

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA

L-4/T-2 BURP Examinations 2012-2013

Sub : **PLAN 453** (Environmental and Resource Economics)

Full Marks : 210

Time : 3 Hours

The figures in the margin indicate full marks.

USE SEPARATE SCRIPTS FOR EACH SECTION

**SECTION – A**There are **FOUR** questions in this Section. Answer any **THREE**.

1. (a) Define non renewable resources (NRR). How are NRR different from normal goods? (4+8=12)  
(b) According to Hotelling's rule, for dynamically efficient allocation of NRR price has to grow at the rate of discount rate. Explain the statement briefly. (15)  
(c) Do you think water pricing system in our country ensures availability of water to all segments of people of the society including the poor and the under privileged? Explain your answer with necessary arguments. (8)
2. (a) Substantial new fixed cost investments in pollution control consequently refers to indirect costs. What are those costs? How do these costs arise? Explain with example. (5+10=15)  
(b) Suppose you are interested to estimate the hedonic price of a water body. Explain the steps that you will follow to estimate the price. (20)
3. (a) "Each man is locked into a system that compels him to increase his yield without limit – in a world that is limited". Explain the statement. (10)  
(b) Do you think, assigning private property rights can be effective to limit harvest from the common pool resources? Justify your answer with necessary arguments. (10)  
(c) Suppose that the wetlands at eastern fringe will disappear in near future and you have got a chance to estimate people's willingness-to-pay using contingent valuation method (CVM) in order to guarantee the use of these wetlands for the inhabitants living surrounding this area. What problems can you anticipate to face as you are using the CVM? (15)
4. Write short notes on any FIVE of the following- (5×7=35)
  - (i) Bequest value of environmental resources
  - (ii) Travel cost method
  - (iii) Backstop
  - (iv) 'Use it or lose it' principle in water use
  - (v) Production Possibility Frontier (PPF)
  - (vi) Compliance cost of protecting and enhancing the natural environment.

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**PLAN 453**

**SECTION – B**

There are **FOUR** questions in this Section. Answer any **THREE**.

5. (a) Define pollution from the perspective of environmental economics. Explain how traditional (classical and neo-classical) economic thinking contributes in environmental pollution. **(2+8=10)**
- (b) “If the transaction cost is small, socially efficient production can be achieved through establishment of property right irrespective of the status (polluter/victim) of right holder”-explain. **(12)**
- (c) Describe with examples ‘Hick-Kaldor Compensation test’. What are the criticisms raised against that tests? **(2+5=7)**
- (d) Write down the disadvantages of tools used in command. **(6)**
6. (a) “It is not possible to attain social welfare through social choice”-explain. **(12)**
- (b) Why do you think traditionally market fails to protect environment? **(13)**
- (c) Explain how tradeable environmental permit works in reducing environmental pollution. **(10)**
7. (a) Explain green (pigovian) tax. Who bears the incident of green tax? Explain graphically. **(8+2+10=20)**
- (b) Describe how the tools used by urban planners contributes towards managing environmental pollution. **(15)**
8. (a) Write short notes on the followings: **(5×5=25)**
- (i) Cow boy Economy (ii) Types of goods (iii) Theory of Justice (iv) Utilitarianism  
(v) Effluent Emission Standard (vi) Externalities.
- (b) Describe in brief the guiding principles for determining tools used in command and control approach. **(10)**
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Sub : **PLAN 471** (Natural Hazards and Disaster Management)

Full Marks : 210

Time : 3 Hours

The figures in the margin indicate full marks.

USE SEPARATE SCRIPTS FOR EACH SECTION

**SECTION – A**There are **FOUR** questions in this Section. Answer any **THREE**.

1. (a) Explain the process of cyclone formation. (15)  
(b) “Poor landuse management by human is the major cause of desertification” – do you agree? Justify your answer. (10)  
(c) Explain the organizational setup and operational procedure of Cyclone Preparedness Program in Bangladesh. (10)
2. (a) Explain the factors of storm surge that accompany cyclone in Bangladesh. (15)  
(b) Write down the ‘seven steps process’ of Risk Assessment. (14)  
(c) Describe the characteristics of river bank erosion in Bangladesh. (6)
3. (a) Rivers erode materials from its banks and beds in different ways –explain how. (16)  
(b) What are the factors that contribute towards ‘decay’ of cyclone? (10)  
(c) Explain the characteristics of tornado in Bangladesh. (9)
4. (a) Write down the differences between (3×3=9)  
(i) Cyclone and tornado,  
(ii) Bank scour and Mass failure,  
(iii) Meteorological and Hydrological drought.  
(b) Explain the regulatory framework of disaster management in Bangladesh. (11)  
(c) You have been assigned to prepare a drought management plan for the Barendra region. What are the tools available to prepare such a plan? (15)

