ECON 4730 Advanced Regional Economics – Exam

Multiple Choice Questions. (25 points; 2.5 pts each). Please circle the best answer.

#1. Economists measure economic efficiency using:

a. marginal utilities.
b. production possibility curves.
c. government spending multipliers.
d. IMPLAN.

#2. Return on investment (ROI) for new projects or programs is measured as the:

a. discounted sum of benefits.
b. discounted sum of costs.
c. percentage difference between benefits and costs.
d. sum of direct, indirect and induced effects.

#3. Net present value (NPV) of a project, assuming ρ is the discount rate, is given by:

a. $\sum_{t=0}^{\infty}(Benefits_t - Costs_t)$.
b. $\sum_{t=0}^{\infty}\rho^t(Benefits_t - Costs_t)$.
c. $\sum_{t=0}^{\infty}(\frac{1}{1+\rho})(Benefits_t - Costs_t)$.
d. $\sum_{t=0}^{\infty}(\frac{1}{1+\rho})^t(Benefits_t - Costs_t)$.

#4. The *Growth Perspective* report from the Harvard Growth Lab concludes that Wyoming's long-term growth potential is:

a. limited because of global warming.
b. limited because of government regulations and high taxes.
c. unlimited.
d. constrained by low population, global decarbonization, and the lack of economic diversity.

#5. Gross Domestic Product (GDP) is measured as:

a. the value of all goods and service in an economy.
b. the sum of the money supply in an economy.
c. the value of all intermediate goods in an economy.
d. the sum of expenditures on all final goods and services in an economy.

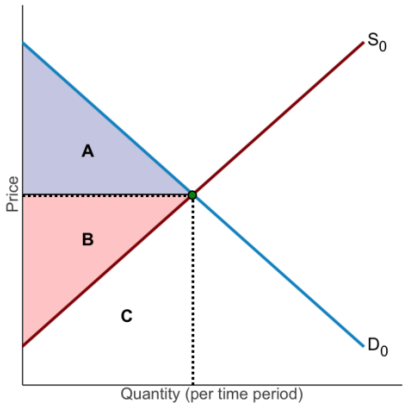
#6. A major advantage of Cost-Benefit Analysis (CBA) over Economic Impact Analysis (EIA) is:

a. the use of IMPLAN to estimate benefits.
b. the ability to consider net, rather than gross, benefits.
c. the use of Keynesian government spending multipliers.
d. the ability to measure dollars in a base year.

#7. Which of the following is NOT an example of a market failure?

a. positive externality.
b. negative externality.
c. incomplete information.
d. invisible hand theory.

#8. Benefits of a project are often measured by consumer surplus (CS). CS is given by the area:



a. A.
b. B.
c. A+B.
d. C.

#9. For the multiple regression model: $y_i = \beta_1 + \beta_2 x_i + \beta_3 z_i + \varepsilon_i$, the best interpretation of β_2 is:

a. partial derivative of y_i with respect to x_i, holding z_i constant.
b. total derivative of y_i with respect to x_i.
c. level of y_i when x_i and z_i are zero.
d. average level of x_i.

#10. The U.S. federal debt is:

a. equal to the U.S. federal deficit.
b. approximately equal to U.S. GDP.
c. ten times U.S. GDP.
d. less than the U.S federal deficit.

Short Answer Question. (25 points)

#11. This is a question about economic impact and program evaluation. The project under consideration is the construction of a new electrical transmission line installed in the southeastern portion of Wyoming by a public utilities company.

(a) (15 pts) Below is a table showing the IMPLAN economic impact estimates for the transmission line construction project. The IMPLAN input was estimated CAPEX for the construction project. Write a few short paragraphs interpreting the four shaded numbers.

Table 1. Regional Economic Impacts of a New Transmission Line in Southeast Wyoming

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	781	$45,592,103	$63,725,576	$183,497,223
Indirect Effect	294	$10,878,361	$21,371,911	$43,228,776
Induced Effect	292	$8,100,329	$16,303,303	$29,497,724
Total Effect	1,367	$64,570,793	$101,400,790	$256,223,723

(b) (10 pts) The table of economic impacts reflect the regional economic benefits of the transmission line. Discuss how you might do a full cost-benefit analysis of the transmission line project.