(18 points) Government provides us with a number of goods and services. Please cite one relevant market failure for each of the following programs and explain how that market failure is a justification for the government provision of that good or service.

a. The National Institutes of Health (a part of the federal government) is currently funding a study to determine the effectiveness of families having automatic external defibrillator (AED) devices in their homes. (Discuss the study, not the AED devices themselves.)

b. President Bush and Congress passed tax cuts in order to stimulate the economy and create jobs.

c. The Food and Drug Administration (a part of the federal government) requires that food products such as mandelbrot, kaju katli and ackee and saltfish all list whether the product contains nuts. (FYI, they all do.)

*Note - if wrong, might failure given, some partial credit awarded; explanation was...
3. Suppose that my next-door neighbor likes to buy firecrackers. The private marginal benefit in $’s associated with their purchase and use of firecrackers is:

\[ MB = 240 - 10Q \quad \text{where } Q = \text{Quantity of Firecrackers (per pack)} \]

Let us assume that the price of firecrackers is 60 per pack.

Unfortunately, my poor puppy, Nikki, is upset by firecrackers and when she is upset, so am I. My Marginal Damage in $’s from my neighbor’s use of firecrackers is

\[ MD = 30 \]

a. If my neighbor did not worry about the externality, how many packs of firecrackers would my neighbor buy?

\[ MB = 240 - 10Q = 60 = MC \]
\[ 240 - 10Q = 60 \]
\[ 140 = 10Q \]
\[ Q = 14 \]

b. What is the socially optimal number of packs of firecrackers?

\[ MA = 240 - 10Q = 60 + 30 = MC + MD = MSC \]
\[ 240 - 10Q = 90 \]
\[ 150 = 10Q \]
\[ Q = 15 \]

c. Let us assume my neighbor buys the number of firecrackers you gave in part (a) above. If I were to give him 20 (dollars) to reduce his purchase by one pack, would this be a Pareto improvement? **DEMONSTRATE.**

Yes, I would pay $20 to avoid $80 of damage to Nikki. Since the MC of the 15th one was 60, the cost was 60. He is better off, we have made one person better off and the other no worse off.

d. What would be the amount of a Pigouvian tax that would get us to the socially optimal level? (Dollars per pack.)

\[ MD = \text{Pigouvian tax} = $30 \]

e. Is the Coase Theorem applicable here? Discuss. You may assume my community allows the use of firecrackers from July 1-July 4 only and my neighbor likes to use them year round.

Yes. My neighbor and I can most likely work out an arrangement as to when he firecrackers will be used. Easy to negotiate if two neighbors. Low transaction cost.
Multiple Choice – Two points each.

5. The federal government gets most of its revenue from
   (a) personal income taxes.  
   (b) property taxes.  
   (c) sales taxes.  
   (d) loans from states.  
   (e) payroll taxes.

6. In the United States, education is
   (a) generally financed at the state and local level  
   (b) too expensive for the federal government.  
   (c) generally financed at the federal level.  
   (d) financed on a voluntary basis.

7. State and local governments receive the largest amount of revenue from
   (a) personal income taxes.  
   (b) property taxes.  
   (c) sales taxes.  
   (d) loans from other states.  
   (e) payroll taxes.

8. Normative economics
   (a) does not depend on market interactions.  
   (b) only looks at the best parts of the economy.  
   (c) examines how the economy actually works (as opposed to how it should work).  
   (d) embodies value judgments

9. Def'n
18. Using regulation to set pollution limits for firms
   a) relies on Pigouvian taxes.
   b) involves the auction of permits.
   c) suffers from the problem that regulators frequently come from the industry being regulated.
   d) is not the most common method of pollution regulation in the United States.

19. The U.S. government's expenditures on national defense
   a) have a fixed budget constraint.
   b) do not purchase homogenous goods from perfectly competitive firms.
   c) fell in real terms during the 1990's.
   d) are subject to a large degree of uncertainty between expenditures and accomplishing objectives.

20. Which of the following is an example of a merit good?
   a) The federal government making me fund my retirement income through social security.
   b) My donating $25 to tsunami relief.
   c) My taking a vitamin pill.
   d) Paying for my daughter's flute lesson.

21. Milton Friedman would advocate the government paying for
   a) support to those who have no ability to earn money.
   b) a turnpike.
   c) both a & b.
   d) neither a or b.

22. The use of auctions of SO2 permits,
   a) is not used in the United States.
   b) requires the government to determine the optimal level of pollution.
   c) limits all firms to the same level of pollution.
   d) results in greater total cost (relative to regulation) to firms to achieve a given level of pollution abatement.

23. Under a mechanistic view of government
   a) government is a device created by individuals to meet their goal.
   b) would result in no government provision of goods and services.
   c) would result in MRT ≠ MRS.
   d) no income redistribution would occur.

24. I had stew for dinner last night. It was
   a) rival and excludable
   b) rival and non-excludable
   c) non-rival and excludable
   d) non-rival and non-excludable
   (Hint: my dog stared at me during the meal, hoping for some.)