

THE OPEN UNIVERSITY OF SRI LANKA
Faculty of Engineering Technology
Department of Mathematics & Philosophy of Engineering



**Bachelor of Technology Honors in Engineering / Bachelor of
 Software Engineering Honors / Bachelor of Industrial Studies**

Final Examination (2020/2021)
MHJ4241: History of Technology
(Essay Type, Open Book Examination)

Date: 19th February 2022 (Saturday)

Time: 1400 hrs. – 1800 hrs.

Instructions:

- Answer **five (05)** questions only.
- Number of pages in the paper is two (02).
- Please do not copy directly from the text. If you have to quote, do so in inverted commas.

- 1) (i) Technological developments could happen in any society in the world. Taking that possibility into consideration, discuss two objectives of studying the History of Technology. (50 marks)
- (ii) There are evidence of the advanced stage of technological achievements in Sri Lanka, in ancient times. But when time passes by, those technologies were declined. Explain two possible reasons for such declining. (50 marks)
- 2) (i) Village tank cascade systems were a significant feature in ancient irrigation practicing in Sri Lanka. Discuss the social and organizational aspects of those systems. (50 marks)
- (ii) Discuss the requirements for developing large scale irrigation works in ancient Sri Lanka. (50 marks)
- 3) (i) 'Rajakariya' system practiced in ancient Sri Lanka was abolished by the British government in 1932. Discuss the results of this action on the maintenance of ancient irrigation works and the developments in the plantation sector. (50 marks)
- (ii) 'British ruled our country from 1815 to 1948. The administrative and legal framework during this period with regard to the irrigation and agriculture were not considering the local requirements.' Elaborate your ideas on this statement. (50 marks)
- 4) (i) Sri Lanka was maintaining close relationships with many foreign countries since ancient times. Highlight three instances of such relationships and the sources which illustrate those instances. (60 marks)
- (ii) 'Oruwa' is considered to be an important technical product, used as an ocean craft. Discuss the countries in which this craft had been extensively used and the possible times such usage commenced. (40 marks)

- 5) 'Different nations may try to gain the credit of new inventions to themselves, neglecting the possibility of knowledge transfers among the societies. Discuss this statement taking the claim for the invention of calculus in 17th century Europe, by Newton and Leibnitz. Your answer should cover the contribution of Indians and Arabs to the subject of calculus. (100 marks)
- 6) (i) Paper making is considered to be a major technological invention in the history, with the involvement of the Chinese Civilization. Explain three factors contributing to this invention and the developments in China. (60 marks)
(ii) List three types of historical sources which could be used in studying technical aspects of the printing in ancient China. (10 marks)
(iii) Describe one of the sources mentioned in above part (ii), highlighting the examples presently available. (30 marks)
- 7) (i) Discuss the environmental conditions in Arab regions which required the man-made irrigation systems. (50 marks)
(ii) Explain the construction features of 'qanat' irrigation system and its suitability to the environmental conditions of the Arab region. (50 marks)
- 8) (i) Muslim Architecture was unique in the history of building constructions in the world. Explain the materials used for those constructions, giving due considerations to the conditions of the Arab region. (60 marks)
(ii) Discuss two types of land surveying methods used in Arab countries in ancient times. (40 marks)

End

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