**SECTION – B**There are **FOUR** questions in this Section. Answer any **THREE**.

5. (a) What do you understand by the term “Disaster Risk Management”? (5)  
(b) Why is it necessary to consider disaster risk reduction strategies during project design – explain with examples? (10)  
(c) Disaster risk is a function of capacity and vulnerability – explain with relevant example. (6)  
(d) Briefly describe a disaster management model where a series of activities run parallel to each other rather than as a series. (14)

**PLAN 471**

6. (a) Vulnerability is seen as rooted in the socio-economic and political processes of a country – elaborate this statement. (10)
- (b) Discuss the salient features of “Pressure Release Model” in relation to flood hazard of Dhaka. (18)
- (c) Explain why urban flooding would be a major concern for Dhaka due to climate change impact. (7)
7. (a) Briefly discuss the environmental management tools that could be applied for disaster risk reduction. (10)
- (b) Draw a neat diagram and explain the framework and process of Risk Sensitive Landuse Planning (RSLUP). (10)
- (c) What are the elements of the early warning chain? (5)
- (d) Why is it necessary to ensure enforcement of Building Code and Land use planning in Bangladesh towards earthquake resiliency? (10)
8. (a) Even without climate change, Bangladesh is vulnerable. Briefly discuss how climate change would increase the magnitude of vulnerability? (7)
- (b) Briefly discuss the key components of Bangladesh Climate Change Strategy and Action Plan (BCCSAP). (16)
- (c) Compare and explain the following terms. (3×4=12)
- (i) Earthquake magnitude and intensity,
  - (ii) Adaptation and mitigations to climate change,
  - (iv) Land slide and liquefaction.

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**SECTION – A**

There are **FOUR** questions in this Section. Answer any **THREE**.

1. (a) “Technical skill has its limit which may be partially overcome by management interventions. But governance plays a vital role for ultimate and long term success and quality output”. Do you agree with the statement? Justify your answer by an example with respect to urban and regional planning. (14)
- (b) Briefly discuss your idea about the following sectoral governance aspects in urban areas, like Dhaka, with respect to the agencies involved, strength and weakness of their roles and opportunities and threats to their functions. (3×7=21)
  - (i) Transport governance, (ii) Water governance (iii) Governance of urban land
- 2 “Governing cities nowadays are becoming more and more complex”. Discuss the statement with respect to the following issues: (5×7=35)
  - (a) Public welfare versus private profit.
  - (b) Rise of different associations/ stakeholders and their different, often conflicting objectives.
  - (c) Rapid urbanization and urban growth.
  - (d) Global forces versus local interest.
  - (e) Multi-level governance.
  - (f) Urban poverty.
  - (g) Quest for integrated, holistic and sustainable solution in the context of compartmentalized politics, specialized need and isolated professionalism.
3. (a) How transparency and accountability can make administration and governance more pro-people and can check vested interest? (10)
- (b) “If the same agency-government or private is given responsibility to plan and implement the plan, conflict of interest arises. Such practice may make project implementation faster, but significantly reduces the quality of output and creates scopes for corruption” Discuss how conflict of interests arises and how it affects project performance? (10)
- (c) Why some information may not be disclosed for strategic purpose while administering or governing projects. What are the nature of such information? Briefly discuss with examples. (8)
- (d) What is participatory budgeting? How can it help municipal governance? (7)

**PLAN 413**

4. (a) What are the challenges to governing big cities in Bangladesh, like Dhaka and Chittagong? (10)
- (b) What are the challenges to the introduction of city government in these cities? (8)
- (c) Draw a schematic diagram of a city government model for Dhaka mega-city. Justify your model. (10+7=17)

**SECTION - B**

There are **FOUR** questions in this Section. Answer Q. No. 5 and any **TWO** from the rest.

5. Write short notes on the following (any five). (5×7=35)
- (a) Sustainable cities and livable cities.
  - (b) Urban governance for better Urban Management.
  - (c) Ecologically Sensitive Areas in the city and the present trend of urban development.
  - (d) Links between movement network and physical activity and health of citizens.
  - (e) Place-making vs. Urban Management (Draw examples from Curitiba and Seoul).
  - (f) Detailed Area Planning and Urban Management.
  - (g) Multi-scale Dynamics for mapping and modeling of urban growth process.
6. (i) What are the urban problems in a developing country like Bangladesh? (17 ½+17 ½=35)
- (ii) Show with a diagram the urban management structure.
7. Can you explain with examples and statistics why mega-cities are vulnerable to disasters? What would be your recommendations regarding mega-cities disaster preparedness and responses? (35)
8. What are some of the urban indicators that can help to monitor and steer development in mega-cities? Discuss at least three of these indicators. (35)
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