BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI
SECOND SEMESTER – 2016-17

Course No.: ECON F343   Course Title: Economic Analysis of Public Policy
Date: 06 MAY 2017   Max. Marks: 40   Time: min 180
COMPREHENSIVE EXAMINATION (REGULAR)

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NOTE:
- **Write clearly your <u>NAME</u> and <u>ID. No.</u> in the space provided. Attempt all questions.**
- **This paper consists of two Parts: PART – A (Closed Book: 15 Marks) and PART-B (Open Book: 25Marks).**
- **After completing PART-A (Closed Book), submit it and collect answer sheet for PART-B (Open Book) and attempt.**

STUDENTS MUST COUNT/CHECK THE NUMBER OF PAGES IN THIS EXAMINATION PAPER BEFORE BEGINNING TO WRITE, AND REPORT ANY DISCREPANCY IMMEDIATELY TO THE INVIGILATOR.

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ID. No: **NAME:**

PART-A (Closed Book)   **[15 Marks]**

- For the multiple choice questions choose the correct best answer and put a tick against that corresponding letter (A/B/C/D/E). Corrections/Overwriting/Illegible answers are strictly invalid.
- For other questions answer to the point. Please write in the space provided page. To receive full credit you have to carefully explain all your answers and show all your work.

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1   **Which is not true of Rawlsian social welfare functions?**
A   They assume that the welfare of the middle class is unimportant.
B   They are derived from a concept of justice.
C   They treat everyone equally.
D   They focus attention on the least advantaged individual.
E   All of the above

2   **Market failure can occur when**
A   monopoly power exists in the market.
B   markets are missing.
C   consumers can influence prices.
D   moral hazard and adverse selection exist
E   All of the above.

3   **Policy analysis based on an additive utilitarian social welfare function with equal weights assumes that**
A   No person is more important than any other in determining overall social well being
B   My happiness or unhappiness has no effect on you
C   Utility can be measured easily enough to base policy on it
D   Pareto improvements are unambiguously good
E   All of the above

4   **Which of the following is not an assumption used in class for reaching the conclusion, using utilitarian reasoning, that income should be divided equally**:
A   Everybody has the same utility function
B   There is a fixed amount of income to be divided
C   Marginal utility is a diminishing function of income
D   Some people are more productive than others
E   Income is the only thing that matters for happiness

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5 If the exact same medication sells for different prices in different countries, this proves
A   Social welfare would be higher if drug makers had to sell their products at marginal cost
B   The market for this medication is Pareto inefficient
C   Government has intervened in the market where the price is lower (
D   d) All of (a)-(c)
E   None of (a)-(c)

6 Movement from an inefficient allocation to an efficient allocation in the Edgeworth Box will
A   increase the utility of all individuals.
B   increase the utility of at least one individual, but may decrease the level of utility of another person.
C   increase the utility of one individual, but cannot decrease the utility of any individual.
D   decrease the utility of all individuals.
E   All of the above

7 Points on the utility possibility frontier are
A   inefficient.
B   points of incomplete preferences.
C   not producible.
D   Pareto efficient
E   All of the above

8 Market mechanisms are unlikely to provide
A   prices.
B   nonrival goods efficiently.
C   supply and demand.
D   All of the above
E   None of the above.

9 Externalities can be positive because
A   marginal damages do not last over time.
B   utility can be impacted positively as well as negatively.
C   there is no concept for marginal benefit.
D   positive externalities are subsidies.
E   None of the above

10 If private cost and social marginal damages are increasing in Q, reducing output from the privately optimal level to the socially optimal level will
A   cause a loss of consumption to consumers.
B   reduce marginal damages.
C   reduce the total production costs.
D   Both B and C
E   cause all of the above

11 According to economic theory:
A   To achieve Pareto efficiency, prices of drugs should not be allowed to exceed their marginal cost of production
B   Marginal cost pricing would bring a halt to development of new drugs
C   Since knowledge is a public good, economic inefficiency results whenever the formula for a drug is kept secret
D   All of (a)-(c)
E   None of (a)-(c)

12 **If the government mandates that everyone have auto insurance because uninsured motorists cost other drivers money through higher premiums, which of the following justifications for government intervention is being used?**
A high administrative costs
B redistribution
C paternalism
D externalities
E adverse selection

13 **A is a person who wants to enjoy the benefits of a public good without contributing his or her marginal benefit to the cost of financing the amount made**
A free rider.
B politician.
C price maker.
D price optimizer.

