

國立清華大學 107 學年度碩士班考試入學試題

系所班組別：歷史研究所乙組

考試科目（代碼）：中國科技史(3201)

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一、 1865 年，也就是晚清的太平天國內戰期間，名臣曾國藩命部屬建造了一艘蒸汽船「黃鵠號」，在同年，另一位名臣李鴻章分別在南京與上海成立了「金陵製造局」與「江南製造局」。請說明這些技術上的發展的歷史背景，及其在中國近代技術史上的地位。(34%)

二、 道光二十四、五年，署陝甘總督林則徐在青海平亂時，曾上奏曰：

封口礮子一項向來俱用實鐵彈於致遠攻堅已屬得力但一礮只斃一賊多亦不過數賊而止臣曾見洋礮有空心彈子之法名為炸彈因密授匠人做法即在臣行署督令試鑄虛其中而留一孔此中半裝火藥雜以尖利鐵稜仍將其孔塞住納於礮口將孔向外一經放出其火力能到之處彈子即必炸開彈內之藥用礮較多可以橫擊一二百步其彈子炸成碎鐵與內貯之鐵稜皆可橫衝直撞穿肌即透遇物即鑽一礮可抵十數礮之用。

1. 請抄寫此文並加標點（15 分）
2. 請問從此文可知先前中西火砲的優劣為何？（10 分）
3. 請問從此文出發有哪些相關的議題值得進一步討論？（8 分）

三、 The famous British historian of science J.Needham claimed that in the past the development of science in China was not inferior to that in the West. He suggested that the fast growth of science in the West was related to capitalism while China remained a feudal

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society.

Provide an example of a scientific discipline which was relatively well developed in China in Antiquity and/or Middle Ages, but later stagnated or declined. (1) Briefly describe this discipline and its main achievements. (2) What were the reasons of its later stagnation or decline? (3) In this particular case, do you think that Needham's hypothesis about the role of capitalism is correct?

(33%)

(完)