



INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR
Mid-Spring Semester 2017-18

Date of Examination: **27 Feb. 2018** Session (FN/AN): **AN**, Duration: **2 Hrs**, Full Marks: **40**
Subject number: **AG60062** Subject: **Management and Productivity** Students: **37**
Department/ Centre/School: **Agricultural and Food Engineering**
Instructions: **Make suitable assumptions as per the requirement.**

Section 'A'

Question1

[2+4+1+3=10]

Answer the followings.

- a) State the desired qualities and activities of farm manager in a cropping system farm.
- b) Explain the management functions of a semi-commercial farming system located in Eastern India.
- c) State the factors responsible for small dependent specialized farms.
- d) What is production function? Explain the criteria for deciding optimum level of a resource in crop production.

Section 'B'

Question 1

[3+2=5]

An agro based company 'A' has 10 Farm equipment in its stock. The first five Farm equipment's cost \$100 each and arrived two days ago. The last five Farm equipment's that arrived one day ago cost \$200 each. Seven Farm equipment are sold. Describe the cost of goods sold recorded by the farm accountant as per Last In, First Out (LIFO) and First In, First Out (FIFO) accounting approaches. Also, explain the future tax implications on the company 'A' after applying the LIFO and FIFO accounting measures.

Question 2

[6]

In 2017, Agro, Inc. (a farm equipment company) sold 10,000 units of its product at an average price of \$400 per unit. The company reported estimated returns and allowances in 2017 of \$200,000. Agro Inc. actually purchased 11,000 units of its product from its manufacturer in 2017 at an average cost of \$300 per unit. Agro, Inc. began 2003 with 900 units of its product in inventory (carried at an average cost of \$300 per unit). Operating expenses (excluding depreciation) for Agro, Inc. in 2017 were \$400,000 and depreciation expense was \$100,000. Agro, Inc. had \$2,000,000 in debt outstanding throughout all of 2017. This debt carried an average interest rate of 10 percent. Finally, Agro's tax rate was 40 percent. Agro's fiscal year runs from January 1 through December 31. Given this information, construct Agro's 2017 income statement and estimate Operating Income, Earning Before Tax (EBT) and Net Income of the company.

P.T.O

Question 3**[3+1+1=5]**

Consider the farm production function $Q=9L^2-L^3$, where L represent the farm labor:

- Find the ranges of the 3 stages of production.=
- Find at which stage the firm is operating if $L= 5$ and $L = 3$
- Find L value at the starting of diminishing marginal returns (DMRs).

Question 4**[3+3+3=9]**

Write short notes on the following:

- Expansion path and Economic region of farm productivity
- Price ceiling and inefficiencies arising due to its implementation
- Government subsidies and its' effect on consumer and producers

Question 5**[2+3=5]**

Define the relationship between financial statements. A farmer producer enterprise is operating with following financial details :

Balance Sheet		
	<i>(in crore)</i>	
	2017	2016
Cash	3	2.1
Stores	0.7	0.5
Account Receivables	0.4	0.2

Income Statement		
	<i>(in crore)</i>	
	2017	2016
Net income	1.3	1

With the help of above information only, kindly calculate the cash flow from operating and investment activities.