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EASTERN UNIVERSITY, SRI LANKA

FINAL EXAMINATION IN AGRICULTURE (500 SERIES) - 2000 /2001

AG554: AGRICULTURAL PROJECTS & PROJECT ANALYSIS

Time : 03 hours
Answer All questions.

Part I (Structured type)

Write brief answers for these questions **Marks : (8 x 5 = 40)**

1. (a) What is a Project ?

   (b) Outline the different stages of a Project Cycle using a labelled diagram.

2. The table below describes the value of imported prawns at different points.

Item	Value / metric tone ($)
1. c. i. f price at the point of import (Cost, Insurance & Frieght)	$ 6,300
2. unloading charges	$ 45
freight charges	$ 235
insurance	$ 420
3. f. o. b price (Free On Board)	Rs. --------

Using the above data, find the f.o.b. price of prawns assuming that the exchange rate is Rs. 90 for a US Dollar.

3. List down the different aspects of Project Analysis.

4. Outline the Costs involved in Agricultural Projects ?

5. Briefly explain the Benefits of an Agricultural Project?

6. What is the 'Border Price' for a traded good which is i) Imported?
   ii) Exported?

7. Why is a Farm Budget prepared?

8. How do you use Payback Period as a measure to select better agricultural projects ? Give a major weakness of the measure ?

Part - II (Essay type) **Marks: (3 X 20 = 60)**

1. The table below provides the Net Present Value (NPV), Benefit-Cost Ratio (B/C ratio), Internal Rate of Return (IRR), Pay-Back Period (PBP) & Return on Investments (ROI) of four (A , B , C, D) agricultural projects.

Project	NPV	B/C ratio	PBP	IRR	ROI
A	200	0.6	5	0.24	20%
B	100	1.5	7	0.34	28%
C	240	2.0	10	0.50	42%
D	400	0.65	8	0.18	15%

a) Use discounted measures of project worth to select / rank these projects under the different situations given below. Give reasons for your selection or ranking.

   i) Projects are independent; there are no constrained costs
   ii) Projects are independent; there are constrained costs

b) A private firm is interested in investing on one project. The firm plans to obtain a loan at the rate of 18 % interest. Which project do you recommend for this firm? Give reasons.

2. a) What is Environmental Impact Assessment (EIA)?

   b) Why is EIA important in Project Analysis?

   c) Identify the environmental impacts of the following projects.

      i) Upland Land Settlement Project.
      ii) Prawn Farming Project
      iii) Broiler Processing Plant Project.
      iv) Groundwater Irrigation Project.

3. a) What is Sensitivity Analysis in relation to projects?

   b) Outline the principal areas in which agricultural projects are sensitive to change.

   c) Explain the Net Benefit – Investment ratio (N / K ratio)

   Calculate the N / K ratio for the following projects. Which project would you choose for implementation?

Year	Project *		
	A	B	C
1	- 0.44	- 0.42	- 0.45
2	- 1.29	- 1.20	- 1.35
3	- 1.35	- 1.78	- 2.14
4	0.75	0.60	0.86
5	1.85	1.85	1.90
6	2.65	2.45	2.85

* - Net Incremental Benefits figures-discounted at 18%

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PS/s

5. An experiment was carried out to compare the efficacy of parasites A and B and the data are presented in the Table below:

Parasite density (P)	Parasite A		Parasite B	
	HOST density		HOST density	
	Initial	Final	Initial	Final
1	100	80	100	60
2	100	75	100	62
4	100	60	100	50
8	100	50	100	30
11	100	40	100	32
32	100	40	100	29

Using the above data,

a) Calculate the mean searching efficiency (a) of parasites A and B using Nicholson's equation.

b) Plot graphs of
   (i) 'a' against "P"
   (ii) 'log a' against "log P"

c) If $\log a = \log Q - m \log P$, calculate the mutual interference of each parasite.