14 **There is a basic trade-off between efficiency and equity because**
A income redistribution tends to reduce incentives for efficient behavior.
B people who are efficient do not care much about fairness.
C Pareto improvements can only be made by sacrificing efficiency.
D the economy can only achieve a Pareto efficient allocation by starting from an unequal allocation of resources

15 **Congestible public goods**
A are nonrival in consumption.
B can not be priced in the market.
C are rival in consumption.
D are never provided by the private sector.

16 **If an action creates more total benefits for gainers than total harm to losers,**
A that action would be a Pareto improvement.
B taking that action would improve efficiency
C the government should step in to take that action
D a side payment exists that would make the action a Pareto improvement
E any side payment would make the action inefficient

17 **Suppose that a perfectly competitive market is in equilibrium. Then,**
A the equilibrium quantity provides the maximum possible benefit to buyers
B the equilibrium quantity provides the maximum possible benefit to buyers and sellers combined
C total (producer + consumer) surplus is equal to price $\times$ quantity
D an additional unit, if produced, would produce a benefit that exceeds its cost of production
E an additional unit could be produced at a cost to some producer that is less than the benefit to some consume

18 **A market failure in the form of an externality arises when**
A production costs are included in the price of a good
B not all costs and benefits are included in the price of a good
C the benefits of consuming a good exceed the costs
D a market fails to achieve equilibrium
E equilibrium price is unstable

19   Rationalism assumes that
A   Policy makers have all the information they need
B   Policy makers do not have all the information they need
C   Public problems cannot be fully resolved
D   The public policy process operates in the environment of the "real world"
E   Both C and D

20   A policy is evaluated in terms of money. It is learned that the policy has met its goals but is very costly. We could say that:
A   The policy is still a success
B   The policy is a failure
C   Cost-effectiveness analysis will show that the policy is a success
D   Cost-benefit analysis will suggest the policy is a failure
E   None of the above

For the following questions you do not need to discuss too much but briefly justify your answer.

21   Discuss the efficiency and equity implications of each of the following policies. How would you go about balancing the concerns of equity and efficiency in these areas?
A   The government pays the full tuition for every college student to study whatever subject he or she wishes.
B   When people lose their jobs, the government provides unemployment benefits until they find new ones.

22 After years of terrible traffic congestion, the City of Hyderabad started charging a toll for any car that wanted to enter the city limits. Explain how you would describe the cause of the congestion problem, and is imposing a toll can achieve an efficient solution. What does theory say is the level of the toll that will produce the efficient result?

23 A politician is proposing the elimination of auto safety standards, claiming that an unregulated market for new automobiles will lead manufacturers to choose the efficient level of safety features.

Explain how the unregulated market could in theory provide the efficient level of safety.

24   Suppose that there are two firms polluting the local water supply. A regulator decides to control pollution by issuing permits to the firms. The permits a firm holds determine the amount of pollution the firm can produce. If a firm has 'n' permits, it is allowed to produce no more than 'n' units of pollution.

Explain why allowing firms to trade permits is not a sufficient condition for ensuring that the efficient level of pollution reductions takes place.

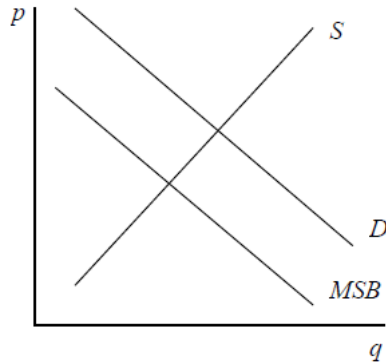25   In the Policy Process of agenda setting write the differences between the Pluralist vs. Elitist models.

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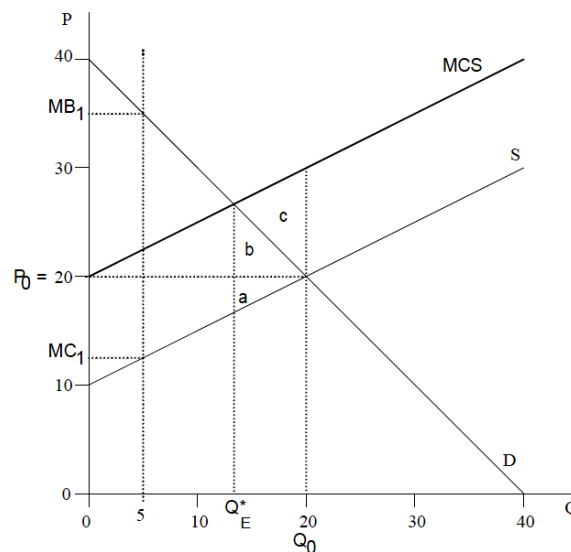**PART B (Open Book) (25 Marks)**
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NOTE: *Open Book Examination. Answer to the point. To receive full credit you have to carefully explain all your answers and show all your work. Each question carries equal marks (5.0).*

