THE OPEN UNIVERSITY OF SRI LANKA
BACHELOR OF / DIPLOMA IN ENGINEERING TECHNOLOGY
FINAL EXAMINATION – 2008
MPJ4131 – HISTORY OF TECHNOLOGY
LEVEL 04

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DURATION: THREE (03) HOURS (ESSAY TYPE/ OPEN BOOK EXAMINATION)

Date: 19th March 2009   Time: 1330hr. – 1630hr.

Answer **four (04)** questions only.

1) What are the uses to which iron/steel making technologies were put to in ancient Sri Lanka?

   Describe how such a use oriented process would have been useful in the furnace at Samanalawewa.

2) The game of Chess was first thought of by an Islamic Mathematician/ Poet known as Omar Khayyam. When asked by the king to give him a reward, he requested a grain of rice in the first square, two grains in the second square, and four in the third square and so on to cover all sixty four squares. Why was this an unfair demand?

3) Why were the Chinese who invented printing in the world? Give the reasons as to why they did so.

4) Compare and contrast the salient features of the ancient Sri Lankan irrigation system (tank cascade system) in the dry zone (eg: Anuradhapura) and a modern Sri Lankan irrigation system under the accelerated Mahaweli project implemented during the Nineteen Eightees (Eg: Victoria or Kothmale)

5) (a) Compare and contrast the contribution made by the ancient Indian Mathematician Bhaskara (about 1150 A.D.) and the European Mathematician Lagrange (about 1766) towards solving the Pellian equation $Cx^2 + 1 = y^2$ where x,y are integers, $xy \neq 0$ and C is a given non-square integer.

(b) Explain briefly the contributions made by the following Indian Mathematicians.

(i) Aryabhatha (6th century)

(ii) Brahmagupta (7th century)