

# 九十八學年度四年制二、三年級轉學生招生考試

四技三年級 電子工程系

## 第三節 專業科目 (二) 電路學 試題

第一頁 共一頁

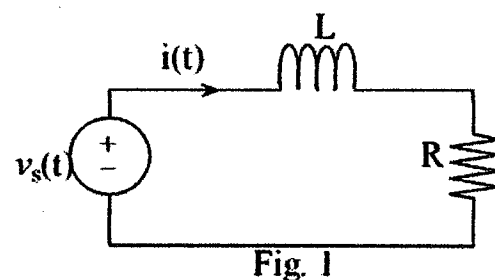
### 注意事項：

1. 本試題共六題，配分共 100 分。
2. 請標明大題、子題編號作答，不必抄題。
3. 全部答案均須在答案卷之答案欄內作答，否則不予計分。

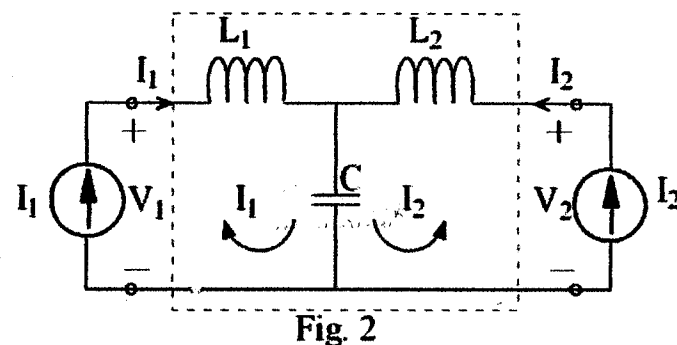
一、Plot the waveforms specified below:(10%)

(a)  $u(-t)$  (b)  $3P_2(t)$  (每題 5%)

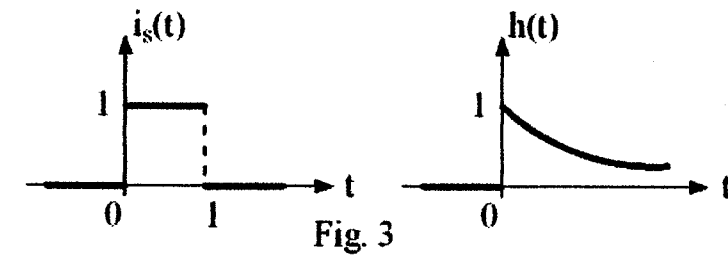
二、Find the impulse response and step response of the RL circuit show in Fig.1, the series connection of the linear time-invariant resistor and inductor is driven by a voltage source  $v_s(t)$  and response is  $i(t)$ .(20%)



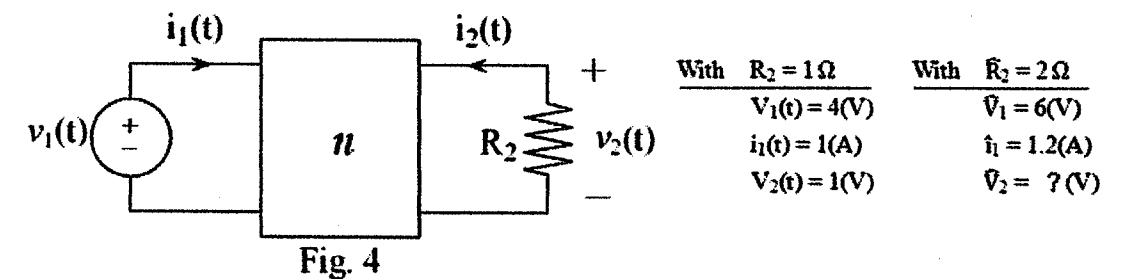
三、Find the open-circuit impedance matrix of the two-port show in Fig.2.(20%)



四、Determine the zero-state response for the input  $i_s(t)$  and impulse response  $h(t)$  given in Fig.3.(20%)



五、The network  $n$  shown in Fig.4 is made of  $n-2$  linear time-invariant resistors. Voltage and current measurements were taken for two values of  $R_2$  and the input. The measurements are tabulated in figure. Determine the value  $v_2(t)$ .(15%)



六、Write the state equations for the network show in Fig.5.(15%)

