

THE OPEN UNIVERSITY OF SRI LANKA

BACHELOR OF / DIPLOMA IN ENGINEERING TECHNOLOGY

00203

LEVEL 04

FINAL EXAMINATION – 2010

MPJ4131 – HISTORY OF TECHNOLOGY

DURATION: THREE (03) HOURS (ESSAY TYPE PAPER)

OPEN BOOK EXAMINATION



Date: 11th March 2011

Time: 14.00 p.m. - 17.00 p.m. (3hrs)

Answer Four (04) Questions only.

1. Briefly explain the salient features of the ancient Sri Lankan irrigation system in the Dry zone (e.g. Anuradhapura)
[Hint: Give brief descriptions of (a) world-view of the ancient farmers (b) types of tanks (c) Biso Kotuwa. (d) maintenance of the tank cascade system]
2. (a). Explain briefly the important features of the natural wind powered iron smelting furnaces used in the Samanalawewa area in Balangoda.
(b). Describe the iron smelting process of the above mentioned furnaces using the modern fluid flow theory.
3. (a). The ancient Sri Lankans had the expertise knowledge about shipbuilding and the art of navigation to travel by sea to far away countries. Briefly describe those skills giving evidence.
(b). What were the traditional modes of transport across the rivers and sea used in ancient Sri Lanka?
4. Explain briefly the factors that influenced the invention of printing and paper by the Chinese before any other nation in the world.

5. (a). What were the types of water raising machines used by Arabs in ancient times?

Give a brief description on one of them.

- (b). Explain briefly the Fine Technologies developed in Arabic societies, giving one example.

6. Write short notes on the following.

(a). The Abacus

(b). Leibnitz's contribution to Calculus

(c). Contribution of Bhaskara and Lagrange in solving the Pellion equation $Cx^2 + I = y^2$ when

x, y are integers, $xy \neq 0$ and C is a given non-square integer.