1   There are two factories in Varanasi City polluting the local rivers. Without spending any money on pollution controls, each factory's runoff would add 200 units of pollution to the rivers. It costs Factory A Rs.40 to eliminate an additional unit of pollution regardless of its current level of pollution reductions. It costs Factory B Rs.60 to eliminate an additional unit of pollution regardless of its current level of pollution reductions. The marginal benefit of reducing water pollution by one more unit is given by: $MB(R) = 100 – (1/4) R$ .... (1)   where R is the current level of pollution reductions made by both factories combined.

A   Suppose that the government decides to fine the factories for each unit of pollution they produce. The government decides to set this fine at Rs.55 per unit of pollution. Given this fine, determine how much money each factory will spend in fines and how much money each factory will spend on pollution reductions.

B   Does this fine lead to the efficient level of pollution reductions? Use numerical evidence and a written explanation to support your answer.

2   At an admission price of Rs.1.00 per person, 300,000 people per year enter the Rose garden in the Chandigarh, Punjab. Annual costs of running the garden are divided into 2 parts. There is a cost of Rs.200, 000 per year that does not vary with the number of visitors. In addition, each visitor adds Rs.0.50 in maintenance costs. Thus, with the Rs.1.00 price, the city contributes Rs.50,000 in general tax revenues to keep the garden open and adequately maintained.One member of the city council suggests raising the price to Rs.1.50 and presents evidence that 200,000 visits will occur at this price and that; in general, attendance depends on the admission price. The council member argues in favor of the price increase:
 "At the Rs.1.00 price, benefits, as measured by willingness to pay, are less than costs. At
  Rs.1.50, benefits equal costs, so raising the price contributes to economic efficiency."

A   As an economic analyst for the Mayor, you are asked to assess the council member's argument. If you agree with it, explain why, and also explain why the current price of Rs.1.00 is inefficient. If you don't agree, either defend the current price or suggest an alternative pricing policy that would improve efficiency.

B   Would your analysis in part A. change if congestion (overcrowding) becomes an increasing problem once admissions exceed 200,000 per year? Explain the logic behind your answer.

3   A local politician argues that prescription drug prices are too high and that we should place price caps on prescription drugs. Explain most important and different reasons why this proposal could lead to less efficient outcomes in the market for prescription drugs in the long run.

4   The figure shows the supply and demand curves for a good (in a closed economy), together with another curve representing the marginal social benefit from consuming the good (MSB). Answer the following questions:

A   What is the nature of this externality? Is it positive, or negative, and is it associated with production or consumption?

B   If the government does not intervene in this market, what will be the equilibrium price and quantity? Find them in the figure and label them p_1 and q_1. What level of output is socially optimal in this industry? Find it and label it $\hat{q}$

C   For each of the policies listed in part (C), determine the effect on the welfare of producers of using that policy, starting from the free market solution of part (A). Add lines and labels to the figure above as necessary to identify the contributions of welfare (label them inside as a, b, c, d e, f etc.), and use these in your answer.

5   In the diagram below are drawn a supply curve, S, and a demand curve, D, for a market.

Also calculated the market equilibrium price P_0 and quantity Q_0 in the diagram. Suppose that output in the market were at the level $Q1=5$, computed the marginal (private) cost of additional output when $Q_1=5$, and label it MC_1 and the marginal (private) benefit MB_1.

Suppose that production in this industry causes pollution, the external cost of which to society is Rs.10 per unit of output and the marginal cost to society as a whole of various levels of output in the industry was labeled as MCS and shown.

A   Identify the socially optimal level of output in the diagram in the presence of the externality introduced in this part and label it Q_E*. Describe briefly how a policy that would move output in this industry to this socially optimal level. Why would this work?
B   Find in the diagram an area or areas that measure both of the following effects of the optimal policy from part (A). Use labels given in the diagram, and describe what is the reduced external cost and also the net benefit to society?
C   Use the same graph and you should interpret the upward sloping line as the marginal cost curve of a monopolist, as shown. In the absence of any externality, find the socially optimal output in this figure. Find the level of output that this profit-maximizing monopolist would select and the price it would charge to consumers.

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