KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2018/2019

THIRD SEMESTER EXAMINATION FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

BMS 906: PROJECT ECONOMIC ANALYSIS

DATE: Thursday, 25th July 2019 **TIME: 5.30 p.m. - 8.30 p.m.**

INSTRUCTIONS: Attempt QUESTION ONE and any other three questions.

1. (a) Explain the two objectives of economic analysis of investment in projects. (4 marks)

(b) Explain how the costs and benefits of a project to society may differ from the costs and benefits to the private firm. (12 marks)

(c) State and explain the steps followed during economic analysis of a project and show how they help the government to achieve its objective. (14 marks)

(d) Presently, a ferry service, operated privately is being used to cross a river. The ferry operator charges \$3 per person. It costs him \$2 per person. 50,000 persons used the ferry service per year.

The Government s considering construction of a bridge over the river. it is estimated that after the bridge is constructed 250,000 persons will cross the river on the bridge. The bridge is expected to cost \$3 million initially and its annual maintenance cost would be \$10,000. it has an indefinitely long life. Once the bridge is constructed the ferry operator is expected to close down the ferry service and sell the ferry boats for \$100,000.

Required:

Conduct the social costs-benefits analysis of constructing the bridge, assuming that the monetary figures given in the problem represents economic values.

(10 marks)

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2. (a) With the help of a dam investment project to address water shortage in a particular region distinguish between the following:

(i) Direct versus indirect benefits and costs (3 marks)

(ii) Tangible versus intangible benefits and costs (3 marks)

(iii) Real versus pecuniary benefits and costs. (3 marks)

(b) With the help of examples explain the following methods of measuring benefits of social projects.

(i) Consumer surplus approach (3 marks)

(ii) Human capital approach (3 marks)

(iii) Cost saving approach (3 marks)

3. (a) Define the following terms and discuss how they affect economic analysis of projects.

(i) Linkages (3 marks)

(ii) Externalities (3 marks)

(b) The County of Nairobi is considering whether to build a new public swimming pool. This pool would have a capacity of 800 swimmers per day, and the proposed admission fee of $6 per day. The estimated cost of the swimming pool, averaged over the life of the pool, is $4 per swimmer per day.

The planner has hired you to assess this project. Fortunately the neighboring identical town of Kiambu already has a pool, and the town has randomly varied the price of the pool to find how price affects usage. The results from their study follow:

Swimming pool price per day	Number of swimmers per day
$ 8	500
10	200
4	1,100
6	800
2	1,400

Required:

(i) If the swimming pool is built as planned, what would be the net benefit per day from the swimming pool? (6 marks)

(ii) What is the consumer surplus for the swimmers. (4 marks)

(iii) Given this information, is an 800-swimmer pool the optimal for Nairobi County? Explain. (4 marks)

4. (a) Discuss two approaches used to estimate the discount rate for the economic analysis. (8 marks)

(b) A major investment project will employ 100,000 workers. Presently 40,000 of these workers are employed, but the remainders are unemployed. Those who are employed are currently earning $20 million per year; it is expected that they will earn $60 million per year when the new project begins operation. The other workers will earn $30 million. It will cost $2 million to retain the workers for their new jobs and $1 million to move them to new living locations. The cost of new governmental and services facilities at their new location will be $10 million.

Required

Describe how the preceding information would be incorporated into the investment analysis from the point of the economy. (12 marks)

5. 'Sometimes the public investment project stall at a certain level, or end up not to realizing the intended objectives in the society or take too long before implementation or are not sustainable or they take too long to mature'. With reference to the above statement and taking examples in Kenya explain the main contributors of the implied scenario of the investment project. (20 marks)

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