



The Open University of Sri Lanka
Faculty of Engineering Technology

Technology (Engineering) Programme of Study
Final Examination – 2009
AEX 5230 Power and Machinery in Agriculture

075

Date : 19-03-2009

Time : 0930-1230 hours

Duration: Three (03) hours

Registration No:.....

Index No:.....

SECTION 2: Answer any four (4) questions.

1. Discuss in detail the advantages and disadvantages of animal power in agriculture, and describe suitable methods of harnessing draught animals to implements, for maximum efficiency.
2. Describe the factors that influence the selection of machines for specific types of agricultural work.

320 hectares of row crop is to be planted in a period of 14 days, each with 12 hours of possible field time. Working speed is 6.4 km/h and 0.75 m spacing is required. Assuming 70% field efficiency, find the minimum size of planter needed.
3. Write short notes on three of the following:
 - a) Potato and sugarcane planters.
 - b) Precision seed cleaning machines
 - c) Triaxial compression test
 - d) Torque and power curves of agricultural tractors and methods of matching torque to load.
4. Describe in detail, four different types of windmill suitable for use in a farm.
5. Describe what is meant by tillage. What are the advantages and disadvantages of different degrees of tillage (heavy, medium, light and zero) ?
6. Describe in detail, two methods of using agricultural waste for energy in a farm.