>
<td>55%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>91</td>
<td>A</td>
<td>44%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>92</td>
<td>E</td>
<td>76%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>93</td>
<td>B</td>
<td>51%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>D</td>
<td>78%</td>
<td>94</td>
<td>A</td>
<td>69%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>A</td>
<td>70%</td>
<td>95</td>
<td>C</td>
<td>55%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>C</td>
<td>82%</td>
<td>96</td>
<td>D</td>
<td>86%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>C</td>
<td>75%</td>
<td>97</td>
<td>E</td>
<td>70%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>B</td>
<td>61%</td>
<td>98</td>
<td>C</td>
<td>59%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>B</td>
<td>77%</td>
<td>99</td>
<td>C</td>
<td>28%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An answer sheet with the correct responses filled in appears on the next page.