AP® MACROECONOMICS
2016 SCORING GUIDELINES

Question 2

6 points (1+1+2+1+1)

(a) 1 point:

- One point is earned for stating that new loans are zero because the bank has no excess reserves (or because the bank is already fully loaned up).

(b) 1 point:

- One point is earned for correctly calculating the maximum amount of new loans that First Superior Bank can make as $90 (= $100 x (1 – 0.10)).

(c) 2 points:

- One point is earned for correctly calculating the maximum change over time in loans in the banking system as $900 (= $90 × 10).
- One point is earned for correctly calculating the maximum change over time in demand deposits in the banking system as $1,000 (= $100 × 10).

(d) 1 point:

- One point is earned for correctly calculating the maximum change over time in the money supply in the banking system as $900 (= $90 × 10).

(e) 1 point:

- One point is earned for stating that the money supply can be smaller than the maximum change identified when the public holds more money and /or banks hold more excess reserves.

ANSWER PAGE FOR QUESTION 2

2. a. First superior Bank can loan out $0 new dollars because the bank keeps no excess reserves so it has no more money to loan out.

b. The bank can now loan out $90 because it must keep $10/$100 in required reserves.

c. i. $\frac{1}{10} \cdot 100 = 10$

$100 - 10 = 90 \left(\frac{1}{10}\right) = \boxed{\$900}$

ii. $\$100 \left(\frac{1}{\frac{1}{10}}\right) = \boxed{\$1000}$

d. The maximum change in the money supply is $900 because $\frac{1}{10} \cdot 100 = 10$, $100 - 10 = 90$, $90 \cdot \left(\frac{1}{\frac{1}{10}}\right) = \$900$.

e. If people decide to hold on to their money longer or hold money in their homes rather than putting it in the banks then the multiplier effect of the deposit/loan will be smaller than the maximum change stated in part d.

2B

ANSWER PAGE FOR QUESTION 2

(a) $0.00. The bank only holds sufficient reserves to cover the 10% requirement. It has no excess reserves to loan out.

(b) The bank must keep 10%, so they have $90 to loan out ~~electronic~~ right away.

(c) i) $100 \cdot \frac{1}{.10} = \$1,000$ in new loans.

ii) The maximum change in deposits is equal to the max. change in loans ($1,000) plus the initial deposit for a net max increase of $1,100 in demand deposits.

(d) $100 \cdot \frac{1}{.10} + 100 = \$1,100$ increase in the money supply over time.

(e) The bank may choose to hold excess reserves, decreasing the value of new loans it can make.

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2C

ANSWER PAGE FOR QUESTION 2

a) The bank must keep 10% of deposits in required reserves. The rest of the demand deposits can be used for loans. In this case, First superior bank is $1,800.

b) They can now loan up to 1,890.

	Assets	Liabilities
RR	210	2,100 dd
ER	1,890	

c) i) 90 dollars were added to loans
ii) 100 dollars were added to demand deposits

d) $1,890 \times \frac{1}{.10}$

$1,890 \times 10 = \$18,900$

Δ in Ms = $18,900

e) Banks could hold more cash than just the required reserve ration or people could be holding cash.

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AP® MACROECONOMICS
2016 SCORING COMMENTARY

Question 2

Overview

This question addressed the ability of banks to make loans, create deposits, and change the money supply. A balance sheet (T-account) of one bank is provided and the required reserve ratio is given, on the basis of which students were asked in part (a) to explain the dollar value of new loans that the bank can make. In part (b) students were required to calculate the maximum amount of new loans that could be made on the basis of a cash deposit. In part (c) students were required to calculate the maximum amount of loans and demand deposits in the banking system based on the cash deposit from part (b). In part (d) students were asked to calculate the maximum change in the money supply based on the cash deposit from part (b). In part (e) students were asked to provide one reason why the actual change in money supply can be smaller than the maximum change calculated in part (d).

Sample: 2A
Score: 6

The student answers all parts of the question correctly and earned all the points.

Sample: 2B
Score: 3

The student did not earn the first point in part (c) for incorrectly calculating the maximum change over time in loans in the banking system as $1,000. The student did not earn the second point in part (c) for incorrectly calculating the maximum change over time in demand deposits in the banking system as $1,100. The student did not earn 1 point in part (d) for incorrectly calculating the maximum change over time in the money supply in the banking system as $1,100.

Sample: 2C
Score: 1

The student earned 1 point in part (e) for correctly stating that banks can hold more cash than just the required reserve ratio and that "people could be holding cash."